

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

WEDNESDAY, MAY 19, 1954

UNITED STATES SENATE,
SUBCOMMITTEE NO. 2 ON COMMUNICATIONS
OF THE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D. C.

The subcommittee met at 9:32 a. m., pursuant to call, in room G-16 of the Capitol, Senator Charles E. Potter (chairman of the subcommittee) presiding.

Present: Senators Potter, Schoeppel, Bowring, Hunt, and Pastore.

Also present: Senator Edwin C. Johnson; Bertram O. Wissman, chief clerk; and Nick Zapple, counsel for Subcommittee on Communications.

Senator POTTER. The committee will come to order.

I wish to apologize for being late. I had a breakfast at the White House and I am still naive enough in politics to be readily impressed by having a breakfast at the White House. We just concluded.

You have been very kind to wait until I returned. I am sorry that our accommodations here are such that some people have to stand. I had not realized that we would draw such a crowd.

I might add that it will be a relief for me to have a hearing about television rather than a hearing that is on television.

We have many witnesses whom we plan on hearing. I would like to caution at this time that we have quite a full schedule. I ask you to keep your statements as short as possible and give us all the pertinent information that you care to give. It would be greatly appreciated by the committee.

Senator JOHNSON. Don't you want to add, Mr. Chairman, that if they have other testimony it can be placed in the record?

Senator POTTER. That is right. If you have prepared statements, you can submit your statements for the record and if you care to possibly brief it in your oral testimony, you may do so.

This hearing is being conducted by the Subcommittee on Communications of the Senate Interstate and Foreign Commerce Committee on the problems concerning the status and development of ultra high frequency television channels, and Senate bill 3095, a bill relating to the multiple ownership of television stations. A copy of S. 3095, which was introduced by Senator Johnson, of Colorado, will be inserted in the record at this point.

(S. 3095 is as follows:)

[S. 3095, 83d Cong., 2d sess.]

A BILL To regulate multiple ownership of television broadcast stations

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Communications Act of 1934 is amended by inserting after section 309 a new section as follows:

"REGULATION OF MULTIPLE OWNERSHIP OF TELEVISION BROADCAST STATIONS

"SEC. 309A. (a) No license for a television broadcast station shall be granted to any applicant (including all corporations under common control) if—

"(1) such applicant directly or indirectly owns, operates, or controls another television broadcast station which serves substantially the same area; or

"(2) such applicant, or any stockholder, officer, or director of such applicant, directly or indirectly owns, operates, controls, or has any interest in, or is an officer or director of, any other television broadcast station, if the granting of such license would result in a concentration of control of television broadcasting in a manner inconsistent with the public interest, convenience, or necessity.

"(b) In determining, for the purpose of subsection (a) (2), whether the granting of a license would result in a concentration of control of television broadcasting in a manner inconsistent with the public interest, convenience, or necessity, the Commission shall consider the facts of each case, with particular reference to the size, extent, and location of areas served, the number of people served, and the extent of other competitive service to the areas in question.

"(c) In no event shall the Commission grant any license (including the renewal of any license) for a television broadcast station which would result in any applicant (including all corporations under common control), or any stockholder, officer, or director of such applicant, directly or indirectly owning, operating, controlling, or having any interest in, or being an officer or director of, any television broadcast station in excess of any of the following—

"(1) five television broadcast stations operating in the very high frequency channels and no television broadcast stations operating in the ultra high frequency channels;

"(2) four television broadcast stations operating in the very high frequency channels and two television broadcast stations operating in the ultra high frequency channels;

"(3) three television broadcast stations operating in the very high frequency channels and four television broadcast stations operating in the ultra high frequency channels;

"(4) two television broadcast stations operating in the very high frequency channels and six television broadcast stations operating in the ultra high frequency channels;

"(5) one television broadcast station operating in the very high frequency channels and eight television broadcast stations operating in the ultra high frequency channels; or

"(6) no television broadcast stations operating in the very high frequency channels and ten television broadcast stations operating in the ultra high frequency channels.

"(d) Any person who, prior to the date of enactment of this section, has been granted a license for a television broadcast station operating in the very high frequency channels which, within five years after such date, he relinquishes, transfers, or fails to renew shall, upon notice to the Commission and application filed therefor within such five year period, be entitled to be granted, for each such license which he so relinquishes, transfers, or fails to renew, two licenses for television broadcast stations operating in the ultra high frequency channels, one of which shall serve substantially the same area as the station the license of which he so relinquishes, transfers, or fails to renew.

"(e) In applying the provisions of this section—

"(1) 'control' means actual working control in whatever manner exercised and is not limited to majority stock ownership; and

"(2) in the case of a corporation which has more than fifty voting stockholders, only those stockholders shall be considered who are officers or directors or who directly or indirectly own 1 per centum or more of the outstanding voting stock.

CONTENTS

Statement of—	Page
Ball, Frederic J., Pierson & Ball, attorneys at law, Washington, D. C., representing Zenith Radio Corp.....	802
Beacom, John P., WJPB-TV, Fairmont, W. Va.....	430
Berman, Morris, New York Society of Engineers, 393 Central Park West, New York, N. Y.....	327
Bergmann, Theodore G., Allen B. Du Mont Laboratories Inc., Clifton, N. J.....	245, 1095
Brown, Gordon, WSAY, Rochester, N. Y.....	658
Burton, Donald A., WLBC-TV, Muncie, Ind.....	401
Campbell, Robert J., director, Dayton Education Foundation, Dayton, Ohio.....	379
Chamberlain, Paul L., General Electric Co., Electronics Park, Syracuse, N. Y.....	267
Chisman, Thomas P., WVEC-TV, Norfolk, Va.....	558
Cottone, Benedict P., attorney, UHF Coordinating Commission, 1025 Connecticut Avenue NW., Washington, D. C.....	381, 1045
Craig, William F., WLBC-TV, Muncie, Ind.....	405
Cullum, A. Earl, consulting engineer, Dallas, Tex.....	606
Drummond, Robert M., WJPB-TV, Fairmont, W. Va.....	430
Du Mont, Dr. Allen B., Allen B. Du Mont Laboratories, Inc., Clifton, N. J.....	227, 1017
Fellows, Harold, president, NARTB, 1771 N Street NW., Washington, D. C.....	701
Fink, Dr. L. R., General Electric Co., Electronics Park, Syracuse, N. Y.....	277
Garrison, Jack G., KACY, St Louis, Mo.....	343
Goldberg, Melvin A., consultant, UHF Coordinating Commission, 1025 Connecticut Avenue NW., Washington, D. C.....	527
Goldsmith, Thomas T., Jr., Allen B. Du Mont Laboratories Inc., Clifton, N. J.....	237
Green, Leon, KNUZ-TV, Houston, Tex.....	562
Guider, John, Mount Washington TV, Inc., Poland Springs, Maine.....	817
Haase, Allen P., General Electric Co., Electronics Park, Syracuse, N. Y.....	285
Heffernan, Joseph, National Broadcasting Co., 30 Rockefeller Plaza, New York, N. Y.....	1027
Hennoek, Frieda B., Commissioner, Federal Communications Commission, Washington, D. C.....	187, 1060
Hunter, Dr. Armond, television director, Michigan State College, East Lansing, Mich.....	711
Hyde, Rosel, Chairman, Federal Communications Commission, Washington, D. C.....	119, 1080
Israel, Larry H., vice president, Telecasting, Inc., Pittsburgh, Pa.....	426
Jahncke, Ernest L., Jr., American Broadcasting Co., New York, N. Y.....	938
Kipnes, Irvin M., Beachview Broadcasting Corp., Norfolk 10, Va.....	595
Kirsta, Noran E., station WFTL-TV, Ft. Lauderdale, Fla.....	648
Kohn, Raymond F., Penn-Allen Broadcasting Co., Allentown, Pa.....	491
Lawrence, Mayor David, city of Pittsburgh, Pittsburgh, Pa.....	813
Loewi, Mortimer W., station WITV, Hollywood, Fla.....	411
Lucas, Scott, UHF Coordinating Commission, 1025 Connecticut Avenue NW., Washington, D. C.....	196
Lutz, Vincent J., Association of TV Service Companies, 172 1/2 South 39th Street, St. Louis, Mo.....	420
McDaniel, Glen, president, RETMA, 777 14th Street NW., Washington, D. C.....	215

Statement of—Continued	Page
McGrath, J. Howard, Southern Building, Washington, D. C.....	591
McKinnon, Ben K., WGVL-TV, Greenville, S. C.....	210
Merryman, Philip, Southern Connecticut & Long Island TV Company Associations, Bridgeport, Conn.....	439, 568
Midlen, John H., WTVR, Richmond, Va.....	963
Moss, Hon. John, United States Representative from California, Washington, D. C.....	586
Murdoch, Lennox, manager, KSL-TV, Salt Lake City, Utah.....	824
Patterson, S. H., KSAN-TV, San Diego, Calif.....	454
Pierson, Ted., Pierson & Ball, attorneys at law, Washington, D. C. 742,	1071
Poller, Lou, WCAN-TV, Milwaukee, Wis.....	330
Reinsch, J. Leonard, WSB-TV, Atlanta, Ga.....	837
Roberts, William A., UHF Television Association, 400 DeSales Build- ing, Washington, D. C.....	304, 1054
Salisbury, Franklin C., 1624 I Street NW., Washington, D. C.....	621
Stanton, Frank, Columbia Broadcasting System, 485 Madison Avenue, New York, N. Y.....	970
Storer, George, Storer Broadcasting Co., Miami, Fla.....	719
Taft, Hubert, Jr., WKRC-TV, Times Star Building, Cincinnati, Ohio.....	832
Tarzian, Sarkes, WTTV-TV, Bloomington, Ind.....	414
Tenanbaum, Harry, WTVI-TV, St. Louis, Mo.....	639
Thoms, Harold, WISE-TV, Asheville, N. C.....	197
Townsend, S. W., WKST, Newcastle, Pa.....	458
Watts, W. Walter, Radio Corporation of America, 30 Rockefeller Plaza, New York, N. Y.....	290
Weber, Fred, WPPG, Atlantic City, N. J.....	199
Wilmette, Raymond, 737 Warner Building, Washington, D. C.....	629
Wilson, Thomas W., attorney, Dow, Lohnes & Albertson, Washington, D. C., representing Lewis C. Tierney, president, WCHS-TV, Inc., Charleston, W. Va.....	829
Woodall, Allen M., WDAK-TV, Columbus, Ga.....	923
Woodyard, Ronald, WIFE-TV, Dayton, Ohio.....	359
Additional statement of—	
Federal Communications Commission, questions and answers to mis- cellaneous factual inquiries raised in record.....	185
Statements, letters, and telegrams submitted by—	
Bachem, John H., 15 Shore Road, Port Washington, N. Y.....	1023
Bartlett, Paul R., California Inland Broadcasting Co., KFRE, Fresno, Calif.....	851, 1123
Barnes, Tom, WDAY-TV, Fargo, N. Dak.....	896
Baughn, Edward F., vice president and general manager, Washtenaw Broadcasting Co., Hutzal Building, Ann Arbor, Mich.....	59, 1114
Beck, Alfred, station KCEB, Tulsa, Okla.....	383
Bell, Edgar T., KWTW, Oklahoma City, Okla.....	902
Betts, Joe, legislative assistant, American Farm Bureau, 261 Consti- tution Avenue, Washington, D. C.....	1121
Bigley, W. M., South Arkansas TV Co., Inc., Magnolia, Ark.....	848
Blower, Joan, 871 First Avenue, New York, N. Y.....	928
Blust, L. A., Jr., KTVX-TV, Muskogee, Okla.....	899
Booth, John L., president, Booth Radio & TV Stations, Inc., 700 Buhl Building, Detroit 26, Mich.....	471
Border, Dorothy, 214-078B Hillside Avenue, Queens Village, Long Island, N. Y.....	928
Brandt, Otto P., vice president and general manager, King Broad- casting Co., Seattle, Wash.....	1011
Braun, Irving, Certified TV & Appliance Co., 39th and Granby Streets, Norfolk, Va.....	478
Breen, Ed., station KOTC, Fort Dodge, Iowa.....	584, 1121
Brenner, Joseph, 321 South Beverly Drive, Beverly Hills, Calif.....	472, 486
Britt, Charles B., WLOS-TV, Asheville, N. C.....	894
Brown, R. I., 125 Heatherhill Road, Cresskill, N. J.....	1024
Brown, Kenyon, president, KWFT-TV, Wichita Falls, Tex.....	912
Brown, Walter, president and general manager, WSPA-TV, Spartan- burg, S. C.....	464

Statements, letters, and telegrams submitted by—Continued	Page
Burton, John, vice president, Business, Cornell University, Ithaca, N. Y.-----	1135
Butcher, Harry C., KEY-T, Santa Barbara, Calif.-----	855
Carey, W. D. P., Hutchinson TV, Inc., Hutchinson, Kans.-----	865
Carlin, William, West Caldwell, N. J.-----	469
Carman, Frank C., Utah Broadcasting & TV Corp., KUTV, Salt Lake City, Utah.-----	1090, 1107
Christenson, Mrs. Charles, 180 Walnut Street, Montclair, N. J.-----	1023
Clarke, James F., chairman of board, Dayton Educational TV Foundation, 300 College Park Avenue, Dayton 9, Ohio.-----	477
Coe, Robert L., 11 East 78th Street, New York, N. Y.-----	930
Cohan, John C., president, Salinas Broadcasting Corp., box 1651, Salinas, Calif.-----	476
Cohen, Gary, vice president, WBUF-TV, Buffalo, N. Y.-----	387
Compton, Walter, 19 West Flagler Street, Miami, Fla.-----	859
Conwell, Frank, general manager, WKRG-TV, box 1184, Mobile 8, Ala.-----	472
Cook, Van C., 619 West Summit, Ann Arbor, Mich.-----	59
Cowles, Lee, 137 Berkeley Boulevard, Melrose Park, Fort Lauderdale, Fla.-----	468
Cox, J. Reginald, New York City, N. Y.-----	930
Craney, Ed, Pacific Northwest Broadcasters, station KXLF, Butte, Mont.-----	57
Crosley Broadcasting Corp., station WLS-TV, Cincinnati, Ohio.-----	897, 1012
Dahl, Howard, WKBH-TV, Inc., La Crosse, Wis.-----	918
Davies, O. R., manager, Queen City TV Co., Inc., Allentown, Pa.-----	60, 479
De Dominicis, Aldo, Elm City Broadcasting Corp., New Haven, Conn.-----	857
DeYoung, Gene, KERO-TV, Bakersfield, Calif.-----	849
Deneke, Arthur W., 526 Doremus Avenue, Glenn Rock, N. J.-----	1023
Dolan, James M., 24 Middle Drive, Plandome, Long Island, N. Y.-----	928
Duncan, Harmon L., Durham Broadcasting Enterprises, Inc., Durham, N. C.-----	896
Dunn, Gordon, mayor, city of Fresno, Fresno, Calif.-----	58
Eckels, Lee W., Allegheny Broadcasting Corp., McKeesport, Pa.-----	905
Edwards, William J., WKNX-TV, Saginaw, Mich.-----	1114
Esau, John, KTVQ-TV, Oklahoma City, Okla.-----	465, 475
Evans, Ralph, Central Broadcasting Co., 1002 Brady Street, Davenport, Iowa.-----	864
Faught, Millard C., 342 Madison Avenue, New York, N. Y.-----	1106
Fetzer Broadcasting Co., WKZO-TV, Kalamazoo, Mich.-----	881
Fletcher, A. J., Capitol Broadcasting Co., Inc., Raleigh, N. C.-----	895
Fogel, Henry, president, Granco Products, Inc., 36-17 20th Avenue, Long Island 5, N. Y.-----	60
Foulds, Blair, vice president, General Precision Laboratory, Inc., Pleasantville, N. Y.-----	438
Friedland, Milton D., general manager, station WICS-TV, Leland Office Building, Springfield, Ill.-----	61
Gavin, Withers, manager, station WCOC-TV, Meridian, Miss.-----	58
Gilliland, A. T., KQXI, San Jose, Calif.-----	854
Goodyear, George F., WGR Corp., Buffalo, N. Y.-----	892
Gould, Mrs. Robert, 460 Argyle Road, Brooklyn, N. Y.-----	1024
Graham, Donald G., KOMO-TV, Seattle, Wash.-----	913
Gridley, Ansel E., vice president, Salisbury Broadcasting Corp., WWOR-TV, Worcester, Mass.-----	781
Griffin, Dana A., president, Communications Measurements Laboratories, Inc., 350 Leland Avenue, Plainfield, N. J.-----	583
Gross, Harold F., WJIM-TV, Lansing, Mich.-----	882
Haley, Andrew G., 1735 DeSales Street NW., Washington, D. C.-----	63
Hall, S. Payson, director of radio and television, Meredith Publishing Co., Des Moines, Iowa.-----	1010
Helm Coal Co., WNOW-TV, York, Pa.-----	1015
Hilton, Charles B., Do-Re-Mi Farm, Danbury, Conn.-----	931
Hirshberg, Edward J., Irwin Community TV Co., Irwin, Pa.-----	903
Hoffman, H. L., Television DIABLO, 225 East Miner Street, Stockton, Calif.-----	855

Statements, letters, and telegrams submitted by—Continued	Page
Hollander, A. L., 1060 Park Avenue, New York, N. Y.....	929
Holtz, Merriman, 45 Pineapple Street, Brooklyn, N. Y.....	929
Hough, Harold, WBAP-TV, Fort Worth, Tex.....	910
Housten, Harry, 299 Union Avenue, Rutherford, N. J.....	470
Howell, Rex, KFXJ-TV, Grand Junction, Colo.....	856
Hubbell, Richard, 360 First Avenue, New York, N. Y.....	928
Hubbard, Stanely E., KSTP-TV, St. Paul, Minn.....	885
Husselrath, Walter E., Rutherford, N. J.....	470
Hyde, William, 8 Patchen Place, New York, N. Y.....	469
Israel, Larry H., WENS, Pittsburgh, Pa.....	932
Jackson, William H., 630 Fifth Avenue, New York 20, N. Y.....	1112
Johnson, Hon. Edwin C., United States Senator from Colorado, Washington, D. C.....	369
Johnston, Henry P., WAPI, Birmingham, Ala.....	845
Johnson, John G., Radio Station WTOB, Winston-Salem, N. C.....	1085
Johnson, Leslie C., WHBF-TV, Rock Island, Ill.....	862
Johnson, Philip S., Agency Ohio Farmers Companies, Angola, Ind.....	1120
Jones, Robert Fish, 4 Bellgrove Drive, Upper Montclair, N. J.....	930
Kaser, Howard S., 9 Moran Place, New Rochelle, N. Y.....	1023
Kerner, Joseph H., Blonder-Tongue Laboratories, Inc., 526-536 North Avenue, Westfield, N. J.....	96
Kiblenzer, William M., Glenwood Landing, N. Y.....	1024
Kirchhofer, A. H., vice president, WBEN, Buffalo, N. Y.....	584, 888
Knight, Norman, Weston, Conn.....	469, 1024
Koehler, Edwin G., Brooklyn Avenue, Stony Brook, Long Island, N. Y.....	931
Kohn, Raymond F., president, Penn-Allen Broadcasting Co., Masonic Temple Building, Allentown, Pa.....	1132, 1138
Konynenburg, F. Van, WCCO-TV, Minneapolis, Minn.....	885
Krieger, Seymour, counsel, Joint Committee on Educational TV, Washington, D. C.....	376, 1094
La Rue, Knox, KTVU, 2293 East Main Street, Stockton, Calif.....	1136
Layne, C. N., KID-TV, Idaho Falls, Idaho.....	861
Leich, Martin L., executive vice president, WGBF, 1001 Diamond Avenue, Evansville, Ind.....	473
Lieberthal, Ed, 226 East 70th Street, New York, N. Y.....	929
Littell, J. E., secretary, Ann Arbor TV Service Association, Ann Arbor, Mich.....	97
Lombardi, Gladys, 119-19 North Conduit Avenue South, Ozone Park, N. Y.....	929
Lord, Nathan, WAVE, Inc., WAVE-TV, Louisville, Ky.....	866
Lyman, Frank, Jr., president, Middlesex Broadcasting Corp., 439 Concord Avenue, Cambridge 38, Mass.....	97
Lyons, Gerald, 35-45 79th Street, Jackson Heights, Long Island, N. Y.....	931
Mackin, Joseph D., general manager, WMBV-TV, Marinette, Wis.....	1129
McClung, Mrs. Hugh, McClung Broadcasting Co., KHSL-TV, Chico, Calif.....	1107
McDaniel, Glen, president, RETMA, 777 14th Street NW., Wash- ington 5, D. C.....	1122
McDaniel, Troy, KGBT-TV, Harlingen, Tex.....	911
McGinnity, W. I., Allen B. Du Mont Laboratories, Inc., 95 Broadway, East Patterson, N. J.....	469
McMahon, Tom, 31 Norman Place, Tenafly, N. J.....	928
Martin, Dwight W., Mobile TV Corp., Mobile, Ala.....	847
Martin, Thomas E., vice president, Hawley Broadcasting Co., Read- ing, Pa.....	371
Mastin, Cecil D., WBNF-TV, Binghampton, N. Y.....	887
Meacham, J. R., WEAT-TV, West Palm Beach, Fla.....	860
Merryman, Philip, Southern Connecticut & Long Island TV Co. Association, Bridgeport, Conn.....	1014
Michel, Werner, 17 West 67th Street, New York City, N. Y.....	931
Midcontinent Broadcasting Co., KELO-TV, Sioux Falls, S. Dak.....	922
Milholland, H. C., 307 East 86th Street, New York, N. Y.....	1023

Statements, letters, and telegrams submitted by—Continued

Page

Morey, Gerald J., president, Thames Broadcasting Corp., Mohican Hotel, New London, Conn.....	98
Mosby, A. J., KGVO-TV, Missoula, Mont.....	1131
Newton, Herschel D., M. master, the National Grange, Washington, D. C.....	1088
Norman, Donald A., Television East Bay, DBA-TV California, San Francisco, Calif.....	1107
O'Brien, James P., 3231 58th Street, Woodside, N. Y.....	929
Ottofy, Frank B., 222 South Eighth Street, St. Louis 2, Mo.....	476
Patterson, Ramon G., Mountain City TV, Inc., Chattanooga, Tenn.....	909
Patterson, S. H., station KSAN, 1355 Market Street, San Francisco, Calif.....	480
Patti, Carmine F., 1722 Ralph Avenue, Brooklyn, N. Y.....	929
Pertka, Harry, 3673 Locust Avenue, Seaford, Long Island, N. Y.....	932
Pitman, Theodore B., Jr., WTAO-TV, Cambridge, Mass.....	385
Poller, Lou, Midwest Broadcasting Co., WGAN-TV, Milwaukee, Wis.....	483
Pomeroy, John C., president and general manager, Lansing Broadcasting Co., 407-11 North Washington Avenue, Lansing, Mich.....	102, 1114
Porter, J. C., KSWs-TV, Roswell, N. Mex.....	887
Posner, Gene, president, Cream City Broadcasting Co., Milwaukee, Wis.....	920
Putnam, William L., station WWLP, Springfield, Mass.....	373, 791, 1139
Rahall, Farris E., WFEA, Manchester, N. H.....	1115
Rankin, George P., Jr., WMAZ-TV, Macon, Ga.....	861
Reade, Walter, Jr., 701 Seventh Avenue, New York 36, N. Y.....	478
Reade, Walter, Jr., president, WRTV, 710 Mattison Avenue, Asbury Park, N. J.....	1111
Rivers, John M., WCSC-TV, Charleston, S. C.....	907
Rogers, Lawrence H., WSAZ, Inc., Huntington, W. Va.....	915,
	1122, 1128, 1130
Rossillo, Louis, 105 94th Street, Brooklyn, N. Y.....	928
Rossmoyné Corp., WCMB-TV, Harrisburg, Pa.....	1015
Scandrett, E. D., general manager, station WKEL, Kewanee, Ill.....	480
Schacht, J. H., 926 J Street Building, Sacramento, Calif.....	853
Schoeppel, Hon. Andrew F., United States Senator from Kansas, Washington, D. C.....	1094
Schmitt, Kenneth, Badger TV Co., Madison, Wis.....	919
Schrott, Alvin D., WJAC-TV, Johnstown, Pa.....	904
Sepaugh, L. M., WSLI-TV, Jackson, Miss.....	886
Shapp, Milton J., president, Jerrold Electronics Corp., Philadelphia, Pa.....	1116
Sharp, Roy, 53C Addison Place, Clifton, N. J.....	930
Siegel, Jack, radio engineer, Post Office box 363, Portsmouth, Va.....	58
Sill, Jerome, Peninsular TV, Inc., Marquette, Mich.....	883, 920
Soby, Ralph H., president, Allen D. Cardwell Electronics Production Corp., Plainville, Conn.....	103
Stark, Richard B., 41 Medford Road, Dumont, N. J.....	931
Stuart, H. Malcolm, 30 Mill Road, New Rochelle, N. Y.....	1023
Sugg, P. A., WKY-TV, Oklahoma City, Okla.....	1009
Susquehanna Broadcasting Co., WSBA-TV, York, Pa.....	1015
Swezey, Robert D., WDSU-TV, New Orleans, La.....	868
Thielen, Paul F., director of public relations, the American Legion, 812 East State Street, Milwaukee 2, Wis.....	1026
Thompson, Hon. T. A., House of Representatives, Washington, D. C.....	1132
Thornburg, Donald W., WCAU-TV, Philadelphia, Pa.....	907
Timmermann, G. J., Davenport, Iowa.....	469
Trost, Milton S., first vice president, Mid-American Broadcasting Co., Louisville, Ky.....	1024
Versluis, Leonard A., Versluis Radio & TV, Keeler Building, Grand Rapids, Mich.....	103
Vetter, Ethel, 1606 First Avenue, New York City, N. Y.....	930
WHP, Inc., WHP-TV, Harrisburg, Pa.....	1015
Wasmer, Louis, 4103 South Regal Street, Spokane, Wash.....	914
Webb, Frank V., KHF, Wichita, Kans.....	866

Statements, letters, and telegrams submitted by—Continued		Page
Wedemeyer, George, president, Wedemeyer Electronic Supply Co., 215 North Fourth Avenue, Ann Arbor, Mich.....		104
Wells, James E., 2617 Coventry Avenue, Lakeland, Fla.....		479
Wheeler, Edward A., president, WEAW, 2425 Main Street, Evanston, Ill.....		1112
Willis, J. E., vice president and general manager, station WLAP, Lexington, Ky.....		104
Wilmotte, Raymond M., 737 Warner Building, Washington, D. C.....		107
Wilson, David, Calcasieu Broadcasting Co., Lake Charles, La.....		867
Wirth, Don C., vice president, station WNAM-TV, Neenah, Wis.....		118
Witting, Chris J., president, Westinghouse Broadcasting Co., Inc., 1625 K Street NW., Washington 6, D. C.....		483, 878
WKY Radiophone Co., WKY-TV, Oklahoma City, Okla.....		900
WNCT, Carolina Broadcasting System, Inc., Greenville, S. C.....		908
Woodyard, Ronald B., WIFE-TV, 380 West First Street, Dayton 2, Ohio.....		1126
Wray, E. Newton, KTBS, Shreveport, La.....		877
WRGB-TV, Schenectady, N. Y.....		893
Wright, C. Wayne, Triad TV Corp., Parma, Mich.....		883
Wright, William P., Sacramento Telecasters, Inc., Sacramento, Calif.....		1091
Letters received (re surrender of construction permit):		
Allen, W. Gordon, 260 Hansen Avenue, Salem, Oreg.....		49
Blue Grass Television Co., Tobacco Square, Maysville, Ky.....		47
Brezner, 2833 Lee Street, Alexandria, La.....		38
Beloit Broadcasting Co., Hotel Hilton, Beloit, Wis.....		10
Brockway Co., 120-132 Arcade Street, Watertown, N. Y.....		47
Brown, Kenyon, president, KWFT, Wichita Falls, Tex.....		1026
Chronicle Publishing Co., Inc., 610 South Adams Street, Marion, Ind.....		14
Cream City Broadcasting Co., Inc., 2625 West Wisconsin Avenue, Milwaukee, Wis.....		42
Donovan, James B., care of Capital TV & Broadcasting Co., 204 West Sixth Street, Erie, Pa.....		17
Du Mont, Allen B., Laboratories, 750 Bloomfield Avenue, Clifton, N. J.....		51
Empire Coil Co., Inc., 85 Beechwood Avenue, New Rochelle, N. Y.....		41
Foster, Mel, 316 Brady Street, Davenport, Iowa.....		4
Gray, S. J., care of WCOV Telecasting Co., 208 Third Avenue North, South St. Paul, Minn.....		6
Granite City Broadcasting Co., 522 Lincoln Avenue SE., St. Cloud, Minn.....		38
Greer & Greer, Lencic Building, Santa Fe, N. Mex.....		41
Harvey, Lawrence A., 19200 South Western Avenue, Torrance, Calif.....		4
Johnson, John G., WTOB-TV, Winston-Salem, N. C.....		48-49
KEPO, Inc., 2419 North Piedras Street, El Paso, Tex.....		25
KGKL, Inc., box 850, San Angelo, Tex.....		41
KIT, Inc., box 1651, Tacoma, Wash.....		45
Lake Erie Broadcasting Co., Cleveland Road at Huntington Avenue, Sandusky, Ohio.....		39
Lewistown Broadcasting Co., 5 West Market Street, Lewiston, Pa.....		16
Little Rock Telecaster, Inc., 620 Beech Street, Little Rock, Ark.....		40
Lutz, Vincent J., Association of TV Service Companies, St. Louis, Mo.....		57
Mid-Hudson Broadcasters, Inc., 385 Main Street, Poughkeepsie, N. Y.....		46
Monocacy Broadcasting Co., East Church Street, Frederick, Md.....		12
Montana Farmer, Inc., 414 Second Avenue North, Great Falls, Mont.....		28
Mountain Empire Broadcasting Corp., Park Boulevard, Marion, Va.....		12
New England TV Co., Inc., 514 Industrial Trust Building, Providence, R. I.....		7
Old Dominion Broadcasting Corp., box 918, Lynchburg, Va.....		44
Oshkosh Broadcasting Co., 1235 Bowen Street Road, Oshkosh, Wis.....		5
Owensboro On the Air, Inc., 324 Allen Street, Owensboro, Ky.....		43
Palladium Publishing Co., 59-61 Wall Street, Benton Harbor, Mich.....		26
Radio Hendersonville, Inc., box 757, Hendersonville, N. C.....		40
Radio Roanoke, Inc., box 1110, Mountain Trust Building, Roanoke, Va.....		29

	Page
Letters received—Continued	
Regional TV Corp., Hotel Bridgway, Springfield, Mass.....	13
Rudman-Hayutin TV Co., 816 Mercantile Bank Building, Dallas, Tex.....	25
Salinas-Monterey Television Co., Box 1070, Monterey, Calif.....	18
Sanders, Wayne, KCNA, Tucson, Ariz.....	13
Steere, Howard D., station WGFG, 301 State Theater Building, Kalamazoo, Mich.....	14
Steventon, John, 320 A Street, Yuba City, Calif.....	26
Telepolitan Broadcasting Co., Star Route, Clovis, N. Mex.....	15
Tenenbaum, Harry, WTVI, St. Louis, Mo.....	50
Texas State Network, Inc., 1201 West Lancaster Avenue, Fort Worth, Tex.....	45
Trans-American Television Corp., suite 600, 1420 Walnut Street, Philadelphia, Pa.....	25
Utah Broadcasting & TV Co., KUTA, Salt Lake City, Utah.....	26
Walker, Robert, WCHV, Charlottesville, Va.....	39
WBES-TV, Inc., care of Vincent M. Gaughan, Hotel Lafayette, Buffalo, N. Y.....	8
WFPG-TV, Neptune Broadcasting Corp., Atlantic City, N. J.....	17
WGCM Television Corp., Hewes-Martin Building, Gulfport, Miss....	24
White Television Co., 1507 Lamar Street, Wichita Falls, Tex.....	39
WIBM, Inc., 2511 Kibby Road, Jackson, Mich.....	24
Reports from—	
Federal Communications Commission on S. 3095.....	150
Federal Communications Commission on H. R. 6431.....	154
Federal Trade Commission on S. 3095.....	1135
General Accounting Office on S. 3095.....	1089
Schoepfel, Hon. Andrew F., U. S. Senator from Kansas, general observations in re: UHF hearings.....	1174
Watts, W. Walter, Radio Corporation of America, 30 Rockefeller Plaza, New York, N. Y., report entitled "An Experimental Investi- gation of the Engineering Aspects of a UHF Booster Installation"....	1140
Editorials:	
All Channel Tuners and Color Sets, TV Guide, week of April 30–May 6, 1954.....	119
No. 1 TV Problem, Thawing the "Freeze," Business Week, May 6, 1950.....	233
Losing Money in TV Isn't New, Broadcasting, May 3, 1954.....	375
The Crisis in UHF, the New York Times, April 18, 1954.....	390
Speech of—	
Johnson, Hon. Edwin C., given to the National Community Tele- vision Association, New York City, June 16, 1954.....	933



STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

WEDNESDAY, MAY 19, 1954

UNITED STATES SENATE,
SUBCOMMITTEE NO. 2 ON COMMUNICATIONS
OF THE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D. C.

The subcommittee met at 9:32 a. m., pursuant to call, in room G-16 of the Capitol, Senator Charles E. Potter (chairman of the subcommittee) presiding.

Present: Senators Potter, Schoeppel, Bowring, Hunt, and Pastore.

Also present: Senator Edwin C. Johnson; Bertram O. Wissman, chief clerk; and Nick Zapple, counsel for Subcommittee on Communications.

Senator POTTER. The committee will come to order.

I wish to apologize for being late. I had a breakfast at the White House and I am still naive enough in politics to be readily impressed by having a breakfast at the White House. We just concluded.

You have been very kind to wait until I returned. I am sorry that our accommodations here are such that some people have to stand. I had not realized that we would draw such a crowd.

I might add that it will be a relief for me to have a hearing about television rather than a hearing that is on television.

We have many witnesses whom we plan on hearing. I would like to caution at this time that we have quite a full schedule. I ask you to keep your statements as short as possible and give us all the pertinent information that you care to give. It would be greatly appreciated by the committee.

Senator JOHNSON. Don't you want to add, Mr. Chairman, that if they have other testimony it can be placed in the record?

Senator POTTER. That is right. If you have prepared statements, you can submit your statements for the record and if you care to possibly brief it in your oral testimony, you may do so.

This hearing is being conducted by the Subcommittee on Communications of the Senate Interstate and Foreign Commerce Committee on the problems concerning the status and development of ultra high frequency television channels, and Senate bill 3095, a bill relating to the multiple ownership of television stations. A copy of S. 3095, which was introduced by Senator Johnson, of Colorado, will be inserted in the record at this point.

(S. 3095 is as follows:)

[S. 3095, 83d Cong., 2d sess.]

A BILL To regulate multiple ownership of television broadcast stations

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Communications Act of 1934 is amended by inserting after section 309 a new section as follows:

"REGULATION OF MULTIPLE OWNERSHIP OF TELEVISION BROADCAST STATIONS

"SEC. 309A. (a) No license for a television broadcast station shall be granted to any applicant (including all corporations under common control) if—

"(1) such applicant directly or indirectly owns, operates, or controls another television broadcast station which serves substantially the same area; or

"(2) such applicant, or any stockholder, officer, or director of such applicant, directly or indirectly owns, operates, controls, or has any interest in, or is an officer or director of, any other television broadcast station, if the granting of such license would result in a concentration of control of television broadcasting in a manner inconsistent with the public interest, convenience, or necessity.

"(b) In determining, for the purpose of subsection (a) (2), whether the granting of a license would result in a concentration of control of television broadcasting in a manner inconsistent with the public interest, convenience, or necessity, the Commission shall consider the facts of each case, with particular reference to the size, extent, and location of areas served, the number of people served, and the extent of other competitive service to the areas in question.

"(c) In no event shall the Commission grant any license (including the renewal of any license) for a television broadcast station which would result in any applicant (including all corporations under common control), or any stockholder, officer, or director of such applicant, directly or indirectly owning, operating, controlling, or having any interest in, or being an officer or director of, any television broadcast station in excess of any of the following—

"(1) five television broadcast stations operating in the very high frequency channels and no television broadcast stations operating in the ultra high frequency channels;

"(2) four television broadcast stations operating in the very high frequency channels and two television broadcast stations operating in the ultra high frequency channels;

"(3) three television broadcast stations operating in the very high frequency channels and four television broadcast stations operating in the ultra high frequency channels;

"(4) two television broadcast stations operating in the very high frequency channels and six television broadcast stations operating in the ultra high frequency channels;

"(5) one television broadcast station operating in the very high frequency channels and eight television broadcast stations operating in the ultra high frequency channels; or

"(6) no television broadcast stations operating in the very high frequency channels and ten television broadcast stations operating in the ultra high frequency channels.

"(d) Any person who, prior to the date of enactment of this section, has been granted a license for a television broadcast station operating in the very high frequency channels which, within five years after such date, he relinquishes, transfers, or fails to renew shall, upon notice to the Commission and application filed therefor within such five year period, be entitled to be granted, for each such license which he so relinquishes, transfers, or fails to renew, two licenses for television broadcast stations operating in the ultra high frequency channels, one of which shall serve substantially the same area as the station the license of which he so relinquishes, transfers, or fails to renew.

"(e) In applying the provisions of this section—

"(1) 'control' means actual working control in whatever manner exercised and is not limited to majority stock ownership; and

"(2) in the case of a corporation which has more than fifty voting stockholders, only those stockholders shall be considered who are officers or directors or who directly or indirectly own 1 per centum or more of the outstanding voting stock.

"(f) This section shall not apply to the granting of licenses for noncommercial education television broadcast stations."

Senator POTTER. When the Congress enacted the Communications Act of 1934, it placed on the shoulders of the Federal Communications Commission the full responsibility of making available, so far as possible, to all of the people of the United States, a nationwide, efficient radio and television service.

The Commission, in adopting the sixth report and order, with its assignment of channels to the various communities in the United States, stated:

The Commission has always recognized that even with an extensive scattering of VHF assignments, the 12 channels available are not sufficient to meet the objective of providing TV service to all of the people. With the additional UHF channels, however, the Commission was able to formulate an assignment plan that has the potentiality of fulfilling the objective of section 1 of the Communications Act. If all the VHF and UHF channels are utilized, there should be few, if any, people of the United States residing beyond the areas of television service. (See priorities 1 and 3.) Moreover, the table has gone far in fulfilling the needs of individual communities to obtain local TV outlets. It has provided at least one assignment to over 1,250 communities. (See priority 2.) And it has attempted where possible to provide each community with at least two assignments. (See priority 4.)

During the past months, the committee has received many complaints and numerous requests to do something with regard to the development of UHF television channels. I need not emphasize the various problems that have been confronting the development of UHF channels since the lifting of the TV freeze in April 1952. The statistics from the Federal Communications Commission show that 72 grants have been dropped or surrendered since the lifting of the freeze and of this number, 60 of them have been UHF grants. Is this trend going to continue? What effect, if any, will this have on the objective of providing a nationwide television service to all the people?

In order to obtain a complete picture and develop all the facts as they relate to the development of UHF, the committee originally announced that open hearings would be held on this subject on April 6. Since that time, more than 40 persons have requested an opportunity to appear and testify.

The committee has set aside 3 days, May 19, 20, and 21 for the hearings and will be able to accommodate only a majority of the witnesses. At the conclusion of the testimony on Friday, May 21, the committee will recess the hearings until June 3 and 4 because the National Association of Radio and Television Broadcasters Convention is scheduled for next week, and most of the broadcasters and other interested parties will be there. All witnesses who are not heard during the first 3 days will be given an opportunity to be heard when the hearings reconvene June 3 and 4.

When the subcommittee on communications decided to schedule the hearings on the problems concerning the status and development of UHF television channels, the Federal Communications Commission was requested to furnish the committee with a list indicating the persons who had surrendered their construction permits since the lifting of the television freeze.

Such a list was prepared as of March 31, 1954. In order to obtain a complete picture, I endeavored to contact each of these persons

to obtain all the information possible as to the reasons for the surrender of the permit. In my letter to each of these grantees, I asked them to furnish me information which would give a clue as to the reason or reasons why they surrendered their permit. I asked was it a lack of finance, availability of appropriate transmitter equipment, programing, circulation, set conversions, too many stations serving the area, economics, or competition? A substantial number of these persons have submitted replies which I now incorporate in the record at this point.

(Correspondence referred to is as follows:)

DAVENPORT, IOWA, *May 20, 1954.*

Mr. CHARLES E. POTTER,
*Chairman, Subcommittee on Communications,
Senate Office Building, Washington, D. C.*

DEAR MR. POTTER: I am very sorry that your letter of April the 6th addressed to Harold Hoersch and Mel Foster did not reach us. I thank you for enclosing a copy of it with your letter of May the 13th, and I will endeavor to answer as nearly as possible the questions raised in your letter.

Before filing our application for a permit with the FCC, we acquired a piece of property well located in the central west part of Davenport, which we were advised by our engineers would serve the whole quad-city area because of its central location. After the permit was granted, we made application to the city for a change in zoning on this 20-acre tract and ran into a great deal of opposition with some of the householders in the area, even though there were no homes within the immediate area, the closest one being a little over 800 feet. At the time this happened, we were most disappointed, but as we see it now, it was probably a very fortunate circumstance.

During the ensuing delays in trying to find another site and our efforts in pursuance of our case for the change of zoning in the previous site, we had a chance to examine 2 or 3 other UHF stations that had gone on the air, and frankly we were discouraged in our efforts to take advantage of the permit because of what appeared to be a pretty competitive proposition with the UHF station competing with VHF, and, of course, we have two in this quad-city area. We then had a study made as to the situation in the area that could receive UHF programs without the cost of installing converters, and this study was a most discouraging factor. As a result of these complications and the problem that we would have in converting a sufficient number of the 40,000 sets that were supposed to be in existence in our immediate viewing area, we decided that at least for the time being, that we should give up our permit and observe the industrial operation as it relates to UHF for awhile. Mr. Hoersch, who participated in this application with me, is a lawyer here in Davenport, and he endeavored in the release when the permit was given up to do it in a proper way in the hopes that if we would have a change of mind that we would be in the good graces of the Commission and could reapply if conditions indicated that we wanted to make the investment at some future time.

I believe this answers the questions in your letter of April 6th, and if there is any further information that I could supply you with, feel free to call upon me.

Sincerely,

MEL FOSTER.

SALEM, OREG., *May 22, 1954.*

HON. CHARLES E. POTTER,
*Committee on Interstate and Foreign Commerce,
United States Senate, Washington 25, D. C.*

DEAR SIR: I regret that absence from my office prevented my replying to your letter of May 6th in time for the hearings on the status and development of UHF-TV channels.

Regarding the return of construction permit, the principal reasons are: (a) Too many channels in a small marketing area; (b) tax depreciation rules are such that one with an outside income (as one must have to have sufficient capital for a station) will find station operation unprofitable, even though the station makes a profit because the net after taxes is too small a percentage. Call money

would gain a better return; (c) there is no "freedom of the press" on TV (or radio) for editorial comment the same as a newspaper.

I trust this is the information you desire.

Yours very truly,

LAWRENCE A. HARVEY,

CONNECTICUT AVENUE AND DE SALES STREET,
Washington 6, D. C., May 18, 1954.

Senator CHARLES E. POTTER,
Chairman, Subcommittee on Communications,
Committee on Interstate and Foreign Commerce,
United States Senate, Washington 25, D. C.

DEAR SENATOR POTTER: I have been authorized, as counsel for Oshkosh Broadcasting Co. and William F. Johns, Jr., to make this reply to your letter of April 7 and May 6 addressed to the Oshkosh Broadcasting Co. with regard to the reasons why its construction permit for a television broadcast station, WOSH-TV, was returned to the commission.

Oshkosh Broadcasting Co. was granted a construction permit on November 26, 1952, to operate on UHF channel 48 with an effective radiated power of 1.31 kilowatts visual. The station began operation on June 27, 1953. An application for modification of the construction permit, increasing the effective radiated power to 13.8 kilowatts, was filed on October 19, 1953, and granted on November 4. The station began operating with the increased power on or about November 24, 1953. The station ceased operation on March 22, 1954, and the construction permit was subsequently canceled by the commission.

Oshkosh Broadcasting Co., its management and staff had had ample experience in the operation of radio broadcast stations, both standard broadcasting and FM broadcasting, but had no actual experience in television broadcasting. They have operated standard broadcast station WOSH in Oshkosh successfully and profitably over a period of years and have owned interests, some of which were the controlling interests, in other stations in Wisconsin, Minnesota, and Illinois.

As experienced businessmen, Oshkosh Broadcasting Co. investigated fully construction and operating costs and revenue possibilities. The company's national advertising representative estimated that WOSH-TV would receive revenue of from \$5,000 to \$6,000 from national advertising and the management estimated that 1 to 2 thousand dollars a month could be obtained from regional advertising. It was not anticipated that local advertising would be sufficient to carry the station, inasmuch as the population of Oshkosh is only 41,084 (1950 census). It was estimated that the operating expenses would be about \$15,000 a month. The station went on the air with \$18,000 a month in television contracts. It was only a matter of days, however, before it became apparent that broadcasting on the UHF channels posed problems that VHF operating transmission did not. Although the station transmitter was located no more than 3 miles from the farthest residential area, a great majority of the UHF receivers were unable to receive a picture comparable to that received from VHF station WBAY-TV, located in Green Bay, which is 40 miles from Oshkosh, and WTMJ-TV, Milwaukee, which is 75 miles from Oshkosh.

It was found that the installation of UHF receivers is much more critical than installation of VHF receivers. The same picture quality cannot be obtained unless the UHF receiver is 100 percent efficient. Unfortunately, a majority of the local television dealers did not have technicians sufficiently trained in UHF installations to install the receivers with the degree of perfection necessary, and the dealers became discouraged, some of them recommending against the purchase of UHF converters or tuners.

Inevitably, the television advertisers also became aware of the problems and, by the end of the first full month of operation, business on the station diminished to approximately \$15,000 a month and the sales volume decreased every month the station remained on the air, while operating expenses remained approximately the same. During the last full month of operation the station revenue was \$6,500 and the expenses were \$15,000.

The Oshkosh Broadcasting Co. would have attempted to refinance the television operation and continue operating if the management could have foreseen any possibility of obtaining the national and regional business necessary to support the station. It was found, however, that the New York, Chicago, and Milwaukee advertising agencies had little or no confidence in UHF, and that they offered substantially no prospect of national or regional business. This fact,

together with the local merchants' lack of confidence in UHF, forced the management to terminate the station's operation.

When WOSH-TV began operating, there were relatively few television receivers in Oshkosh, as the only stations that could be received were WTMJ-TV, operating from Milwaukee on a VHF channel, and WBAY-TV, operating at Green Bay on VHF channel 2. Both of those stations increased their power to the maximum after WOSH-TV began operating, so that in many instances it was easier to receive them with CBS and NBC programs than to receive WOSH-TV.

While the coverage of WOSH-TV could have been extended by installing a 12-kilowatt amplifier, the lack of any prospect of additional national or regional business made the expenditure of \$100,000 for such an increase in coverage appear to be unjustified. An adequate return on such an investment could not be envisioned. The management of Oshkosh Broadcasting Co. is satisfied, however, that if the station had been operating on a VHF channel, with the same coverage and programs, the operation would have been a financial success.

Very truly yours,

OSHKOSH BROADCASTING CO.,
By E. D. JOHNSTON,
Its Attorney.

WCOW-TV Co., 208 THIRD AVENUE, NORTH
South St. Paul, Minn., May 18, 1954.

HON. CHARLES E. POTTER,
*Chairman, Subcommittee on Communications,
Committee on Interstate and Foreign Commerce,
Senate Office Building, Washington, D. C.*

DEAR SIR: Your letter of April 6, 1954, to the WCOW Telecasting Co. has been referred to me for reply.

There were many reasons which contributed to the decision to return the construction permit for UHF channel 17 to the Federal Communications Commission, and each of them can probably be given the same amount of emphasis. Some of them are as follows:

1. Any UHF station coming into an established VHF market (in the Minneapolis-St. Paul area there were two established VHF stations) would have to expect an uphill fight to acquire an audience. My clients were willing to take this risk, as long as the additional VHF channels allocated to this area were being contested. They felt they could establish themselves on a firm footing and acquire an audience while these other contests were being resolved. The practice of the Commission in granting quickie mergers enabled a third VHF station to come into this area approximately 1½ years before it was expected.

2. It is debatable as to how many television stations a given area can support. This can only be proved by experience, but it is our opinion that more than three ordinary commercial stations in the Twin Cities area would be economically unsound. It is also our opinion that only three stations in this area would not give the public the most adequate choice of programing to which they are entitled. It is our opinion that some form of subscription television is the answer to the problem of the UHF station in a multiple-station area. There are presently in operation 3 major networks (NBC, CBS, and ABC) and 1 other (Dumont). It has been estimated that 80 to 90 percent of the homes in this area have television sets, all receiving only VHF. It is reasonable to expect that no network, even the minor one which receives the least desirable time, would want to switch over to a station on the UHF band, where the audience must once more be sought from the very beginning. The UHF station must therefore depend solely on its own resources and in an area such as this cannot expect any assistance from network programing to gain an audience. As I have stated above, it is our opinion that some form of subscription telecasting is the answer to this problem.

3. It is also true that the high cost of set conversion also served as a deterrent. This problem, however, existed at the time of the original application, and the permittees felt that, if an adequate programing arrangement could be achieved, conversion would follow as a matter of course, even though it might be a slow process. In addition, once the actual construction of the station would have begun, purchasers of new sets would probably have demanded sets equipped to

receive UHF signals. While this was a problem, it was not an insurmountable one.

I hope that this resume of our situation will assist your committee in its investigation. Should you desire any further information concerning our particular situation, please do not hesitate to call upon me.

Sincerely yours,

(Signed) S. J. GRAY,
FREDERICK EPSTEIN,
Attorney at Law.

PROVIDENCE, R. I., May 12, 1954.

HON. SENATOR CHARLES E. POTTER,
*Chairman, Subcommittee on Communications,
Committee on Interstate and Foreign Commerce,
Senate Office Building, Washington, D. C.*

DEAR SENATOR: I have just recently been given your letters addressed to the New England Television Co. concerning your scheduled hearings on UHF. I am glad to give the subcommittee any information that will assist in its understanding of the problem.

In the first instance, I believe that the creation of the UHF channels by the Commission should have been handled in such a way as to insure the equal development of the U station with already existing and to-be-created V allocations. I believe the Federal Communications Commission very seriously wished to see that U stations be placed in an equally competitive position with any other type of television station, both from the viewpoint of audience, programing, network affiliation, or general economics. Unfortunately this was never done, nor were the proper steps taken, in my opinion, to implement the Commission's decision and its desire to place UHF in a competitive position with V stations.

1. I sincerely question the advisability of mixing U and V stations in the same area, and I suggest that any grants of any future V stations in a present U area be held up pending the creation of an audience for the U station.

2. Assuming the present continuance of mixture of V and U stations in the same market, I suggest that your committee take every step possible to insist that network programs be made available to the U station on an equal basis with the V station. While I am aware of the fact that such is the present Commission policy, investigation will easily demonstrate that all networks are extremely cautious (to say the least) about U affiliations, especially where a V station or stations exist in the same area. This reluctance by the networks is not necessarily prejudice but is based upon the fact that the U audience does not substantially exist where a V is already established unless you have special circumstances concerning a particular market that changes the general picture. Of course, the proper network affiliations, especially with the three leading networks, will assist in the creation of an audience. Thus the network policy in substance, based upon the lack of a U audience, helps continue the very reasons which created the policy. If the law could be amended to insist that the networks implement FCC policy of equalization, but stating specifically that no television station shall be entitled or allowed more than a certain number of commercial network hours before any other television station in the same area received an equal amount of commercial network hours and that no affiliation shall be withheld because the potential affiliate is a U station, I think some help would be given, although I realize that other factors may still give all the substantial benefits to the V station in a given market.

3. Questions with respect to programing are really merged in the question of network affiliation because a local station, in the ordinary market, at least, can never hope to compete in general program attractiveness to the public. The network, by reaching so many areas and so great an audience, must always be able to produce programs at a much lesser cost per unit of audience than any one station in a given area. The local individual station can never secure the stars and production services that go into the creation of the general network program. For better or worse, the ordinary audience will watch in general the name shows and stars produced by a network.

4. Nor have the manufacturers of receivers been pushing all-channel tuners or a set that (to the viewer) is equally capable of receiving a U station as a V channel. (I mean by that no discernible differences between the ability to receive either frequency.) I do not think that the blame can be put on the

manufacturers for realizing the economic situation of the U station. If the public has no great desire to receive a U channel, the manufacturer will not necessarily create such a desire. However, the Commission should insist that the public be able to receive both U and V channels. Any other approach is in substance specifically contrary to the reason for creation of the U channels; i. e., the desire of the Commission to provide a nationwide television service. The public is entitled to receive all the service that the Commission has seen fit to allocate in any given area, and any approach which does not secure to the public this ability is in defeat of the public's rights. On this ground I believe the Committee and the Commission can and should insist that said manufacturers be required to deliver to their distributors receivers that can secure all the stations that the Commission has seen fit to grant in any area.

With respect to the New England Television Co. and return of its construction permit for channel 46 in Fall River, this station was not constructed because of the nonavailability of appropriate transmitting equipment at the proper time. The board of this station realized that this station must be operated substantially before the institution of programing from other potential stations in nearby areas. Unfortunately, the proper equipment was not available until after permits were granted to nearby areas, particularly in Providence, R. I., and the board felt that this increased competition would make the chances for financial success of their U station so hazardous as not to warrant construction, especially in view of the experience of other U stations throughout the country.

The main problem of the U station is audience and while the U station in a V area can induce to some extent set conversions, it is difficult without the existence of networks and manufacturers to equalize the U station with the V. The U station is entitled to no less and no more than an equal opportunity to compete. This, it has not received. The millions of dollars invested in U stations throughout the country, the millions of dollars invested in receivers throughout the country, require that specific steps be taken to equalize the U station. If economic interests are hurt by one method or another in this equalization process, your committee should view this as necessary in the equalization process. It is no answer for the V station to recite its investment and its desire to receive the revenues it now enjoys, since they should not enjoy any revenues derived because of an enjoyment of an unequal competitive situation.

Your committee could possibly consider in good faith a possible elimination of the V band and thus for all stations to be completely equal. From a long overall basis, this may be less costly to station operators and to the public than any continuation of the present mixture. Representations implied or specifically made by Government authorities that the U operator would have every opportunity to compete on an equal basis must be met if the Commission and your committee wish to insure a nationwide television coverage on a fair basis.

I'll be glad to answer any further specific questions you might have or submit any more detailed information concerning Channel 46 in Fall River.

Very truly yours,

NEW ENGLAND TELEVISION Co.,
ABRAHAM BELILOVE, *Treasurer.*

WBES-TV, Inc.,
Buffalo, N. Y., May 18, 1954.

HON. CHARLES E. POTTER,
*Chairman, Subcommittee on Communications,
United States Senate, Washington, D. C.*

DEAR SENATOR POTTER: In reply to your letter of May 6, 1954, we enclose a copy of a letter previously submitted to the Secretary of the Federal Communications Commission which we feel sets forth our position regarding UHF.

Yours very truly,

CHARLES R. DIEBOLD, *President.*

DECEMBER 16, 1953.

Re WBES-TV, Inc.; Buffalo, N. Y. (Buffalo-Niagara Television Corp.) BPCT-1413; BMPCT-972; BMPCT-1268.

SECRETARY,
*Federal Communications Commission,
Washington, D. C.*

GENTLEMEN: We are enclosing herewith authorization from you which was given by you to this corporation to broadcast on channel 59 in the city of Buffalo. Please be advised that we are discontinuing our broadcasting operations as of the close of business at 11:30 p. m., Friday, December 18, 1953.

This action is a result of a unanimous resolution of the stockholders of this corporation at a meeting held on Wednesday, December 16, 1953:

Resolved, "That appropriate officers of the corporation return to the Federal Communications Commission the license heretofore granted by them to WBES-TV to operate on channel 59 in the city of Buffalo, N. Y.; that the secretary of the corporation advise the Federal Communications Commission of this action; that in view of the apparent lack of interest on the part of the large networks and national and local advertisers in ultra high frequency as a medium of communication, despite the aggressive and purposeful attempts made by the officers of the corporation to interest such major networks and advertisers so as to make the project commercially feasible, all of which have resulted to no avail;

"That in view of the fact that the stockholders of WBES-TV were interested solely in performing a community service and that this is not possible unless commercial support is given to this medium; that in view of the difficulties experienced by the corporation since its inception and the complete lack of promise for the future; that despite attempts made by this corporation to obtain through direct application or by consolidation with other applicants one of the two remaining very high frequency channels allocated by the FCC to the city of Buffalo, either in whole or in part, which apparently would have resulted in protracted litigation and particularly in view of the fact that in order to do so it would have been necessary for the corporation to discontinue broadcasting under present FCC regulations: Be it

Resolved, That WBES-TV discontinue its operations as of the close of business, on 11:30 p. m., Friday, December 18, 1953."

The directors and stockholders of this corporation have reluctantly come to the conclusion that it is not going to be possible to continue the operation of this UHF channel in the city of Buffalo. Your honorable Commission has heretofore allocated three UHF channels and three VHF channels to the city of Buffalo. At the time this corporation became interested in providing television service to this area, there was only television station operating. We were advised that the entire industry, as well as the advertisers, were interested in getting into this market, and we knew that the citizens of Buffalo wanted additional television outlets. In addition, we were led to believe that UHF was going to get the complete support of everyone concerned with the communications industry. Indeed, we were greatly encouraged by representations made to us before we got on the air with our test pattern on September 5, 1953, and with commercial broadcasts on September 27, 1953.

We attempted to obtain a basic major network affiliation before and after our project was launched. We recently concluded that this is not possible, and two things became more and more apparent to us. Firstly, that this operation could not succeed without a basic major network; and secondly, that the major networks were awaiting the outcome of the contests for VHF channels here in Buffalo, so as to make an arrangement with the successful applicant.

In this posture, we then decided that if we were to survive, it could only be with a VHF channel. Negotiations were had with a group of local people who had applied for a channel, since it was our belief that these channels should be allocated to residents of this community. This did not result in an agreement.

It then became known that we could not operate on channel 59 and apply for a VHF channel at one and the same time as the result of a decision by the FCC. To discontinue operations at that point would have resulted, we felt, in a breach of faith with the citizens of this area who had spent millions of dollars converting their sets so that they could receive our programs. However, subsequent events disclosed the fact that we were getting cancellations on programs and buyer resistance at all levels because we were a UHF unit.

At this point, we decided that since we could not render a community television service, and had done everything in our power to do so with UHF with no success, that it would be necessary to apply for a VHF channel and we engaged Washington counsel and prepared an application for presentation to the FCC. In this circumstance, we intended to return our permit on channel 59 simultaneously with our application for a VHF channel with an offer to continue our operation even at a loss, if the Commission desired us to do so pending a determination of the VHF issue.

At this point, we had discussions with a merged group applying for a VHF channel and it became clear to us that the controlling faction consisted of local people, all of whom were well known to us, and that once our application was submitted, it would have entailed protracted contests and litigation. Since we were prepared to discontinue our operation, we concluded that we would not

10 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

wish to be a party to the contest and decided to withdraw from the television field in this city in a way that would provide the people of this community with a continuous service. It was our expectation that if your Commission had granted a construction permit to the merged group for channel 2, that they could have gone on the air at the time that we went off the air, so that there would have been no interruption in the television service to this community. The disclosure of this possibility to the press and in trade journals has made further operations impossible.

We genuinely regret having to make this decision. We have 25 stockholders representing a true cross section of this community. We have provided many notable programs that were in the category of community service; plans had been formulated to incorporate other programs of a community character into our schedule, since it was our honest desire to provide not only entertainment, but instruction, education, and a forum for local institutions. Obviously, this type of service cannot be rendered unless the enterprise is able to secure sufficient income from advertising sources to make it a reality.

If you should wish any further information or require any administrative procedures, we will be glad to cooperate in every way possible. If you desire any statistical information for historical purposes, we will be glad to furnish this as well. The people in this community have a tremendous investment in television as a medium. They have been very patient, helpful, and cooperative throughout this period.

Yours very truly,

WBES-TV, Inc.

BELOIT BROADCASTING Co.,
Beloit, Wis., May 17, 1954.

HON. CHARLES E. POTTER,
*Chairman, Subcommittee on Communications,
United States Senate, Washington, D. C.*

DEAR SENATOR POTTER: Pardon delay in acknowledging your letters of April 7 and May 6. I have been out of the city and as a consequence absent from my desk.

I am enclosing a copy of my petition to the FCC requesting cancellation of my construction permit for a UHF television station in Beloit, Wis. This gives you the reasoning behind my petition.

What my chief engineer and I found in our investigation of UHF problems last year, holds true today to a far greater extent. It is my opinion that the damage has already been done and that UHF is headed for the same grave as FM radio.

The first mistake was made when VHF franchises were granted along with UHF franchises in medium-sized markets. VHF-TV is definitely regional. UHF is strictly local.

I don't think it will ever be feasible for UHF operators in the smaller markets to go into the high power, now being discussed, nor to attempt to compete with powerful VHF-TV stations by means of UHF satellites and boosters. The cost would be prohibitive, and the mass audience will be no more interested in UHF receivers than it is now where VHF signals are satisfactory.

The public has already shown that it is not interested in spending more money for UHF circuits in TV receivers or for UHF converters than it was interested in FM circuits in radio or FM converters.

The fact that manufacturers were not required to put UHF circuits in all TV receivers when the freeze was lifted in July 1952 automatically lessened the value of UHF to the networks and to the sponsors.

Rapid obsolescence of UHF broadcast equipment makes this type of television operation prohibitive in the smaller markets.

From personal experience I know that neither the networks nor the larger advertisers are interested in UHF where they can get coverage via VHF.

I will be glad to elaborate on this if you wish some time in the future. In the meantime I hope this information is what you want.

Sincerely,

SIDNEY H. BLISS, *President.*

BEFORE THE FEDERAL COMMUNICATIONS COMMISSION, WASHINGTON, D. C.

File No. BF-1523

Re: Application of Sidney H. Bliss, trader, doing business as Beloit Broadcasting Co., for television construction permit, Beloit, Wis.

PETITION

The petition of Sidney H. Bliss sole trader doing business at Beloit Broadcasting Co. alleges as follows:

1. On the 11th day of February 1953, the Commission issued to Sidney H. Bliss a construction permit BPCT-1523, for the construction of a television broadcasting station at Beloit, Wis. Originally the call letters assigned to such station were WGEZ-TV but by subsequent change, these call letters were designated as WRBJ. This proposed station would serve Rockford, Ill., Beloit and Janesville, Wis., with class A and B service. These cities were in the fringe area of existing service at that time.

2. Upon the issuance of said construction permit, applicant went to New York in an effort to obtain network affiliation. Two of the networks expressed definite interest in the proposed station. One network went so far as to request that applicant return later bringing with him positive indication from major distributors serving his market that they desired to have proposed station added to the television advertising schedule of their supplying manufacturers.

Applicant made contacts with the major distributors in Rockford, Chicago, Milwaukee, and Madison, serving this area. On May 19, applicant returned to this network with the requested information but was not given the opportunity to present it. The network on this occasion showing no interest whatsoever in the proposed station.

The applicant then contacted the second available network and was advised that, no decision could be made at that time because the successful Rockford applicant for Channel 13, which had been granted a construction permit only the week previous, was coming to see said network the following week. This precluded any interest in applicant's UHF station.

Apparently the grant of Channel 13 the previous week was also the reason for the first network's lack of interest in applicant's proposed station.

The other two networks already had affiliation contracts with the Rockford station operating on Channel 30.

The situation remained indefinite until August 11, when the grantee for Channel 13 in Rockford publicly announced he had signed affiliation contracts with both of the networks contacted by applicant.

In the meantime, following the issuance by the Federal Communications Commission of applicant's construction permit, applicant and several members of his staff visited VHF and UHF stations on the air and others under construction in the following cities: Youngstown, Ohio; Peoria, Rock Island, and Rockford, Ill.; Davenport, Iowa; South Bend, Ind.; Green Bay, Milwaukee, and Oshkosh, Wis.; Jacksonville, Fort Lauderdale, and Miami, Fla. Construction, technical operation, programing, production, personnel, selling, and operating costs were studied in each of these plants.

These visits and a continuing study, made in the light of the changing television situation in this area, have resulted in the following conclusions:

1. The Rockford, Beloit, Janesville market is no longer fringe area and is now served with excellent VHF signals from Milwaukee, channel 4, with its increased power, 100 kilowatts, and antenna of over 1,000 ft. and carrying NBC, ABC, and Dumont.

2. Rockford, channel 13, is providing this entire area with a class A signal and will feed CBS and ABC.

3. Channels 2 and 5, Chicago, will unquestionably put class B signals into this area when they go on the air with their increased power.

4. When the Madison, channel 3, controversy is settled and a CP granted there is now no question but that this station will furnish class A network service throughout this area.

5. From these studies applicant concludes that a network affiliation for a television station in a market as competitive as the Beloit, Rockford, Janesville area is a prerequisite to economic survival.

12 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

6. Because of the increasingly competitive VHF service in the Beloit area now and because of the inability of the applicant to obtain network service, applicant is convinced that a UHF venture at this time would be economically unsound. Applicant therefore requests permission of the Commission to return his construction permit for cancellation without prejudice and for cancellation of the call letters assigned to such station. Applicant further states that he has not been promised, nor has he received directly or indirectly, in connection with filing of such petition for cancellation of his license, any consideration of any nature whatsoever.

SIDNEY H. BLISS.

OCTOBER 6, 1953.

STATE OF WISCONSIN,
County of Dane, ss:

Sidney H. Bliss, being first duly sworn, deposes and says that he is a sole-trader, doing business as Beloit Broadcasting Co., permittee of WRBJ, Beloit, Wis., and that the facts stated in the foregoing petition are true of his own knowledge except as to such statements as are therein stated on information and belief and as to such statements, he believes them to be true.

SIDNEY H. BLISS.

Subscribed and sworn to before me this 6th day of October, 1953.

EDWIN CONRAD,
Notary Public.

My commission expires April 7, 1957.

MONOCACY BROADCASTING CO.,
Frederick, Md., May 15, 1954.

HON. CHARLES E. POTTER,
*Chairman, Subcommittee on Communications,
United States Senate, Washington, D. C.*

DEAR SENATOR POTTER: This will acknowledge receipt of your letters April 6 and May 6, 1954.

We are distressed to advise you that the president of our organization is seriously ill in Florida and, having been ill for some time, is unable to comply with your request.

As he was the only individual in our organization who handled all television matters and made the final decision to turn in our construction permit, he therefore is the only person who could answer the questions you outline. We do not feel that there is any other person in our group who is able to give you the information you request.

We are extremely sorry not to be able to contribute to your most valuable hearings.

Sincerely,

ALAN W. LONG,
General Manager.

WMEV,
Marion, Va., May 14, 1954.

Senator CHARLES E. POTTER,
*Chairman, Subcommittee on Communications,
United States Senate, Washington, D. C.*

DEAR SENATOR POTTER: Please pardon my delay in answering your letter of April 7 and I hope the following information will be helpful to you during the investigation on the status and development of UHF TV channels.

We of the Mountain Empire Broadcasting Corp. returned our UHF construction permit for a station to operate on channel 50 after a rather thorough and exhaustive investigation. Our problem was not one of financing the original construction since we are fortunate in having several stockholders who were financially able to build the proposed WMEV TV.

Programing did not concern us too much, as the American Broadcasting Co. indicated that they would be willing to make our proposed TV station an affiliate.

Equipment was no bottleneck, as several manufacturers were most willing to sign contracts with promised delivery dates. I visited one of the equipment plants and saw every indication that equipment could be delivered to us.

Economics of operation was the deciding factor. I made four trips to New York City and talked with advertising agencies regarding the potentiality of sales on our proposed UHF channel 50 TV station. I was told by almost every one I talked to that national advertisers were not at present buying spots and programs on UHF stations where there existed any VHF reception. The reason being a very practical one—lack of circulation. As we all know every TV set made so far will receive VHF signals. Conversion to UHF has been too costly. All channel sets have necessarily cost more money than a straight VHF set.

We knew that to operate a TV station at the present time in Marion, Va., a town of 7,000 people, that about 90 percent of our sales would have to be national business (network and spot business). After our visits to New York we became convinced that at the present time our proposed TV station was not economically feasible.

I believe that at a later time if all channel sets become the rule rather than the set with an extra price and when the price of transmitting equipment and accessories, such as tubes, come down to a reasonable price that TV stations can and will be operated on a comparable basis to our present-day local AM stations, for I feel that with a reasonable cost of construction and a moderate cost of operation television advertising can be placed within the reach of our Main Street merchants just as today they are happily and successfully using local radio advertising.

If I can be of any further assistance during your hearing please let me know.

Sincerely yours,

ROBERT C. WOLFENDEN,
Vice President.

KCNA,
Tucson, Ariz., May 12, 1954.

HON. CHARLES E. POTTER, *Chairman,*
Subcommittee on Communications,
United States Senate, Washington, D. C.

DEAR CHAIRMAN POTTER: AS I have been out of town, your letter reaching me just today, it was necessary to dig deep in the pile to get you the information you desire.

1. We did not have a UHF grant—it was VHF, channel 9.

2. The information you received from the Commission that we turned our permit in was correct, and they also should have informed you that the reason was one of economics as outlined on our request for deletion.

There is nothing that we can add at this time as our position is clearly stated. We did not choose to commit financial suicide after looking over the market and its potential in the face of TV grants; incidentally all of them are VHF for Tucson.

However, there are some dillies allocated for UHF in Arizona in towns such as Ajo, Ploy, etc., which unless oil is found in Arizona, will always be a comfort stop on the road.

Personally, I don't think the country will ever need UHF. Where is the money coming from to support all the proposed VHF stations?

Sincerely,

WAYNE SANDERS,
Manager, Radio KCNA.

WACE, REGIONAL BROADCASTING CO.,
Springfield, Mass., May 13, 1954.

HON. CHARLES E. POTTER,
United States Senate,
Washington, D. C.

DEAR SIR: In response to your letter of May 6, please be advised that the following statement is in response to your questions regarding the channel 36 grant which Regional TV Corp. has issued to Northampton, Mass., which was returned prior to actual construction.

14 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

After a careful study of the market, taking in consideration three factors, namely, VHF service to the area both current and projected, number of UHF stations already in the market, and the progress of said UHF stations, it was decided that there was not sufficient potential audiencewise or businesswise to support the grant.

A New Haven VHF station 60 miles to the south had serviced the market for 4 or 5 years with excellent success signalwise. Two UHF stations had been on the air 6 months at the time our grant was turned back, giving us the opportunity to observe UHF acceptance. We, therefore, felt that since the VHF station had the primary audience and, as a matter of fact, continues in that position; and since there were two UHF stations in the market having considerable trouble businesswise and audiencewise as a result of the VHF station, plus the fact that there is in hearing at this time and projected at that time a possible grant of a channel 3 VHF station in Hartford (25 miles south of Springfield), there was, therefore, little chance of a network being available and slim chance of sufficient revenue to exist as the third UHF in a 300,000 market with two powerful coverage-wise stations on the edge, both able to serve the market with fine signals.

These are the facts on Regional TV's decision to give back the grant for channel 36 for Northampton, Mass. Northampton is 5 miles north of the metropolitan district of Springfield-Holyoke, Mass.

We shall be happy to supply any further facts you require.

Cordially,

RALPH J. ROBINSON,
General Manager.

WKMI, STEERE BROADCASTING CORPORATION,
Kalamazoo, Mich., May 12, 1954.

HON. CHARLES E. POTTER,
United States Senate, Washington, D. C.

DEAR SIR: I recall receiving a what I thought was a form letter from you regarding the hearings coming up on the status of existing UHF-TV channels. Since WKMI voluntarily surrendered its construction permit for UHF channel 36 last fall, I felt we could add very little to the full picture you are trying to build concerning UHF. I still feel that the UHF stations currently in operation are the only ones which can help the committee to any extent.

As president of Steere Broadcasting Corp., I surrendered our UHF grant because I felt that a UHF station getting started in a market already being served by an established VHF-TV station would have a hard time. I am sorry that events which have transpired during the last 6 months in the UHF field have lent support to my opinion.

You, as chairman, and the subcommittee have my best wishes in the work you are undertaking.

Sincerely yours,

HOWARD D. STEERE,
President.

CHRONICLE PUBLISHING CO., INC.,
Marion, Ind., April 15, 1954.

HON. CHARLES E. POTTER,
*Chairman, Subcommittee on Communications,
United States Senate, Washington, D. C.*

DEAR SENATOR: Your letter of the 6th reached me at a very busy time which accounts for the delay. There are several reasons why we finally concluded to return the construction permit for a UHF television channel.

1. When we first made application, we were lead to believe that our signal would cover a 40-mile radius but we discovered according to the Commission formula that our coverage would be confined to a 20-mile radius. This coverage would not reach enough people to justify the venture.

2. Our investigation disclosed that the large networks were not interested in UHF. The consensus of opinion seemed to be that if they could reach 85 percent of the United States buying segments with VHF, there is little reason for them to attempt to cultivate the other 15 percent through UHF.

3. We have been operating an FM broadcasting station for the past several years, giving the people of this community within a 60-mile radius interesting

programs. However, this has been done at a loss. We have continued to provide this service for our people believing that FM high frequency would come into its own since the audio of television is in that spectrum. However, we have come to the conclusion that UHF is another FM deal. We are convinced that FM was killed by premeditated treatment on the part of the large stations.

4. When we found ourselves in such a predicament with our FM station, we attempted to secure a 1400 kilocycle channel which became available to us as a result of financial failure of its owner in Kokomo 30 miles west of us. An existing station here, day time, also filed for that frequency. Despite all the facts regarding financial irresponsibility of the other station, the commission refused to give us the AM frequency so that we might be able to put our venture in the black. The predictions made before the Commission have come true. The antinewspaper complex which exists with the communications department also has a bearing on our decision.

From the above you will notice that this company attempted to be a part of the new communications facilities in order to serve our people. There has not been a lack of finances nor availabilities of transmitting equipment nor too many stations serving this area. It looks to us that the urban territory on fringe VHF signals can only be served when the individuals in those communities provide themselves with high-powered receiving antennas. UHF like FM produces better reception. People tell us they listen to FM because it sounds better, and UHF will have a hard time, too.

It occurs to me that the Commission should have recognized the value of FM in radio and to have gradually transferred the small AM stations to FM providing clear AM channels for long-distance coverages.

I trust that this letter will help to correct some of the mistakes of the past.

Yours very truly,

GARDNER J. THOMAS,
President.

CLOVIS, N. MEX., *May 10, 1954.*

SEN. CHARLES E. POTTER,
*Chairman, Subcommittee on Communications,
Senate Office Building, Washington, D. C.*

Dear SENATOR POTTER: Your letter of April 7 directed to the Telepolitan Broadcasting Co., Star Route, Clovis, N. Mex., has just been turned to me for attention, and while I note that the hearings were scheduled for May 4, 5 and 6, I thought it might be of some value for the record to forward this on anyway.

Under date of October 26, 1953, we wrote to the Secretary of the Federal Communications Commission, an airmail letter setting out the reasons why the permit was being returned. For your convenience, I am enclosing a copy of that letter, and I believe it fully explains our position. If there is any other information you might require, it will be forthcoming upon your request.

Respectfully yours,

WESLEY QUINN.

CLOVIS, N. MEX., *October 26, 1953.*

In re Application of Telepolitan Broadcasting Co., Clovis, N. Mex. ;
File No. BPCT-1293

SECRETARY, FEDERAL COMMUNICATIONS COMMISSION,
Washington 25, D. C.

DEAR SIR: In view of the fact that in the not too distant future the construction permit for the construction of Telepolitan station KNEH in Clovis, N. Mex. will run out, and the holders of that permit, Mr. Sam and Sid Pipkin, being in a quandary, as to what course to pursue, they have directed me as their attorney to write this letter asking the indulgence and consideration of the Commission to the problems with which they are faced due to the economic conditions in the Clovis area.

We have for the past several years been in the middle of a drought condition, which has affected this whole trade territory. In the past our periods of time in which we have had a shortage of rainfall have been relatively short, and we could always anticipate that conditions would brighten after a year or two of such conditions, but this drought has held on so long and has affected so many phases of our economic life that at the present moment the investment of a sizable

amount of capital in television here does not appear to be feasible. At the time this application was filed a drought condition existed, but based on past experience we had every reason to believe that the cycle was complete and the following year would put us back on a more normal basis. Such has not been the case.

To locations in the industrial East or Midwest, or on the coast, the weather is not such an important factor as it is to us in the Southwest. Here, it is the all important basic factor with which we must constantly be concerned. The applicants did not go into this matter with the idea that large returns on their investment would be immediately forthcoming, and were prepared to have a reasonable period of loss until the matter could be developed. Now, however, with conditions as they are, the applicants cannot foresee any sort of a return any time in the reasonable future, or at least for possibly 2 or 3, or even possibly 4 years. Ours is an economy based on cattle and crops and railroad employment. We know the Commission is well aware of what has happened to the price of cattle. When there are no crops to be shipped, it of course affects railroad employment and thus all three of our basic elements have suffered.

If this was a permanent situation the applicants would at this time withdraw their application and not burden the Commission further with their problems. It is, however, far from a permanent condition, and in every sense of the word "temporary." Your applicants are people who have helped pioneer this country and have great faith in it, and just as quickly as economic conditions adjust themselves and the matter is at all feasible they still want to proceed. Several conferences have been held with every medium of the dissemination of information and advertising, including the radio stations and newspapers in this area, and individuals and the applicants are convinced that if more time were allowed to them it would in no sense of the word be blocking the efforts of other possible applicants. As the Commission knows, there have been no other applicants for the other channel allotted to Clovis, and we feel certain that for the next year at least there will be no other application filed.

We would be glad to have the opportunity to furnish the Commission with any forms of evidence that might be requested which would substantiate our position in this matter. We have approached this problem from every conceivable angle that we can think of and if the matter is pursued further there is a possibility that we would want to change the location from the one designated to the Hotel Clovis, which is a structure approximately ten stories high, which would enable us to use the hotel itself as a tower with all of the transmitting equipment on the top of the hotel and with offices in the hotel itself in the center of town. We might add that the Hotel Clovis has been most receptive to our overtures in this connection.

If the Commission could see fit to allow us to extend the time for the construction work for a year from this time, we feel sure that we will have a better grasp of the economic condition for the foreseeable future, and we feel that it would be in keeping with the policies and purposes of the Commission itself, inasmuch as we know that the Commission does not like to have a failure on the part of any applicant due to conditions over which the applicants have no control. After very much considered discussion we have decided that the submission of this letter setting out as fully as we felt the Commission would be interested was the only right and fair thing to do, and then if the Commission decided to cancel the application we would request that it be done without any prejudice toward the filing of a new application by the same parties at some future date.

To repeat, the indulgence and consideration of the Commission to this letter is respectfully requested, and any additional information desired by the Commission will be forthcoming immediately upon request.

Respectfully yours,

LEWISTOWN BROADCASTING CO.,
Lewistown, Pa., May 13, 1954.

Mr. CHARLES E. POTTER,

Chairman, Subcommittee on Communications.

*United States Senate, Committee on Interstate and
Foreign Commerce, Washington, D. C.*

DEAR SIR: In reply to your letter of May 6 we beg to advise that our company surrendered its construction permit to build a UHF television station on channel 38 for the Lewistown, Pa., area for the following reasons:

1. Analysis shows that the available market is not sufficient to support a television station under the present economics of the art.

2. Because of the direct line of site coverage characteristics of UHF, no suitable transmitter location could be found in this extremely mountainous section of the country from which an adequate signal could be delivered to the existing population.

3. It is noted that there is a definite lack of acceptance of UHF on the part of the general public.

If changed conditions in the future would indicate to us that operation of a television station for the Lewistown, Pa., area would be economically and technically feasible, it will be our intent to install and operate such a station.

Yours very truly,

J. S. Woods, *President.*

ENGLISH, GILSON, BAKER & BOWLER,
Erie, Pa., May 11, 1954.

Hon. CHARLES F. POTTER,
*Chairman, Subcommittee on Communications,
United States Senate, Washington, D. C.*

DEAR SENATOR POTTER: This is in reply to your letter of April 6 and your further letter of May 6 directed to Mr. James B. Donovan, of Capital Television & Broadcasting Co.

The Capital Television & Broadcasting Co. was a partnership composed of Mr. Donovan, Mr. McBrier, and myself, and I have been, in effect, the managing partner. Please accept this letter, therefore, as a reply on behalf of the whole partnership.

The partnership received this construction permit shortly after the same individuals, plus others, received a permit for channel 28 in Raleigh, N. C. We ordered equipment from Federal Telecommunications Laboratories for both permits, but we put first priority upon the Raleigh grant because no other CP had been granted in the Raleigh-Durham market. Due to equipment delays, we did not get on the air in Raleigh until the 12th of July 1953.

In the meantime, in Baton Rouge, another permit holder got on the air and began a successful operation, and it became clear that still another permit would be granted to the newspaper interests in that city. We were, therefore, in Baton Rouge, in the position of being the third ranking station in the market, with CBS probably remaining with the present station and NBC going with the station affiliated with WJBO in Baton Rouge. We felt that Baton Rouge would be an excellent two-station market but would be a poor three-station market for the third station. The development of the situation made it clear to us that it would not be wise at this time to go forward with the permit, and we surrendered it to the commission.

This surrender was not dictated by the fact that it was for a UHF channel, because the present channel 28 in Baton Rouge is, we understand, operating well and successfully, and the all channel sets established by that station would be equally useful to a new UHF station. Our surrender of the CP would have taken place regardless of the channel, and was dictated by the economic size of the market, and the fact that we would inevitably have been the third station in that market.

We feel, as evidenced by the fact that we are happy with channel 28 in Raleigh and some of us are interested in channel 35 in Erie, that there is no reason to believe that the higher channels cannot be just as economically sound as the lower channels in the proper market and with proper promotion. We believe, however, that manufacturers should certainly see that all sets can receive all channels so that there should be no disadvantage in operation between the higher channels and the lower channels.

I hope this will be of some assistance to you.

Respectfully yours,

JOHN W. ENGLISH.

ATLANTIC CITY, N. J., *May 3, 1954.*

DEAR FRIEND: At this time, it appears that ultra-high-frequency television station WFPG-TV cannot render a program and transmission service of pride to the viewers of southern New Jersey. Accordingly Neptune Broadcasting Corp. intends to apply to the Federal Communication Commission to authorize

temporary suspension of the operation of channel 46 in Atlantic City, N. J. effective May 17, 1954.

Radio station WFPG operation on 1450 kilocycles is uneffected. It will continue without interruption and will present its full schedule of CBS, baseball and local programs.

Temporary discontinuance at this time of WFPG-TV operations only will permit study of the results of technical and economic surveys of UHF being conducted throughout the Nation as to whether UHF provides a truly nationwide competitive system to the original VHF television. This study will include the forthcoming hearings by the United States Senate Committee on Interstate Commerce. Sixty companies have surrendered UHF licenses. WFPG-TV will appear before the Senate Committee to report experiences as a member of the UHF industry coordinating committee.

New Jersey received no allocation for educational or commercial television other than in the newer ultra-high-frequency band. WFPG-TV was a first UHF station in the country in 1952 when in 51 days after FCC authorization, it began telecasting on channel 46. The loss of 33 half hours weekly of network and other peak programs has made it increasingly impossible for WFPG-TV to present a schedule of audience-preference programs. WFPG-TV received these program cancellations because superpower metropolitan market VHF stations 60 miles from Atlantic City established a concept of coverage generally satisfying television viewers. Therefore, extreme audience and economic loss compels suspension at this time because WFPG-TV cannot now render a service of pride to the south Jersey area for which it was planned, built, and dedicated.

Most sincerely,

NEPTUNE BROADCASTING CORP.

SALINAS-MONTEREY TELEVISION CO.,
Monterey, Calif., April 15, 1954.

Senator CHARLES E. POTTER,
Senate Office Building,
Washington, D. C.

DEAR SENATOR: It is a pleasure to respond to your letter of April 6 in which you inquire on behalf of your Subcommittee on Communications into the circumstances leading up to the turning in of the construction permit for UHF channel 28 held by this partnership in 1953.

My partner, Mr. Grant Wrathall, is writing you his own views on TV allocations, UHF, and possible reliefs.

The main reason our permit was turned back was the considered belief that we would be committing economic suicide to try to start or operate a UHF station in present conditions dictated by FCC policies, attitude of networks and agencies, and technical problems.

The main problem, and the one which determined our action, was the demonstrated unwillingness of the networks to affiliate with any UHF station in an area where they had access to a VHF channel. Since programs are the lifeblood of any communications service, radio or TV, the denial of network service could only force an abnormal high program costs via film or local resources, and in a market which could not sustain such charges as are presently made for films, union talent, staff, etc.

In our case we had made a legal appeal by our partnership direct to the FCC to take cognizance of our plight, but they declined to act, stating they had no power granted to control network affiliation practices.

I would like to review the details of our case, since some of the background facts may give you an idea of how these forces come into play, and what results are created.

My partner and I are experienced radio owners, operators, and engineers. We applied for UHF in the Salinas-Monterey area with a full knowledge of the costs and technical problems involved. I have spent over 27 years in radio operating business and the management of stations, including network outlets. Mr. Wrathall has been a consulting engineer and station owner for many years. Both of us are intimately acquainted with the present limitations of power on FCC by Federal law.

At the time of the application for KICU there were pending 2 applications for the only VHF channel (8) assigned to this area, which is about 100 miles south of San Francisco, on the coast, and separated from any other potential TV station east or south by 100 or more miles.

The 2 applicants for channel 8 were KSBW-Salinas and KMBY-Monterey. KSBW had a contract under which the San Francisco Chronicle, operating KRON (TV), channel 4, San Francisco, an NBC outlet, could buy 25 percent interest in any channel 8 grant. KMBY was owned by Bing Crosby, radio star with contractual commitments with CBS, and by Kenyon Brown of KWFT-Wichita Falls, Tex., a leading member of the CBS network affiliates advisory committee. Thus, it is obvious that we were opposed for any network affiliation by interests closely allied through other connections with the two leading TV networks, NBC and CBS.

These 2 applicants conceived and executed the idea of each applying for half time on channel 8, and thus eliminating the conflict which the FCC would have had to decide. The FCC promptly granted their request, the first in the country, although it had been regarded that television stations had to use facilities full time. KICU promptly appealed on this point to the FCC and was denied any relief, or reopening of a more complete hearing to develop our contention such a grant was in effect furthering a control of both radio and TV in this area between two standard stations.

We pointed out to the FCC that the effect would be to monopolize the networks by virtue of the applicants' connections, and the public and KICU would be deprived of any regular program service from the networks blocked out. The channel 8 proposal called for operating roughly 2 hours on CBS, then 2 hours on NBC, and so forth.

Nevertheless, we went ahead to plan our station while the FCC considered our application. Contacts at networks were fruitless. It ranged from complete ignoring of our requests for discussion on the part of CBS, to evasion and delay and stalling on NBC, to a statement by Dumont that they would consider us later if the VHF affiliation did not work out.

The channel 8 applicants made statements in the area they would have all 4 networks, and the damage to our prospects with advertisers was considerable.

After considerable expense in litigation, trips to New York and Washington, and so forth, we felt the refusal of networks to tie in with this market on UHF was a killing blow, and we turned back our CP to the FCC.

Today, channel 8 has a monopoly on all 4 networks. No network is being provided with full-time service on that area.

The solution, as I personally view it, lies in these points:

(1) The FCC should be given authority to regulate network affiliations in any area. Networks should not be allowed to crowd in one major facility in an area, ignoring the inferior ones. This is no different than regulation of air routes by the CAA or railways by the ICC, or even the FCC disposition of technical facilities in any given area.

In a market with more than 1 station, say 2, like Salinas, no station should be allowed to affiliate with more than 2 networks so long as another station is available.

This is the only way you will force networks to use the available stations.

The FCC should also be empowered to force the networks to service stations in areas which may not be as commercially profitable as the big cities. This is the same principle applying to telephone and power facilities into rural areas at the expense of city profits.

(2) The ultimate conversion of all TV into the UHF channels, giving all VHF operators about 5 years to amortize their investments. This would equalize operating conditions, and eliminate the present "TV aristocracy" of VHF or big-city television.

The same pattern is repeating itself in TV as happened in FM. FM was killed by the refusal of networks to program the new and technically superior means of transmission on new outlets, or even on some of their own stations. At the time of FM's advent NBC had the majority of the 50,000-watt AM stations in the country. They were top dog in facilities, with widest coverage, much superior to either CBS-ABC-MBS.

The FCC-FM plan contemplated equal coverage of all FM stations in major markets, plus smaller areas. This would have removed the superiority of NBC, and competition thereafter on an FM system would have been fought out on program quality alone among all networks. Thanks to the machinations of NBC and RCA which extended, in my belief, down to the deliberate reluctance to provide efficient FM receivers in quantity, FM slowly died on the vine. RCA extracted millions of dollars in the sale of FM transmitting equipment, while NBC did its hatchet work in the programing and sales end against FM. I

think there is ample evidence and many witnesses who can bear out and prove these points should the committee ever wish to explore them.

(3) UHF has many technical problems, but in my opinion these can be overcome in time. The lack of program supply will effectively kill present UHF outlets and stop future ones. People will buy UHF conversions only for more or better programs. UHF can only provide these programs with more circulation of receivers. That is why the need for network service is so acute. People will not be satisfied with 30-year old movies on UHF, or 4 hours of westerns every night!

What is behind the networks attitude? In my opinion, it is traceable to several desires and motivating influences.

(a) The easiest way out is to sell VHF against UHF.

(b) The networks would prefer a national system of few major market stations in lieu of hundreds of smaller markets. A few are easier to control than many.

(c) The attempt to preserve the huge areas of service now claimed by big city VHF stations, and thus justify the high charges for time being made on those few stations. By blocking out any network service in the fringe area listeners are obliged to tune in the distant big city VHF station, even with an inferior signal.

What are the dangers ahead?

(a) The TV empires now building of networks, stations, set-manufacturing, program production are going to get bigger unless the Government separates the monopoly elements.

(b) Extreme high power on UHF, to equalize with VHF, is both impractical from cost or operating factors today and for the foreseeable future.

(c) A tradition has been built up which is going to be harmful to UHF for years to come by the network attitude on UHF affiliation. No one knows what rumors and innuendoes have been given out by network salesmen to the advertising trade. The networks have been conspicuous by their lack of support of UHF.

I sincerely hope your subcommittee can implement some suggested changes. I feel the FCC can wisely administer these new powers. If strong, positive action is not taken I predict that UHF will soon perish, and we will be in the grips of a VHF monopoly of few stations and few owners with the apparent evils of such concentrations of power.

I regret I cannot be in Washington to appear in person, but you may use any of this information as you wish, and I will be glad to supplement or document additional requests. A copy of this letter is going to Senators Knowland and Kuchel and to Congressman Younger of my home district, San Mateo.

Very truly,

STEPHEN A. CISLER, *Partner.*

THE TRUTH ABOUT THE SALINAS-MONTEREY TELEVISION SITUATION

Here is a plain language statement from KICU owners on WHY, and also some Challenging Questions

The action of the FCC in suspending the grant to channel 8 on a share-time basis was a surprise to everyone. In the interests of fair play, we think the true situation should be explained to the public and dealers.

(1) The first grant for television in the Salinas-Monterey area was for KICU, channel 28, owned by the Salinas-Monterey Television Co., a partnership of Grant R. Wrathall and Stephen A. Cisler. KICU is to be located on Fremont Peak. Construction plans have begun. Some equipment is on hand. Some major items are not available until early fall. KICU hopes to be on the air in September 1953. It is not held up in any way by the FCC action.

(2) The channel 8 grant was made on a share-time basis. One-half of the time was to be operated by a Salinas station, KSBW. The other half by a Monterey station, KMBY.

Now KICU is not opposed to having competition. We think the people of this area are entitled to two TV stations. We are able and willing to meet competition on a fair and square basis.

The share-time grant was made by the FCC very suddenly. No notice was given that such action was contemplated, nor was a full disclosure made of the actual operating methods of the two former opponents on channel 8 who now merged their cases. The grant was the first one of this type in the country. It

took advantage of an obscure legal technical loophole in the wording of the FCC rules.

KICU filed a protest with the FCC on these grounds:

(1) To grant one channel to two stations is to create a monopoly fraught with dangerous possibilities.

(2) The stations proposed to maintain separate studios in Salinas and Monterey. This gives channel 8 an unfair advantage over KICU in that all operating and equipment expenses are cut in half for each station. It would enable them to undersell KICU rates at will.

(3) The stations proposed to take NBC and CBS TV network service, although neither one could handle the full-time service of either one network. The practical effect would be to deprive this area of many of the fine programs of both networks, which lie outside of the time-sharing schedule of each station. For instance, when KMBY was carrying CBS what would happen to the NBC programs at the same time?

KICU charges that this arrangement bottles up the two dominant networks on one station, and does not represent the best type of program service.

(4) KSBW-TV will be owned in part by the San Francisco Chronicle who operate the NBC-TV outlet, KRON. The Chronicle is furnishing most of the funds for the construction of KSBW-TV. It is obvious that control of operating practices and programs will rest with the source of the money, especially since KSBW people have no actual experience in TV operating, while KRON does. Further, KRON will be in position to stop NBC-TV programs from being put on KICU if that station offers its facilities during the time KSBW-TV is not able to carry NBC. Isn't it common sense that KRON would protect its child?

(5) KMBY-TV is being built with funds to be supplied by Bing Crosby and George Coleman. Both are esteemed citizens. Mr. Crosby has business contracts with the CBS network. These contracts enabled him to get CBS network on KMBY some time ago. The CBS network is under obligation to Mr. Crosby, and this influence would very likely preclude any CBS-TV programs being aired over KICU when KMBY-TV was unable to carry CBS. Why should the people of this area be forced to look only at the programs of one network at the same time, while the other major network program is bottled up? KICU charges this "dog in the manger" operation is not in the public interest.

(6) What is to prevent the two stations KMBY-TV and KSBW-TV from agreeing to maintain the same rates, possibly low enough to kill any competition? Suppose they said to local advertisers, after competition was suppressed, now "you must buy BOTH TV stations or not get either one." Or suppose they said, "you must buy my KMBY radio station to get on KMBY-TV station." This is called forced combination. It is an evil in the newspaper business in many cities, although the Federal Government now is stepping in to stop it by court action. Fortunately, this newspaper combination does not exist in this area, and it should not be allowed to exist in television.

(7) The combination of the two stations on one channel means that they have twice the resources of a single station. It is in the judgment of KICU unfair competition, and our protest simply asked the FCC to review these practical operating problems, to investigate the restrictive covenants possible, and to insure that competition in TV in the Salinas-Monterey area was fair and square.

KICU will be happy to expedite any hearing the FCC holds on this matter. In fact, we suggest to the channel 8 people that they clarify the way they intend to operate, whether they propose to keep networks off rival television stations, and why they did not have the courtesy to even answer the KICU proposal that all stations serve the area from the same antenna on Mt. Baldy?

Inquiry should also be made as to the origin of the local rumor started in Salinas recently following the channel 8 grant, that KICU would not be built. This damaging and false allegation was answered by TV distributors in letters to their dealers, and in a series of newspaper advertisements by distributors who were selling UHF receivers very well until this incident.

We suggest that to expedite TV service to this area on channel 8, a separate corporation be formed with a trustee group of reputable citizens of both Salinas and Monterey, none of whom have any business or legal connection with the KMBY or KSBW owners, new stockholders, or employees. Let this trustee group take title to the equipment already on hand, finish the construction, and operate the station until the FCC determines the facts in this matter. After such adjudication the continued commercial operation would be passed over to the approved FCC applicant.

It is significant that the FCC has recalled several other share time permits of the same type. These permits are for other sections of the country, equally deserving of TV service as Salinas-Monterey. There must be a question in the mind of the FCC that this topic deserves a full exploration before allowing these strange creatures to go into operation.

KICU places its faith in the FCC ability to search out the inherent evils of a share time operation, and to insist on certain needed safeguards for protection of public interest.

We charge that John Cohan knew that channel 8 could not get on the air by the promised May 1 date. When was the equipment shipped from New Jersey? Has KSBW and KMBY settled the trouble with the IBEW union which could stop installation? See what has happened in Fresno where the equipment is on hand, yet the starting date had to be moved back from April to June! There is more to putting in a TV transmitter than installing a TV receiver.

We deny the loose allegations of Cohan that the delay on channel 8 will cost dealers much money. Sets will continue to be sold now and later. No set will be useless or obsolete because of this delay on channel 8. Thousands of sets in Monterey County receive San Francisco channels 4, 5, and 7 every day now. This fall service will be coming from channels 28 and 8.

KICU owners believe in Monterey County. We are investing thousands of dollars in television service. Is it not right that we ask fair play for the public and ourselves? KICU wants to be sure the public interest, necessity and convenience will be served for a long, long time and not be the instrument of a self-styled "Mr. Television."

This may irritate some people for the moment, but the long range benefits of insuring equal competition between two TV stations in the area, will be with us all for a long, long time.

The owners of KICU will be happy to answer any questions, or appear in any public or private meeting place to discuss this situation openly and without bias. Meanwhile, KICU hopes to give you channel 28 service this fall.

GRANT R. WRATHALL,
Partner, Salinas, P. O. Box 237.
S. A. CISLER,
Partner, Monterey, P. O. Box 1070.

HERE IS THE EXACT COPY OF THE PROTEST FILED BY KICU WITH THE FCC

Mr. T. J. SLOWIE, *Secretary,*
Federal Communications Commission,
Washington, D. C.

DEAR SIR: On behalf of S. A. Cisler, Jr., and Grant R. Wrathall, d/b as Salinas-Monterey Television Co., permittee of UHF television station KICU, Salinas, Calif., (BPCT-1466), by S. A. Cisler, Jr., partner, protest is made in accordance with the provisions of section 309 (c) of the Communications Act of 1934, as amended, to the action of the Commission of February 18, 1953, in granting without hearing the applications of Salinas Broadcasting Corp., Salinas, Calif., (BPCT-1222), and the Monterey Radio-Television Co., Monterey, Calif., (BPCT-1225), for share-time operation on VHF channel 8 to serve the Salinas-Monterey area. (See Public Notice 87046, Report No. 2182, dated February 19, 1953.)

In support of this protest the Commission is advised that my partner and I, identified above, received a grant for a construction permit to erect a new UHF television station in Salinas, Calif., by virtue of Commission action January 14, 1953. The station is in the process of construction.

The records of the Commission will show that prior to February 18, 1953, there were two VHF applications, identified above, for one VHF channel to serve both cities, Monterey and Salinas. However, on the 11th of February an amendment was filed to both applications to share time of operation on VHF channel 8. Without giving members of the undersigned partnership an opportunity to study this matter, the Commission just 7 days later, on February 18, 1953, granted said applications without hearing. My partner and I are parties in interest as contemplated by Congress in section 309 (c) inasmuch as the proposed combination as granted by the Commission will result in unfair competition and an impossible situation as shown below in sales rates and availability of network programs.

The undersigned partners also protest on behalf of the public in the Salinas-Monterey area in that the combination as authorized by the Commission will result in two strong connections with the networks tying up network programs making it impossible for station KICU to obtain a source of programs to broadcast to these communities.

The principles involved in the AM stations KSBW, Salinas, and KMBY, Monterey, are the same individuals involved in the two corporations which received the sharing-time grants mentioned above on February 18, 1953. KSBW of Salinas, is obtaining its funds through advances from the San Francisco Chronicle, owners of KRON-TV, San Francisco, affiliate in that city with the NBC Television Network. Although the Chronicle is to hold a minority share in the KSBW company, the mere fact that it is a dominant source of finances can lead it to exert a controlling influence on that station's policies and availability of NBC-TV programs in that area.

KMBY of Monterey is obtaining its funds by advances from Bing Crosby and George Coleman. Mr. Crosby is very closely connected through entertainment contracts with CBS, and in addition, Mr. Kenyon Brown, president of the KMBY company, is a member of the CBS Affiliates Committee.

The two companies have already announced through the press in the Salinas-Monterey area, and in meetings with the dealers, that it expects to have not only NBC and CBS programs, but also programs of the other two networks—Dumont and ABC. Station KICU is faced with financing one complete station, whereas the two competing VHF companies, each with their own AM stations and each with their own studios and individual sales staff, are only required to build one transmitter and antenna plant. The undersigned partnership charges that this "share-time creature" is unfair and inequitable competition, the public itself will suffer through a jumble of network programs, Station KICU will have to be satisfied with whatever crumbs are left over, making it extremely difficult to serve the public as contemplated by Congress and it is strongly protested that the undersigned partners had no knowledge or information that a sharing-time arrangement for channel 8 would even be considered by the Commission. An examination of section 3.651 of the Commission's rules pertaining to time of operation discloses that "all television broadcast stations will be licensed for unlimited time operation." The undersigned partners had a right to rely on the Commission's rules and it is charged that the Commission has not been fair with the industry nor with the protestants herein.

In view of the foregoing, we respectfully request the Commission to reconsider its action of February 18, 1953, in granting the above mentioned applications without hearing, and to designate the same for hearing and to name the undersigned partners as parties respondent to such hearing to present not only the grievances of the partnership which are economic in nature, supported by the Sanders case, but also to prevent the grievous injustice to the public as the result of the action of the Commission of February 18, 1953, referred to above. In the event our wishes are granted we will be very happy to present our evidence at the hearing.

The Commission in its releases has professed to have an interest in establishing UHF television, and the Commission is well aware of the economic handicaps that all UHF permittees must overcome, and yet in this instance the Commission, without previous notice to the industry, has permitted the creation of a creature, the combination of two powerful companies with only one transmitting plant to effectively monopolize the economic support for television in the Salinas-Monterey area and also to monopolize the available network programs. The Commission is reminded that the undersigned partnership is not a "mere applicant" as referred to in its memorandum opinion and order released December 30, 1952, in the case of the Music Broadcasting Co. The undersigned is the permittee for a UHF television station that is expending every effort to bring television to the Salinas-Monterey area, and to make network programs available on a fairly competitive basis to this area. The action of the Commission places a serious obstacle in the path of the permittee to carry out its mandate set out by Congress that it must serve public interest, convenience or necessity.

24 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

I have this day mailed a copy of this letter to the Monterey Radio-Television Co., Monterey, Calif., and Salinas Broadcasting Corp., Salinas, Calif.

Respectfully submitted.

S. A. CISLER, JR., and
GRANT R. WRATHALL
d. b. a. SALINAS-MONTEREY TELEVISION Co.
By S. A. CISLER, Jr., *Partner*.

Subscribed and sworn to before me, a notary public, this 19th day of March, 1953.

MAYA CLARE JAMES,
Notary Public.

My Commission expires September 22, 1956.
(Notarial seal.)

WGCM BROADCASTING Co.
Gulfport, Miss., April 20, 1954.

HON. CHARLES E. POTTER,
*Chairman, Subcommittee on Communications,
United States Senate, Washington, D. C.*

DEAR SENATOR POTTER: Thanks very much for your letter of April 6, in regard to our reason for giving up our UHF grant.

Our only reason for not building the station was because we felt that the UHF station would not survive in this market. We watched the situation very carefully, saw what was happening in other parts of the country, and we finally determined that it would not be good business to undertake the project. We went through the FM hysteria a few years back and did not wish to make the same mistake.

It was most unfortunate that we did not have a VHF grant, and I believe it is unfortunate that the VHF channels could not have been spread over the country, with low powered, medium powered, and high powered stations. However, the Commission labored many hours over this and I'm sure they handled the matter in the only practical way.

I still believe UHF will go in some markets, but I believe a majority of them will find it almost impossible to compete against the VHF stations, all of which are high powered stations equal to clear channel AM stations.

With best wishes, I am,
Sincerely yours,

HUGH O. JONES, *General Manager.*

WASHINGTON 6, D. C., *April 21, 1954.*

HON. CHARLES E. POTTER,
United States Senate, Washington, D. C.

DEAR SENATOR POTTER: This is in response to your letter of April 6, 1954, to WIBM, Inc., requesting information concerning the reasons for the cancellation of its construction permit for a UHF television station to operate on channel 48 in Jackson, Mich.

WIBM, Inc., requested that its channel 48 construction permit be canceled because of economic difficulties attending a UHF operation in a community such as Jackson under existing circumstances. Between the time the application was filed and its cancellation, the tremendous economic difficulties which UHF operators would and were facing all over the country became apparent. Moreover, it appeared likely that the Commission would allocate a new VHF channel to Jackson or a community near Jackson. Such a channel would present a Jackson UHF operator with impossible competition. Preferring to apply for this VHF channel rather than to operate a UHF station—the Commission's rules do not permit both—WIBM, Inc., relinquished its construction permit.

Respectfully yours,

WIBM, Inc.,
By HARRY M. PLOTKIN,
Arnold, Fortas & Porter (Its attorneys).

TRANS-AMERICAN TELEVISION CORP.,
Philadelphia 2, Pa., May 1, 1954.

HON. CHARLES E. POTTER,
*Chairman, Subcommittee on Communications,
 United States Senate, Washington 25, D. C.*

DEAR SIR: Please excuse this delay in answering your letter of April 6, 1954, but it has just come to my attention.

Your letter requested information about WCTV-TV, Flint, Mich., for the scheduled hearings for UHF-TV. While we did have an initial delay because of unavailability of transmitter equipment, we decided not to complete construction of WCTV because of an anticipated lack of advertising revenue. Neither of the two largest networks would give use basic affiliation, and national advertisers had an increasing reluctance to use a UHF station. To give any community a balanced program schedule the revenue would have to be larger than that which could be received from the local Flint advertisers.

Only because of the benefit of "hindsight" it is felt that perhaps UHF could have been a success if the FCC had imposed an artificial freeze for a period of 5 years on all VHF construction or power increases; at this time no solution seems ready to correct this problem. If you require any further details please let us know.

Sincerely,

JAMES L. RUBENSTONE, *President.*

M. B. RUDMAN, OIL PRODUCER,
Dallas, Tex., April 20, 1954.

HON. CHARLES E. POTTER,
*Chairman, Subcommittee on Communications,
 Committee on Interstate and Foreign Commerce,
 Washington, D. C.*

DEAR SENATOR: In answer to your inquiry of April 7, 1954, this is to advise that our UHF-TV construction permits were returned because of the vast increase in our business of exploring for and producing oil and gas. The increase necessitated the expenditure of extra large sums, as well as requiring that more time be devoted to our business.

We certainly regret the surrender of the permits; but, under the circumstances, we feel we had no other alternative in the matter. May we take this opportunity to express our appreciation to you, as chairman, and to the entire Subcommittee on Communications of the Senate Interstate and Foreign Commerce Committee for the excellent cooperation and understanding which we received.

Yours very truly,

RAYMOND A. WILLIAMS, Jr., *General Manager.*

KEPO,
El Paso, Tex., May 3, 1954.

HON. CHARLES E. POTTER,
*Chairman, Subcommittee on Communications,
 United States Senate, Washington, D. C.*

DEAR SENATOR POTTER: It is correct that the Federal Communications Commission issued a television construction permit to KEPO, Inc., and that it was subsequently returned to the Commission by me.

The grant was for channel 13, which as you know is VHF. We returned the grant for economic reasons, there being two VHF stations already on the air in El Paso.

Sincerely yours,

MILLER C. ROBERTSON.

KUTA,
UTAH BROADCASTING AND TELEVISION CO.,
Salt Lake City 1, Utah, April 23, 1954.

Mr. CHARLES E. POTTER,
Chairman, Subcommittee on Communications, United States Senate,
Committee on Interstate and Foreign Commerce,
Washington, D. C.

Dear Mr. POTTER: This is an answer to yours of April 6 directed to the Idaho Broadcasting and Television Co., Boise, Idaho, of which I am president.

We exchanged our Boise TV construction permit on VHF channel 9 for a VHF channel 6 construction permit. The channel 6 is assigned to Nampa, Idaho. We felt that since the city of Boise already had two television stations, that the third in this area should be more of a rural coverage Boise Valley station and thus chose Nampa, Idaho, the center of the valley and channel with a better coverage potential.

Yours very truly,

FRANK C. CARMAN.

SAN FRANCISCO 4, CALIF., April 21, 1954.

HON. CHARLES E. POTTER,
Chairman, Subcommittee on Communications,
Committee on Interstate and Foreign Commerce,
United States Senate, Washington, D. C.

HONORABLE SIR: Your letter of April 6, 1954, about KAGR-TV construction permit release received.

We wrote the Federal Communications Commission in our three-page letter of January 28, 1954, fully asking for extension of construction permit.

The reasons mentioned in your letter do not apply in our case.

Your interest in behalf of the public is appreciated.

Sincerely yours,

JOHN STEVENTON.

THE PALLADIUM PUBLISHING CO.
Benton Harbor, Mich., April 19, 1954.

HON. CHARLES E. POTTER,
Senate Office Building,
Washington, D. C.

DEAR SENATOR POTTER: This will answer your recent letter touching on the survey of the Subcommittee on Communications of the Interstate and Foreign Commerce Committee of problems dealing with UHF-TV channels and development.

It is true that our company withdrew our application for a UHF license (channel 42). This action was taken after the FCC had acted favorably on our original application.

However, we did not receive the formal permission until almost 90 days after it had been granted. This of course delayed any formal start on construction. When we did get the formal approval, we found that it required construction to start within 6 months from the date of the approval.

In addition, the permit provided that no construction was to start until engineering data dealing with the height and use of the antenna, now serving our AM and FM station, had been submitted to the FCC. This of course required work by our Washington engineers and by the time this data was prepared by the engineers and ready for submission to FCC our 6 months' time limit was about up.

Just about this time, too, the local authorities were proposing a city-suburban area ordinance dealing with the height of buildings and other structures with relation to the interference of local airport operations.

We had previously run into this aeronautical problem, along in 1946-47 when we were building our WHFB radio station and tower. The local airport board twice objected to sites which we had selected and each time, at considerable expense, we had to get out Washington engineers to hunt for a new site. Obviously, this was expensive.

In the light of this experience we looked with some misgivings on what was contemplated in the proposed local ordinance, which has not yet been formulated and enacted.

Under the circumstances, after submitting our engineering data on the tower, and which was approved, we asked for a 6 months' extension.

To this the FCC replied that we had not made a suitable showing in starting construction, or contracting for it, but was willing to give us a further hearing.

After many conferences with our Washington attorneys, Dow, Lohnes & Albertson, we were advised to return the permit without prejudice until we could later come back when these various factors were better resolved.

We are not complaining that the FCC was not according us the same consideration as it did other applicants. In fact, in our 7-year operation of station WHFB-AM and FM our relations with the FCC have been, on the whole, very pleasant.

Probably the Commission thought that we were "stalling" on the job. We were not; the delays we encountered were unavoidable and not of our making.

What we think the FCC should do, with regard to the small, hometown UHF stations, is to take a more liberal attitude in allowing these applicants more time to mature their plans for construction, financing, etc.

We spent nearly 2 years before we got our original TV permit investigating the situation. Our station manager and the company's vice-president, devoted much time collecting data, investigating costs, procuring estimates and conferring with applicants who were about to file applications or were getting ready to broadcast.

In addition to this, we contacted the big networks and found them not interested in a service hookup. Their position seemed to be that they were already covering this area, so why pay for circulation they already had.

This might be explained, in part, by the fact that Benton Harbor and its sister city of St. Joseph lie but 60 miles east of Chicago. Four big network stations (VHF) boom in across the lake to us from Chicago; in addition, there's 1 from Kalamazoo, 1 from Milwaukee, and 1 from Grand Rapids. The best reception, however, is from Chicago.

Thus, first, this area does now have TV reception—and there is no great rush to give local people TV service; then, secondly, if we cannot obtain a network contract this reduces the home operation to a purely local TV operation.

This itself can be financial murder for a purely local TV station, as any competent operator knows. Indeed, we were advised by competent counsel that we should expect to lose a minimum of \$50,000 per year until the station could get a listening interest.

As you know, UHF calls for so-called converters on TV receivers and this in itself calls for costly promotion to induce listeners to invest. We found this out when we were promoting our FM service.

We think FCC should consider these facts in connection with UHF applicants; the fact that so many permits have been returned we think indicates the need for greater consideration of those who, like ourselves, are willing to get into UHF-TV on a purely local basis.

Not only from our experience in newspaper but also radio operation, we believe there is a field for purely local TV stations in towns as small as ours.

The possibilities of serving a local community with live news, pictures, and programs are potential, but it's a 5- to 10-year task which will be terribly costly until the break-even point is reached.

It should be remembered, too, that color is coming in and here, for the little fellow, is another factor of cost that will be heavy. In fact, not only is the initial investment heavy, but constant improvements, changes, etc., in the mechanical end of essential equipment faces up to the possibility that a major part of original investment may well be obsolete in a very short time.

We are trying to point out the great difficulties for the small home-town TV operators and what we have encountered. We hope the committee may find something in this that will be helpful.

Thank you for giving us this opportunity to be heard.

Cordially yours,

S. R. BANYON.

KMON,
THE MONTANA FARMER-STOCKMAN STATION,
Great Falls, Mont., April 28, 1954.

Hon. CHARLES E. POTTER,
United States Senate,
Washington, D. C.

DEAR SENATOR POTTER: This will acknowledge receipt of your letter of April 7, 1954.

In response to your inquiry as to the reasons for our relinquishing the construction permit for KMON-TV, this is to advise that on December 7, 1953, we requested additional time within which to complete construction of the station, and advised the Federal Communications Commission as follows:

"(1) Montana Farmer, Inc., has not been able to finalize plans with networks for affiliation. This has definite bearing on type of service to be rendered and economic stability of operation.

"(2) Because the Great Falls area will already be served within the next 3 months by another TV station, it is not incumbent to such a great degree upon KMON-TV to bring such service regardless of the efficiency of technical service, affiliation and adequacy of coverage.

"(3) Appointments have been made with two networks to discuss further engineering in an effort to bring the best type of service to this area. At this date there seems to be a disparity of opinion regarding this factor.

"(4) At a time when KFBB-TV is on the air (within the next 3 months), an adequate study of type of engineering can be made based upon their actual experience and further planning can be done with surety and fact.

"(5) Several sites in lieu of the site specified here have been examined in an effort to bring the best type of coverage to this area. Thus far, alternate, high-level, acceptable sites have either been not available or proven too high priced to fit into a reasonable economic pattern.

"(6) For the reasons specified above, it has not been possible to make firm contracts for construction or equipment. However, Montana Farmer, Inc., stands ready to act with assurance of reasonable delivery dates when sites and engineering problems are solved."

On December 23, 1953, the Commission advised that on the basis of this showing it could not grant an extension of time to complete construction. On January 21, 1954, we submitted to the Commission the following letter.

"This answers your letter of December 23, 1953 to the Montana Farmer, Inc., advising of your unwillingness to grant our request for more time on our construction permit for a TV station on channel 3 in Great Falls, Mont.

"We feel we have been reasonably diligent. We feel, also, that to date we have been prevented from constructing by causes not under our control. We have, for us, made substantial and continuing investment of money, time and travel for consulting engineering services, site investigations, equipment studies, legal review, discussions with networks on affiliation, and studies of comparable television properties.

"The newspapers and farm publications and radio station operated by companies affiliated with us in ownership have a long record of outstanding public service in this primary Montana area. We take some pride in this record.

"Since you are unwilling to grant necessary time for completing these vital studies without which we cannot justify the major expenditures essential to a quality television operation, we respectfully request that our application be dismissed without prejudice. We request this so that we may be able at a later date to reapply."

Trusting that this answers your inquiry, I am,

Cordially yours,

ROBERT H. WARNER,
General Manager, Radio Station KMON.

WROV, ABC, MBS
Roanoke, Va., April 19, 1954.

Hon. Senator CHARLES E. POTTER,
Chairman, Subcommittee on Communications,
United States Senate, Washington, D. C.

MY DEAR SENATOR POTTER: We certainly appreciate the opportunity to bring to your attention and to the attention of the Subcommittee on Communications of the Senate Interstate and Foreign Commerce Committee the problems which were encountered by television station WROV-TV on UHF channel 27 operated by Radio Roanoke, Inc. from February 15, 1953, to July 18, 1953.

Since September of 1953 Radio Roanoke, Inc. has been engaged in a hearing before the FCC with the Times-World Corp. of Roanoke, Va., both seeking VHF channel 7 allocated to Roanoke, Va.

A portion of the information exchanged is enclosed on seven mimeographed sheets which we feel adequately covers the subject of why the construction permit for UHF channel 27 was returned to the FCC by Radio Roanoke, Inc.

I feel it appropriate to state here in answer to the last sentence in the second paragraph of your letter dated April 7 that at the time of the grant of the UHF channel 27 construction permit, the FCC found Radio Roanoke, Inc. to be legally, financially and technically qualified to construct and operate a television station and upon accepting for filing Radio Roanoke's application for VHF channel 7, the FCC has again found Radio Roanoke, Inc. to be legally, financially and technically qualified to construct and operate VHF channel 7 in Roanoke, Va., as outlined in Radio Roanoke's "McFarland letter."

For your information we are enclosing a copy of Broadcasting-Telecasting magazine's story titled, "What Happened in Roanoke?" This, too, may be helpful to you in gathering information on the subject of UHF.

If there is any other information that you feel that we may have that would be helpful to you, please permit us to assist you.

Sincerely,

RADIO ROANOKE, INC.,
FRANK E. KOEHLER,
General Manager.

FACTORS WHICH LED TO TAKING WROV-TV CHANNEL 27 OFF THE AIR

The following is a summary of factors which led to taking WROV-TV channel 27 off the air:

1. It was realized that there would be problems with UHF that would not be encountered with VHF; therefore, many precautions were taken and much effort expended to overcome the well-known difficulties in obtaining adequate distribution of UHF receiving equipment, adequately installed and properly adjusted. After the expenditure of the time, the effort and money, a TV field test was made by the Philco Corp. on April 23, 1953, using a 90 chassis Philco TV set at various locations under varying conditions in the Roanoke area. A copy of the survey is in the files of WROV-TV. A study of the results of the survey showed that with excellent equipment, properly installed and properly operated by experts in the field of television, the results were generally poor and sufficiently conclusive that channel 27 operating in Roanoke, Va., was not competitive with the VHF channel 10 station then and now operating. The survey team agreed that the same test for VHF channel 10 and/or channel 7 would have shown and will show excellent results. The Philco survey substantiated by experts in the field the findings of the station with respect to reception problems.

2. The following financial information is introduced only for the purpose of establishing an economic trend which is related to the technical noncompetitive-ness of UHF channel 27 and VHF channels 10 and 7 in Roanoke.

March 1953 loss.....	\$2, 228. 00
April 1953 loss.....	3, 959. 00
May 1953 loss.....	5, 277. 00
June 1953 loss.....	5, 200. 00
July 1953 loss.....	6, 142. 00
August 1953 loss.....	Destined to be even greater

As above mentioned it was felt that the trend had been somewhat established in the face of channel 10, NBC-CBS-Du Mont competition. It was observed that the future would also bring VHF channel 7 on the air in Roanoke and it was assumed that inasmuch as the CBS network preferred VHF channel 10 when UHF channel 27 facilities were available that the CBS affiliation would go to

channel 7 resulting in a VHF channel 10 NBC affiliate and a VHF channel 7 CBS affiliate competing with a UHF channel 27, the shortcomings of UHF channel 27 in Roanoke, Va., herein mentioned notwithstanding. In consideration of the current and future competition it was impossible to perceive on what basis an increased number of UHF equipped sets could be expected. It was also impossible to perceive how after the meticulous following of manufacturers' recommendations that reception could be improved much less equal VHF reception. It was impossible to perceive how the economic loss trend could be reversed with the anticipated increase of VHF channel 7 competition. It was impossible to perceive how the better and best network programs could be attracted to WROV-TV UHF channel 27 with the admittedly preferred VHF service available or to be available on channels 10 and ultimately 7. It was impossible to perceive how the operation of WROV-TV on UHF channel 27 in Roanoke, Va., could be construed as in the public interest when after the additional expenditure of an estimated quarter of a million dollars for UHF receiving equipment on the part of the general public reception was as limited and of such poor technical quality that viewership was as low as the following American Research Bureau surveys revealed.

3. The American Research Bureau, Inc. of Washington, D. C. conducted two UHF-VHF surveys in Roanoke, Va. The results of the first sample 997 made in April 1953 is as follows:

Television saturation: Percent of all homes-----	34.9
UHF saturation:	
Percent of all homes-----	16.0
Percent of television homes-----	46.0
Channels being received (a total of 4 different channels were available to homes in this area):	
	<i>Percent of TV homes</i>
Channel 10-----	100.0
Channel 27-----	46.0
Channel 13-----	2.3
Channel 2-----	0.6

Channel viewed most:

	<i>Percent of TV homes</i>
Channel 10-----	96.6
Channel 27-----	3.4

The second sample 1004 was made in July 1953, and is as follows:

Television saturation: Percent of all homes-----	50.6
UHF saturation:	
Percent of all homes-----	36.5
Percent of TV homes-----	72.0
Channels being received (a total of 4 different channels were available to more than 1 percent of the TV homes in this area):	
	<i>Percent of TV homes able to receive</i>
Channel 10, Roanoke-----	100.0
Channel 27, Roanoke-----	72.0
Others (Lynchburg, Greensboro) less than 20 percent (Lynchburg now 15.2 percent).	

Channel viewed most:

	<i>Percent of TV homes</i>
Channel 10, Roanoke-----	95.9
Channel 27, Roanoke-----	1.2
Others-----	.4
No choice-----	2.5

Consideration of the above three items necessitates the admission that it is more difficult to receive a UHF picture than a VHF picture; in some instances and under certain circumstances it is impossible to receive a UHF signal where a VHF signal is available. In many instances the UHF picture is very inferior to the VHF picture. Because of these factors networks and advertisers—national, regional, and local—prefer VHF facilities to UHF facilities where available, resulting in greater viewership on VHF of higher rated programs which results in less viewership on UHF due to lower rated programs. The complication of receiving UHF pictures against the simplicity of receiving VHF pictures

also creates a preference for VHF. It can be assumed that because the public prefers VHF that the advertiser, the network, and the broadcaster prefers VHF. It is felt that in Roanoke, Va., it is more in the public interest to broadcast on VHF channel 7 than on UHF channel 27.

After thorough consideration of the above, in June 1, 1953, Radio Roanoke refiled an application for VHF channel 7 and at the same time requested the Federal Communications Commission to waive its rule prohibiting a holder of a construction permit for one channel from filing for another channel in the same area. Not having received a response from the Federal Communications Commission with regard to this action, on July 14, Radio Roanoke refiled an unqualified application for VHF channel 7 and at the same time notified the Federal Communications Commission that after the close of business on Saturday, July 18, that WROV-TV would not return on the air on channel 27 and that the channel 27 construction permit would be returned to the FCC. No response was received from the FCC with regard to this action. Consequently, WROV-TV UHF channel 27 left the air at the close of business on Saturday, July 18, 1953.

PHILCO TV FIELD TEST

April 23, 1953—Field test was made on 90 chassis Philco TV set for WROV, channel 27

Residence of Mr. N. W. Kelly, 2439 Robin Hood Road, Garden City, Roanoke, Va. :

Ground level (feet)	Microvolts	Reception	Type of antenna
10.....	280	Ghost, bad.....	Corner reflector.
65.....	900	Clear.....	Channel 27.
55.....	900	Clear, 85 percent.....	
45.....	650	Clear.....	
35.....	650	.....do.....	

NOTE.—This information added by Radio Roanoke: This location is approximately ½ mile from the WROV-TV transmitter site.

Residence of Mr. C. Edward Frazier, 2726 Cornwallis Avenue SW., Roanoke, Va. :

Ground level (feet)	Microvolts	Reception	Type of antenna
65.....	1,500	Clear, 98 percent.....	Corner reflector.
55.....	1,100	Clear.....	Channel 27.
45.....	600	Clear, 80 percent.....	
35.....		Ghost.....	

NOTE.—Information added by Radio Roanoke: This location is approximately 1 mile from the WROV-TV transmitter site.

Residence of Mr. G. W. Sisler, Salem, Va. :

Ground level (feet)	Microvolts	Reception	Type of antenna
65.....	200	Snow and ghost.....	Channel 27.
55.....	• 110	.....do.....	Corner reflector.
45.....		Very poor.....	

NOTE.—Information added by Radio Roanoke: This location is approximately 4 air miles from the WROV-TV transmitter site.

Residence of Standard Esso Service Station, Troutville, Va. :

Ground level (feet)	Microvolts	Reception	Type of antenna
65.....		Poor 15 percent.....	Corner reflector.
55.....		.....do.....	5 element Yagi, channel 27.

32 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

On hill over Troutville, 200 feet above Troutville :

Ground level (feet)	Microvolts	Reception	Type of antenna
65.....	140	Ghost 50 percent.....	Corner reflector. Channel 27.
55.....	170	No ghost 55 percent.....	
65.....	200	Snow and ghost.....	

NOTE.—Information added by Radio Roanoke: This location is approximately 11 air miles from the WROV-TV transmitter site.

Top of Catawba Mountain, 17 miles from Roanoke (distance correction 11 miles) :

Ground level (feet)	Microvolts	Reception	Type of antenna
5.....	1,700	Clear.....	Corner reflector, channel 27.

NOTE.—Information added by Radio Roanoke: This location is approximately 11 air miles from the WROV-TV transmitter site.

New Castle, Va. :

Ground level (feet)	Microvolts	Reception	Type of antenna
65.....		No signal.....	Corner reflector, channel 27.

NOTE.—Information added by Radio Roanoke: This location is approximately 17 air miles from the WROV-TV transmitter.

Residence of Mr. McNut, Garden City, Roanoke, Va., checking for channel 10 only :

Ground level (feet)	Microvolts	Reception	Type of antenna
65.....	140	Poor.....	Channel 10, 5 element Yagi. Conical. 10-element Yagi.
45.....	210	Snow and ghost.....	
45.....	620	Snow and poor.....	

NOTE.—This location is approximately less than a mile from the WROV-TV transmitter site.

Residence of Dr. Sibley, Shenandoah section :

Ground level (feet)	Microvolts	Reception	Type of antenna
65.....	270	Clear 80 percent.....	Corner reflector.
55.....	480	Snow and slightly ghost.....	
45.....	270	Slightly ghost.....	Channel 27.
30.....	100	Ghost 50 percent.....	

NOTE.—Information added by Radio Roanoke: This location is approximately 2 miles from the WROV-TV transmitter site.

Residence of Mr. Nelson, 2928 Avenham Avenue SW., Roanoke, Va. :

Ground level (feet)	Microvolts	Reception	Type of antenna
30.....	6,000	Clear.....	Corner reflector. Channel 27.
5.....	1,600	.....do.....	

NOTE.—Information added by Radio Roanoke: This location is approximately 1 mile from the WROV-TV transmitter site.

Residence of Mr. Brickey, 1871 Blenheim Avenue SW., Roanoke, Va. :

Ground level (feet)	Microvolts	Reception	Type of antenna
65.....	6,200	.....	Corner reflector.
30.....	6,000	.....	Channel 27.

NOTE.—Information added by Radio Roanoke: This location is approximately 2 miles from the WROV-TV transmitter site.

Elliston, Va., approximately 20 miles out :

Ground level (feet)	Microvolts	Reception	Type of antenna
65.....	44	Snow and ghost.....	Corner reflector, channel 27.

NOTE.—This location is approximately 16 air-miles from the WROV-TV transmitter site.

[From Broadcasting-Telecasting, July 13, 1953]

WHAT HAPPENED IN ROANOKE?

A UHF station's candid announcement that it couldn't meet VHF competition has provoked widespread doubts about UHF's future. Here's the report of a B-T editor who found out that what happened in Roanoke won't necessarily happen elsewhere.

By J. Frank Beatty

The eyes of the television world are turned toward Roanoke, a thriving industrial city in the Blue Ridge Mountains of western Virginia.

This rather conservative but steadily growing market has developed into an electronic field laboratory where the merits of UHF versus VHF are on trial.

To date the competition has been one-sided—so one-sided that the results have started comment all the way from Madison Avenue to Hollywood and Vine as timebuyers wonder if UHF is going to follow the pattern of FM.

In brief, WROV-TV Roanoke has decided it simply can't compete on UHF channel 27 with WLSL-TV's VHF channel 10 service (B-T, June 29, July 6).

What WROV-TV wants to do is get FCC to make an exception to the rules so the station can continue operating on channel 27 while it competes for a third channel available to Roanoke VHF channel 7.

Contrary to a widespread impression, the Roanoke case has not demonstrated that UHF is a weak or impotent service. Nothing of the sort has been shown.

On the other hand, the Blue Ridge laboratory shows that UHF can deliver a good signal over the bottom of the Roanoke bowl.

It shows, however, that a UHF signal from a 2,000-foot point can't climb 4,000-foot mountains 10 or 12 miles away.

It shows, too, that a UHF station hemmed in by mountains faces frightening odds in trying to compete against a VHF station sitting on a favorably located peak that permits coverage of good markets out to 100 miles or more.

And it shows, finally, that people hesitate before spending extra money to tool up their homes for UHF when most of the popular network programs are on a VHF channel.

Things are rough in Roanoke for WROV-TV. Its income has been falling steadily. Expenses keep climbing. Every week the losses are getting heavier, and the stockholders are gravely concerned about their \$250,000 investment.

PROBLEM IS COMPLETE

No single factor is responsible for WROV-TV's troubles. Rather, the station can look to a combination of events and attitudes.

In any case, the coveted channel 7 is still unassigned because there are two applicants. WROV-TV asks for the right to make it a threesome, while still operating on channel 27.

The Roanoke case gets to the fundamentals of TV engineering and economics. Its impact already has become serious as snap judgments have been made on the basis of cursory examination of the facts.

Obviously the only way to find out what's wrong in Roanoke is to make a first-hand study of the situation.

Many questions are raised by WROV-TV's expressed desire to get out of UHF and into VHF scarcely five months after the first test pattern was fanned out over the city.

Is there something inherently wrong with UHF—in Roanoke, that is?

Has WROV-TV given UHF a fair shake?

Have dealers and distributors cooperated fully? If not, what's to be done? Why can't WROV-TV get more network programs when there's only one other station in the city and connections are available?

Is WROV-TV the victim of a "Madison Avenue complex"?

Are TV receivers well engineered for UHF?

Is the trouble due entirely to circumstances beyond WROV-TV's control or is it the fault of ownership or management?

Would more power and/or a higher site do the trick?

These questions, and others, can be matched against the story of Roanoke television since WROV decided back in February 1951 that it wanted to add TV to its successful local radio service.

Pleased with their monthly financial statements, the half-dozen local businessmen who had started WROV in 1946 decided they wanted to be the first to apply for a TV station in Roanoke. A channel 7 notice was filed despite the freeze.

Later WSLS, regional Roanoke station operated by Shenandoah Life Insurance Co., applied for channel 10 as did Polan Industries, which had several TV projects in the works. Last summer, after the freeze, WDBJ filed on channel 7 besides WROV. WDBJ is owned by Times-World Corp. and is Roanoke's oldest radio station, a 5 kilowatt regional.

At that point there were two applicants for channel 7 and two for channel 10, but nobody had applied for UHF channel 27, the third commercial facility available to the city.

WROV's stockholders met one day in July, 1952 after they found WDBJ seeking the same channel 7 facility. They wanted to get into television as quickly as possible. After all, the FCC was encouraging use of the new TV band and the RCA Bridgeport, Conn., project was demonstrating that UHF really works.

BRIDGEPORT-BOUND

The only sure way to get into television without long and costly hearings would be via channel 27, the stockholders decided. That evening Frank E. Koehler, WROV general manager, was Bridgeport-bound for a first-hand look at UHF service.

The new medium looked good, and WROV went into action. An RCA 1 kilowatt UHF transmitter was ordered, "and please hurry." Next was the question to finding a site. The choice narrowed down to Mill Mountain, a colossal 750-foot hump stuck right in the south end of the city, and 4,000-foot Fort Lewis mountain, about a dozen miles to the southwest.

Since UHF has strong line-of-sight traits and high-power transmitters were a year or more away, it was decided to use the Mill Mountain site. There the antenna could look right down into the living rooms of nearly every home in Roanoke.

With the main policy decisions out of the way, WROV continued its studio experiments with an RCA TV camera it had owned nearly a year, still its only camera.

It also twiddled its corporate thumbs for weeks and more weeks while awaiting delivery of the transmitter. Eventually it had to abandon all hope of being Roanoke's first television station because WSLS had meantime been granted a channel 10 permit. Polan Industries had switched its channel 10 application to channel 7 after WROV's selection of UHF channel 27, leaving the way open for WSLS.

The delay in getting a transmitter was a cruel blow to WROV-TV. Last December 11 WSLS-TV took the air on channel 10 from Poor Mountain, a lofty peak 4,000 above sea level and 3,000 feet above Roanoke itself. This peak is 13 miles from the city.

At that time Roanoke had a thousand or more TV sets, fed from \$150-\$200 stacked yagis and assorted dipoles that could catch WFMY-TV Greensboro, N. C., 100 miles away and frequently WSAZ-TV Huntington, W. Va., or WTVR (TV) Richmond.

Even before WSLs-TV was transmitting, local appliance stores were conducting campaigns to sell VHF sets. Local merchants were joined by fiery promoters whose gorgeous claims and easy credit helped stimulate the demand for sets—all this during the pre-Christmas season when TV sets move at their fastest, and on into the winter.

Eventually WROV's transmitter arrived. After a fortnight of testing, the station started program service March 3.

By that time WSLs was claiming over 40,000 sets in its service area—relatively few of them able to receive a UHF signal. WROV-TV had started promoting conversion during the winter and had conducted dealer-distributor educational campaigns.

That was the situation last March. A heavy share of TV sets nearly all VHF-only, had been bought on time. To catch WROV-TV's picture meant \$30 to \$50 for an antenna or lead-in, plus \$5 to \$50 for a strip or converter ranging from one channel to the whole UHF band.

An educational campaign aimed at dealers and distributors was showing signs of results. Installation crews were learning the hard way that UHF presents special problems. Sometimes they threw up their hands and said they guessed there wasn't a UHF signal anywhere on the roof.

BOW TIES AND YAGIS

Even so, bow ties and yagis started sprouting from Roanoke rooftops. At the same time, dealers began meeting some sales resistance. Having sunk \$200 to \$400 or so in a TV set, customers raised this point—why spend all the dough fooling up for UHF when all the NBC-TV and CBS-TV programs are on WSLs-TV?

WROV-TV had ABC-TV service, picking it up from a 35-mile A. T. and T. microwave link. This added up to only a few hours a week. WSLs-TV, on the other hand, started off the day with NBC's Garroway and was possibly 80 to 90 percent network right through to the 11 p. m. news. Nearly three-fourths of the network programs on WSLs-TV are NBC, the rest CBS.

The WROV-TV program service starts at 5:30 p. m. with a religious series, moving along with local personalities to 6:30 when it has a western film. Local news and assorted local programs and film shows are carried to signoff, usually around 11 p. m. Like WSLs-TV, it is limited to one rather small studio though WSLs-TV has two cameras plus a third in the Appalachian Power Co's auditorium.

At first the local merchants and services were buying plenty of WROV-TV time, enough to justify its backers' hopes that life with television would be quite merry after the first few months. The conversions weren't fast enough to suit them, however, and they started comparing WROV-TV's programs and coverage with those of WSLs-TV.

Then began real sponsor trouble. Local contract cancellations started to come in—polite, as a rule, but quite firm. New York timebuyers were courteously indifferent.

The networks, too, were disinterested, aside from ABC-TV. The AM part of the WSLs setup had an NBC affiliation. Since WSLs-TV carried many more NBC-TV programs than CBS-TV, why couldn't WROV-TV get the unused CBS-TV programs? "You answer it," WROV-TV officials say when the question is posed, adding, "We've tried and tried."

NEAR 70 PERCENT SATURATION

Since March WROV-TV has watched the number of UHF installations increase steadily if not spectacularly. By May there were signs of nearly 50 percent UHF saturation in Roanoke TV homes and the figure has been described as approaching 70 percent or even more.

But that's in Roanoke proper, with a population of 91,000 (28,000 families) in 1950. The Roanoke metropolitan area (Roanoke County) has nearly 140,000 people, or 38,000 families.

According to WROV-TV, it can slap a good signal into most of the populous parts of Roanoke County, with an estimated 19,000 homes having UHF equipment.

The station frankly says it is practically blind beyond 12 or 15 miles because Roanoke is nearly surrounded by mountain ranges that overtower its own 1,750-foot Mill Mountain. The signal sneaks out through some valleys, but unfortunately many of the valleys have their openings turned away from Mill Mountain. Thus WROV-TV says it can't do a good job in Rocky Mount, Bedford or Troutville, for example.

CAN'T GET OVER

WROV-TV plants a 2,000 microvolt signal on Catawba Mountain 12 miles away, but simply can't get over it to reach the other side. The signal averages 2,000 microvolts in an 8-mile radius, according to James W. Robertson, chief engineer. Though WROV-TV's 21-slot antenna puts out a signal of 18 kilowatts, the FCC rates it at 9.77 kilowatts because of a 1 degree electrical tilt and 0.3 degree mechanical tilt.

Now take a look at the coverage story of WSLs-TV, with a 2 kilowatt RCA transmitter driving a high-gain antenna radiating a rated 26.2 kilowatt. WSLs-TV's antenna reaches 4,007 feet above sea level compared to 2,000.7 for WROV-TV. The WSLs mail map shows regular response from such cities as Bristol (125 miles), Richmond (140 miles), Lynchburg (45 miles), Bluefield (70 miles), Henderson, N. C. (120 miles), Danville (60 miles), Beckley (80 miles), Winston-Salem (90 miles) and many other North Carolina cities.

The WSLs-TV set count of 87,000 is said to include Bluefield, Lynchburg (which has its own WLVA-TV), Martinsville, Danville, Radford, and Bedford. Its total market adds up to 396,000 families or 1½ million people, according to WSLs-TV.

WSLS-TV RATES UP

Believing it really has 100,000 sets and anticipating a total of 300,000 sets in its area in the not too distant future, WSLs-TV is in the process of revising its rate card upward. It plans a big radio-TV center.

A vicious circle is thus apparent—vicious from the WROV-TV standpoint and a matter of sincere concern to its friendly competitor, WSLs-TV, which wants to see Roanoke become a saturated, satisfied, and competitive television market.

The vicious circle starts at the perimeter mountains whose forested slopes refuse to let channel 27 impulses pass on to the other side. That limits WROV-TV's potential audience roughly to the 38,000 families in the metropolitan area of the country. The circle moves on as WROV-TV faces dealer resistance to the more severe installation problems and customer resistance to paying more for UHF receiving sets plus \$30-\$50 antennas. Lacking wide coverage, WROV-TV now has only 2 national accounts and 10 local accounts, at least 1 being a stockholder.

CIRCLE CONTINUES

The circle continues as advertisers sponsoring network shows fail to show interest in WROV-TV when they see the WSLs-TV market data. Since WROV-TV has only a few ABC-TV network shows in its log, it can't interest New York timebuyers in buying adjacencies because there aren't any—or at least, only a few.

Now take a look at the WROV-TV financial picture.

FINANCIAL PICTURE

In its first 3 months of operation, WROV-TV took in \$15,569 (March \$6,829, April \$4,771, May \$3,969). Its expenses totaled \$27,045 (March \$9,068, April \$8,730, May \$9,247).

Just for the sake of argument, project the three-month figures to an annual basis. WROV-TV, then, would show income of \$62,276, expenses of \$108,180 and loss of \$45,896—assuming the last 9 months of the year were like the first 3.

That's enough to scare the financial wits out of the businessmen who have put up the funds to start this electronic operation.

And just for the sake of another argument, take those projected figures and compare them to the estimated income, expenses and construction cost in the early application.

This application carried the following item: Estimated operating cost for first year, \$165,504. This is far above the \$108,180 figure derived from a projection of WROV-TV's first 3 months.

Then the application carried a second figure: Estimated revenue for first year, \$160,000. The 12-month projection of the first 3 months' income falls roughly \$100,000 short of this figure.

Enough to pucker any stockholder's brow, especially when it is observed that the third month produced barely five-eighths the revenue taken in the first.

THE LOSS TREND

But what really alarms WROV-TV is the loss trend. March, the first month, was pretty good—\$2,238 in the red. That wasn't bad for a new electronic enterprise. April, however, brought bad news in the form of a \$3,959 deficit.

And then came May, with a frightening \$5,277 loss. That's red ink at the rate of \$63,224 a year, if the figure is multiplied by 12.

Now, WROV-TV admits, June was worse than May and July is more of the same.

In its June 23 petition to FCC, WROV-TV, asking that FCC rules be waived so it could continue operating on channel 27 while applying for channel 7, said: "* * * if the Commission will not waive the provisions of its temporary processing procedure it (WROV-TV) will relinquish its permit for Channel 27 in order that this application (Channel 7) may be received and processed."

WROV-TV'S TROUBLES

Citing WROV-TV's troubles in an accompanying letter, Leo F. Henebry, station president, said the station believed half the sets in the immediate Roanoke area could tune channel 27. Since that time an independent survey has around seven out of every 10 sets can get the WROV-TV picture.

Taking the most recent highest TV saturation figure for Roanoke, 1 out of every 2 homes, WROV-TV would appear to be reaching at least 13,300 homes in the immediate area.

Like the other WROV-AM-TV stockholders, Mr. Henebry is a businessman full of enthusiasm for the market and eager to provide it with a profitable television service.

"My jewelry store in Roanoke has not been off radio a single day in a quarter-century," he told B-T, recalling he put time signals on WDBJ free when it took the air in 1924. "All of us are Roanoke businessmen. We are really interested in the stations.

"We had accumulated about \$100,000 from radio though we lost heavily when we started in 1946 as the original \$75,000 ran up to \$130,000.

"We aren't men who throw money away. Right now we have forgotten profits. We're fighting for existence. We have more than \$250,000 invested. The networks aren't sympathetic and people who strained to buy TV sets are thinking twice before spending \$50 more to get UHF."

There's the WROV-TV problem. It shows that a UHF station in the rugged Roanoke terrain can't compete with a VHF station with better coverage and network programs. After all, when WROV-TV was picking a site it didn't dare take a chance on putting a costly UHF installation atop a mountain 10 or more miles away when 10 kilowatts UHF amplifiers were over a year away. It feared Roanoke coverage might be inadequate, choosing the safer Mill Mountain instead.

WROV-TV showed business courage when it came out into the open with the facts of UHF service in Roanoke. It knew what Madison Avenue would say. It knew what Roanoke people would say. It knew the legend would be spread that "WROV-TV has given up the ghost" whereas it merely was asking for the right to apply for Channel 7 frequency it had originally sought.

Would high power solve the Roanoke UHF problem? Engineers aren't giving a definite answer. Even with 100 kilowatts, the signal still would get bumped around and be blind to many areas. People would still have to buy expensive gadgets. There would still be the problem of competing with the WSLs-TV VHF signal and two-network service.

Worst of all, channel 7 will be opened one of these months.

A STEADY MARKET

Roanoke is a steady, dynamic market, third in the State, and has high buying power. The town has adopted television as a medium—not spectacularly because it leans toward the conservative side. People do a lot of viewing. The *Times and World-News* (WDBJ and applicant for channel 7) print complete logs of both local TV stations plus Richmond, Lynchburg, Huntington, and Greensboro TV stations.

The WSLs-TV basic rate is \$300 an hour. WROV-TV has a national rate of \$200 and local rate of \$140.

Obviously, in Roanoke the program's the thing. WROV-TV originally envisioned 11 or 12 daily hours of top local programing, a policy that had been

responsible for its success as a local outlet in a market that had two regionals and has recently added a radio daytimer (WRIS). Such an array would require vast sums of money. Live TV and remotes are costly.

What would you do if you were sitting on channel 27 in Roanoke, competing with channel 10 and facing additional channel 7 service?

WJON, THE GRANITE CITY BROADCASTING Co.,
St. Cloud, Minn., April 21, 1954.

Senator CHARLES E. POTTER,
Chairman, Subcommittee on Communications,
United States Senate, Washington, D. C.

DEAR SENATOR POTTER: In reply to your letter of April 6, 1954:

Enclosed you will find a copy of a letter that we wrote to William P. Massing, acting secretary of the Federal Communications Commission, on December 2, 1953. This letter can best explain the reasons why we gave up channel 7 at St. Cloud, Minn.

If perchance we can be of any further service, please write us.

Yours very truly,

MAX H. LAVINE.

DECEMBER 2, 1953.

Mr. WILLIAM P. MASSING,
Acting Secretary, Federal Communications Commission,
Washington 25, D. C.

DEAR SIR: We are in receipt of your letter of November 24, 1953, inquiring as to the steps proposed to be taken to meet the recommendation of the Washington Airspace Subcommittee that the tower to be erected at the location specified in the application not exceed 1,449 feet above mean sea level. The limitation in tower height as indicated would not be desirable from our point of view because it would tend to decrease potential coverage and service to the public to a substantially greater degree than we believe feasible for such a proposed operation. Among other things, we had been giving consideration to the possibility of a higher tower at the present location but that would now seem to be eliminated by the action of the Washington Airspace Subcommittee.

We do not believe that present conditions warrant the substantial expenditure for a different site with additional building costs. In addition, every effort has been made to obtain a network affiliation and none of the networks will agree to an affiliation of any character, except one which would be economically impossible for a station in St. Cloud to support.

Because of the foregoing considerations, it is our present judgment that the outstanding authorization to construct a new TV station on channel 7 at St. Cloud be canceled in order to avoid any further requests for extensions of time to construct and should there be a change in the aforementioned conditions, we would expect to take steps looking to new authorization from the Commission. Therefore, we reluctantly request that the present permit be canceled.

Very truly yours,

GRANITE CITY BROADCASTING Co.,
By MAX H. LAVINE, President.

Subscribed and sworn to before me this 2d day of December, 1953.

[SEAL.]

VIOLET LALONDE,
Notary Public.

ALEXANDRIA, LA., April 12, 1954.

Hon. CHARLES E. POTTER,
Washington, D. C.

DEAR SIR: I recently returned my construction permit for Channel 62 for Alexandria because I was convinced I would have been unable to operate it at a profit because I would have had to compete with a VHF station which has been granted a permit for local operation. It remains to be seen whether Alexandria offers a large enough trade area for even a single station to be successful financially; and certainly with two stations competing with each other, the UHF station would have very small chance for survival.

Yours truly,

BARNET BREZNER.

WCHV, CHARLOTTESVILLE, VA.,
April 12, 1954.

Senator CHARLES E. POTTER,
*Chairman, Subcommittee on Communications,
United States Senate, Washington, D. C.*

DEAR SIR: Your letter of April 7 has been turned over to me to answer, inasmuch as I was closer to the television problem confronted by radio station WCHV than anyone else concerned.

The reason WCHV returned its construction permit to the FCC for a UHF station on Channel 64 was as follows: At the time WCHV filed, only one station was readily receivable in Charlottesville, and its picture was considered poor in most areas. When our planning had progressed to a point where we were ready to order equipment and start transmission, three things happened almost simultaneously that made UHF, for this area, out of the question. They were: (1) Station WLVA-TV came on the air on Channel 13 with maximum power, broadcasting CBS, ABC, and Du Mont programs; (2) Harrisonburg came on the air on Channel 3, broadcasting programs of all 4 networks; (3) WTVR, Richmond, was granted use of maximum power, broadcasting NBC and kinescopes of the other 3 networks.

In the Charlottesville area, there are approximately 17,000 television sets. With clear reception from three VHF stations offering the best in network production, no way presented itself whereby we could encourage the conversion of those sets to UHF. No network was available to us, and a majority of the film programs available to us were being or had been shown on 1 of the 3 stations listed above.

Our engineers had advised us that coverage on Channel 64 in this mountainous section would be poor at best. This, along with the impossible situation outlined above, prompted us to turn in our construction permit on 64 and start seeking means of obtaining a VHF channel for this area. We are investigating this possibility at the present time.

In the hope that this fully answers your inquiry, and hoping that you will call on us if you require additional information or testimony, I remain

Sincerely yours,

ROBERT WALKER, *Manager.*

WHITE'S AUTO STORES, INC.,
Wichita Falls, Tex., April 13, 1954.

Hon. CHARLES E. POTTER,
*Chairman, Subcommittee on Communications,
United States Senate, Washington, D. C.*

DEAR SENATOR POTTER: I have your letter of April 7, and the reason I surrendered my construction permit for a UHF broadcast station was because I was unable to obtain a network affiliation.

As you probably know, the networks will not affiliate with a UHF station if there are VHF channels assigned to that particular market.

Sincerely yours,

W. ERLE WHITE.

THE LAKE ERIE BROADCASTING CO.,
Sandusky, Ohio, April 14, 1954.

Senator CHARLES E. POTTER,
*United States, Senate,
Washington, D. C.*

DEAR SENATOR POTTER: I hope the following information will be helpful to your subcommittee during its investigation into the development and status of UHF television.

The Lake Erie Broadcasting Co. returned its construction permit for the primary reason that thorough study led us to believe that television, especially UHF, was economically unfeasible in a city the size of Sandusky, located in a VHF saturated area as we are. Because of the coverage, the four networks were not interested in affiliation with our proposed station even though special presentations were made in New York in an effort to secure an affiliation. We were firmly convinced, after talking with various industry leaders, that TV is a losing proposition without network affiliation.

However, the basic problem in any advertising medium is circulation. In TV, this means sets capable of receiving UHF. Therefore, I believe that the entire situation could be solved if the manufacturers would produce only all-channel sets then, regardless of the engineering conditions (VHF or UHF) circulation would be assured. As it stands now, a UHF operator must not only face the same problems as a VHF operator, but must carry on a continual fight for set conversion. If every set manufactured had all-channel reception, then the TV fight for audience would be relegated to one of programming, as it should be, and not one of mechanics.

May I add that I do not believe that our situation is a fair reflection of UHF television and I sincerely think our decision would have been the same regardless—a decision reached on an economic and programming basis rather than engineering.

If there is any further information that I can supply to your committee, I will be more than happy to do so.

Cordially,

JAY WAGNER,
President and General Manager.

KRTV, LITTLE ROCK TELECASTERS, INC.,
Little Rock, Ark., April 12, 1954.

HON. CHARLES E. POTTER,
*Chairman, Subcommittee on Communications,
Committee on Interstate and Foreign Commerce,
United States Senate, Washington, D. C.*

DEAR MR. POTTER: In response to your letter of April 6 to Little Rock Telecasters concerning the return of our permit to the Commission, we have forwarded your original letter to Mr. Kenyon Brown, KWFT-TV, Wichita Falls, Tex., who was president of Little Rock Telecasters at the time this action was taken.

Yours very truly,

JOHN H. FUGATE,
Little Rock Manager—KATV.

WHKP,
AMERICAN BROADCASTING CO.,
Hendersonville, N. C., April 14, 1954.

HON. CHARLES E. POTTER,
*United States Senate,
Senate Office Building, Washington, D. C.*

DEAR SIR: In order to give you a brief picture of our reasons for turning in our UHF TV permit, I shall list these in the order of importance in the making of our decision.

(1) Failure to receive any encouragement from any network that they would at this time or in the future be interested in any type of affiliation with the proposed station.

(2) The assignment of additional VHF channels to the area to be served and the granting of same which would make it almost impossible to obtain sufficient conversion of VHF sets to gain any reliable financial support from advertisers.

(3) The poor showing of UHF stations in VHF markets and the subsequent turning in of UHF permits in the face of VHF competition.

The writer, from a considerable study, does not feel that UHF and VHF are comparable and the situation is close akin to the situation that FM radio finds itself in.

If the writer can supply any further information to your subcommittee, he will be happy to do so.

Sincerely yours,

B. M. MIDDLETON, *President.*

RADIO STATION KGKL,
San Angelo, Tex., April 13, 1954.

Senator CHARLES E. POTTER,
*Chairman, Subcommittee on Communications,
 United States Senate, Washington, D. C.*

DEAR SENATOR POTTER: This letter is in reply to yours dated April 7, 1954, regarding the hearings on UHF-TV channels.

Early in 1953 I purchased 100 percent of the stock of KGKL, Inc., a Texas corporation, licensee of Radio Station KGKL and permittee for a proposed television station on VHF channel 3 in San Angelo, Tex.

At the time of my purchase, another group had been granted a television station construction permit on VHF channel 8 in San Angelo.

KGKL, Inc., petitioned the Federal Communications Commission to cancel the channel 3 construction permit. This was necessary because, as sole owner of the company, I was not financially able to build and operate the television station. It was not my desire at the time to seek financial assistance to build and operate a second television station in the San Angelo market.

If I can furnish additional information, I shall be glad to do so.

Sincerely,

LEWIS O. SEIBERT,
Manager, Radio Station KGKL.

SANTA FE, N. MEX., *April 13, 1954.*

Hon. CHARLES E. POTTER,
*Chairman, Subcommittee on Communications,
 United States Senate Office Building, Washington, D. C.*

DEAR SENATOR POTTER: This will acknowledge receipt of your letter of the 7th inst., requesting our reasons for returning to the FCC our construction permit for TV channel No. 2, call letters KTVK, Santa Fe, N. Mex. Briefly they are as follows:

The cost of construction and putting a TV station into operation seemed to us prohibitive, and the investment was too big to operate at a loss for a period of several years. Then, it seemed an impossibility to affiliate our station with either of the major networks. We did not choose to take this risk.

Then the FCC allowed KOB-TV and KGGM-TV, Albuquerque, N. Mex., to construct their transmitting tower atop the Sandia Mountain giving this area two additional stations, namely channels 4 and 7.

Our reasons can briefly be stated that economics and competition caused us to return our permit.

Very truly yours,

GREER & GREER,
 By NATHAN C. GREER.

EMPIRE COIL Co., INC.,
New Rochelle, N. Y., April 15, 1954.

Hon. CHARLES E. POTTER,
United States Senate, Washington, D. C.

MY DEAR SENATOR POTTER: We have received your letter of April 6th inquiring about our views relative to the major problems concerning UHF.

In our opinion, the problem varies with each set of facts in the different markets, but the primary problem everywhere is the availability to a UHF station of network and other good programing. If satisfactory network programing is not available, people will not spend \$50 or more to convert their sets, especially if there are 2 or 3 VHF services available, for the reception of which no conversion expenditure is necessary.

A partial alternative to good network programing would be strong film, local live, and remote pickup features. These, however, involve heavy operating expenditures, and the process of getting conversion is likely to prove much slower. As a result, large losses might be sustained by a station for an indeterminate period of time.

If networks or other strong broadcasters took over some of these UHF stations, I believe they could build them to success.

Yours very cordially,

HERBERT MAYER.

MILWAUKEE 3, Wis., April 12, 1954.

SENATOR CHARLES E. POTTER,
Committee on Interstate and Foreign Commerce,
United States Senate, Washington, D. C.

DEAR SENATOR POTTER: In response to your letter of April 7, I am attaching hereto a copy of the petition for dismissal of our grant on UHF channel 31, addressed to the FCC. This outlines, in detail, our reasons for turning back the grant.

I would like to add one further observation. You cannot, by legislation, force an advertiser to pay too much for his advertising. To attempt to do so would be a repudiation of our way of life.

If an advertiser has available a VHF station covering 600,000 homes and also has available, in the same market, a UHF station covering 200,000 homes; if, as is always the case, the cost per thousand reduces as the circulation increases; that advertiser will buy the VHF station.

By the same token, a network cannot be forced (or should not be forced) to affiliate with a station that technically offers fewer potential listeners because the network, too, if it is to survive, must offer advertisers the most economical purchase available.

I have seen no evidence to indicate that super-power in UHF is economically feasible or that it would make it possible for a UHF station to cover the same number of persons as a competing VHF at the same cost to the advertiser. Nor do I find good reason for expecting consumers to pay a premium for all-channel sets and special receiving antennas.

Perhaps the fault lies in the basic FCC philosophy of mixing VHF and UHF stations in the same market. There may well be a technical reason for this but, from the basis on which your committee is investigating the matter, therein lies the harm.

Sincerely yours,

JEROME SILL, *General Manager.*

DECEMBER 1, 1953.

WM. P. MASSING,
Acting Secretary, Federal Communications Commission,
Washington 25, D. C.

DEAR MR. MASSING: Cream City Broadcasting Co., Inc., filed its application for construction permit for a commercial television station on UHF channel 31 on November 13, 1952. After considerable delay, the application was granted on August 19, 1953. At the time the application was filed there was only one television station on the air in Milwaukee: WTMJ-TV on VHF channel No. 3. In the Commission's Sixth Report and Order WTMJ-TV was ordered to move to VHF channel No. 4 and the only other commercial television channels allocated to Milwaukee were VHF channel No. 12 and UHF channels Nos. 19, 25, and 31.

Immediately after the Commission granted the application of Cream City Broadcasting Co., Inc., for construction permit on UHF channel 31, we undertook to take the necessary steps looking toward the construction and operation of the station. We paid General Electric a deposit on the UHF television equipment, including the UHF transmitter. We employed Adler Communications Laboratories of New Rochelle, N. Y., to do preliminary work in connection with our UHF installation. We undertook to find additional studio space and commercial lease negotiations for such space. We interviewed several potential key personnel for our UHF station and also negotiated with a number of program sources for film programs. We met with representatives of American Telephone & Telegraph Co., and Wisconsin Telephone Co. to discuss the availability of leased lines and microwave facilities to be used for program originations. Mr. Jerome Sill, our general manager and secretary-treasurer of the company went to New York and negotiated with ABC, CBS, and Du Mont looking toward an affiliation contract for our proposed UHF station and he also discussed with several national sales representatives their availability to represent our proposed UHF station nationally.

On October 8, 1953, the Commission released its proposal to allocate VHF channel 6 to Whitefish Bay in the Milwaukee area. We consulted with our communications attorney and our consulting engineer and were advised that from an engineering and legal point of view the proposal to allocate VHF channel 6 to Whitefish Bay appeared to be feasible. The addition of VHF chan-

nel 6 to the Milwaukee area has changed the entire situation and has caused us to reassess the television situation in Milwaukee.

It was our purpose in filing our application originally to be in a position to render service to the greatest number of persons and we believed then that UHF would be an important factor because it appeared that there would be only two commercial VHF stations. It now appears that since there will be three commercial VHF stations that it will not be possible to carry out our original plans through the medium of UHF television.

A UHF signal can be received by only a fraction of the persons who can receive a VHF signal, because of the physical limitations of UHF propagation and because of the economics involved in attempting to obtain superpower on UHF, even were superpower equipment now available from the equipment manufacturers. Moreover, only a percentage of the families among the 500,000 who now view WTMJ-TV on VHF channel No. 4 could receive a WMIL-TV signal on UHF channel No. 31.

Moreover, the addition of VHF channel No. 6 to the Milwaukee area will, in the opinion of WMIL-TV slow down considerably the conversion to UHF in Milwaukee. Conversion can be accomplished at considerable cost only through the purchase of converters or all-band receivers and special antennas.

There are in excess of 350,000 radio homes within the half-millivolt contour of WMIL. We had hoped to serve through the medium of television as many of these persons as possible with TV. It is apparent that it is not possible to do this on UHF channel No. 31 but it is feasible and possible to do so with a VHF channel. For these reasons, Cream City Broadcasting Co., Inc., has decided to file an application for VHF channel No. 6 and requests that the Commission cancel its outstanding construction permit for UHF channel No. 31.

Very truly yours,

CREAM CITY BROADCASTING Co., Inc.,
JEROME SILL, *General Manager.*

WVJS,
April 14, 1954.

HON. CHARLES E. POTTER,
*Chairman, Subcommittee on Communications,
Interstate and Foreign Commerce Committee,
Senate Office Building, Washington, D. C.*

DEAR SENATOR POTTER: Thank you for your letter of inquiry concerning our relinquishing of a permit on UHF channel 14.

I quote the following news story which was issued by WVJS on September 18, 1953:

"In action upon WVJS's (Owensboro On The Air, Inc.) petition, the Federal Communications Commission today entered a final order allocating VHF channel 9 to Hatfield, Ind. Immediately following this action by the Commission, WVJS filed application with the FCC for a construction permit for a television station to be operated on channel 9 at Hatfield. In a simultaneous action, WVJS returned to the Federal Communications Commission, the construction permit for UHF channel 14 which it received on August 19 of this year. If no competing application is filed on channel 9 which will throw WVJS into a hearing, it is expected that a construction permit can be granted at an early date and WVJS can begin construction of the new television station in the very near future.

"In a departure from the television field, the Owensboro Publishing Co., publishers of the Owensboro Messenger and Inquirer, the principals of which operate radio station WOMI, withdrew its application for a television station on UHF channel 14 on August 18, 1953.

"This action by the Owensboro Publishing Co. automatically caused the granting of a construction permit on UHF channel 14 to Owensboro On The Air, Inc. (WVJS). Being determined to bring TV to Owensboro, WVJS did not relinquish its application or permit on UHF channel 14 until favorable action on channel 9 was assured. When the Federal Communications Commission today issued the final order allocating VHF channel 9 to Hatfield, WVJS then relinquished its construction permit on channel 14 in favor of obtaining channel 9 facilities, which it, WVJS was responsible for discovering, and along with the FCC, for obtaining for this locality. Of course, if another application is filed on top of the WVJS application, that will again automatically create a necessity for a hearing before the FCC. This could prolong the bringing of television to the Owensboro vicinity indefinitely.

"Today's action by the FCC on WVJS's petition was taken after many months of work by WVJS, its consulting engineers and attorneys, toward bringing television to the Owensboro area. WVJS first filed for television permit on channel 10 during February 1952, and subsequently amended to channel 14 during April 1952, immediately after the new allocation table was adopted. Two months later, on June 28, the Owensboro Publishing Co. filed for the same channel. This action by the Owensboro Publishing Co. prevented a grant to WVJS and made a comparative hearing mandatory under the Federal Communications Act. If there had been no conflict between these applications, the Commission could have made a grant nearly a year ago, during last September or October, when the city of Owensboro was reached under the Commission's processing procedure.

"Immediately after discovery by WVJS that the action of the Owensboro Publishing Co. had thrown its channel 14 application into hearing status, WVJS instructed its engineering consultants in Washington to institute a search for another possible spot on the spectrum wherein a television station could be placed locally. It was realized by the operators of WVJS that under existing conditions and because of the heavy backlog of applications and hearings facing the FCC, that it would necessarily be a great length of time before the mutually exclusive applications could be resolved in a hearing. The search by WVJS's Washington engineering staff, was rewarded by the discovery that VHF channel 9 could feasibly be placed at Hatfield, Ind., approximately 10 miles northwest of Owensboro. On October 9, 1952, the Federal Communications Commission was petitioned by WVJS to allocate channel 9 to Hatfield, Ind. At that time, the FCC stated that action could not be taken until the expiration of the 1-year allocation rule, which ended on June 3, 1953. A new petition was filed by WVJS on June 3, and in a subsequent action, the FCC initiated rule-making proceedings looking toward the allocation of channel 9 to Hatfield.

"The action taken by the FCC today brought to fruition the work of WVJS and its associates of these past many months in behalf of obtaining a VHF channel for this area.

"WVJS in its application for channel 9 asks for 221,000 watts effective radiated power visual and 118,000 watts aural."

The reasons VHF service is preferred by this corporation are: Lack of available sets in this area adjusted to receive UHF television and apparent lack of acceptance of UHF television by advertising agencies and television networks.

I hope this will give you sufficient information concerning our case.

If you need further information from us, please call upon us and we'll be more than glad to supply it.

Sincerely,

MALCOLM GREEP,
Vice President and General Manager.

OLD DOMINION BROADCASTING CORP.,
Lynchburg, Va., April 20, 1954.

MR. CHARLES E. POTTER,
*Chairman, Subcommittee on Communications,
United States Senate, Washington, D. C.*

DEAR MR. POTTER: In reply to your letter of April 7 requesting information on our reasons for returning the UHF application, I will try to set forth the information you desire. The principal reason could be listed under the general classification of economics. Of course, there enters into the picture the lack of availability of equipment at the original time of the proposed building of the station. In other words, if the equipment had been available, the economic picture might have been different. Just about all of the reasons you set forth in your letter could be taken into consideration. The fact that there is a VHF station competing in the market makes the position of the UHF less tenable in view of the experiences of other UHF stations in similar markets.

I trust this information will satisfy your requirements and sincerely hope you will call on us for any further assistance we may offer.

Sincerely,

CHARLES R. MAILLET,
General Manager.

TEXAS STATE NETWORK, INC.,
Fort Worth 1, Tex., April 19, 1954.

HON. CHARLES E. POTTER,
United States Senate, Washington, D. C.

DEAR SENATOR POTTER: In response to your letter of April 7 with respect to the relinquishment of a UHF-TV construction permit and requesting our reasons therefor, we submit the following information.

On February 18, 1953, we were granted a construction permit to operate a TV station on UHF channel 20 at McAllen, Tex., which is one of the principal communities in the lower Rio Grande Valley. At that time a Mexican station was operating on VHF channel 7 at Matamoros, across the border from Brownsville, Tex., also in the lower Rio Grande Valley. Our investigations indicated that there were somewhere between 12,000 and 20,000 television sets in the lower Rio Grande Valley at the time we were authorized our construction permit.

We were aware of the conversion problem for UHF, however, it was our feeling that by installing a maximum operation, both as to power and programing, permitting wide area service to the valley, we would be able to meet this problem, provided we could get on the air before VHF channels 4 and 5, located in the valley, could get on the air. Before the application for reengineering of the proposed station could be granted by the Commission, the applicants on channel 4 resolved their differences and a construction permit was authorized May 21, 1953, on channel 4 in Harlingen, Tex., also in the lower Rio Grande Valley. As a result, it was decided that channel 4 would probably be on the air before we could commence operations and that the set conversion problem would be even more difficult under these circumstances. Accordingly, we decided to relinquish our construction permit and dismiss our application for modification thereof.

Respectfully yours,

GENE L. CAGLE.

KIT—VALLEY BROADCASTERS,
Yakima, Wash., April 16, 1954.

Senator CHARLES E. POTTER,
Senate Office Building, Washington, D. C.

DEAR SENATOR POTTER: In reply to your communication of April 7 relative to the KIT-TV UHF grant, I should like to submit the following information.

In the early part of December 1952, I received two TV grants—at practically the same time, KIT-TV, Yakima, Wash., a UHF assignment, and KMO-TV, Tacoma, Wash., a VHF assignment.

I started construction of the Tacoma grant as quickly as possible but was unable to proceed with the Yakima grant simultaneously because of limitation of manpower, etc. The operation of KMO-TV convinced me that, without a basic or sound supplemental network affiliation whereby the station received compensation, a station will have extreme difficulty in attempting to operate economically and profitably.

A survey of the Yakima market indicated a maximum potential coverage of approximately 40,000 homes with one UHF station already on the air as of July 1953. The National Broadcasting Company submitted as their best affiliation offer a deal whereby KIT-TV must pay \$2,800 per month for the micro-wave line costs and this payment to be credited with what commercial programs were sold on the station at a rate of \$150 per hour less their usual multiple discount structure. They did not guarantee a single commercial program nor any sustaining programs. This \$2,800-per-month guaranty would buy a lot of films for programing, and I could not see where it was economically feasible to proceed on this basis.

A survey of the economic structure of Yakima further convinced me that local revenue alone could not support 3 radio stations and 2 television stations, and I, therefore, reluctantly requested the cancellation of my UHF grant.

It is my firm conviction that the economic status of all television stations is controlled with a death grip by the major networks. In my opinion, there are only two types of television stations operating in the country today, namely, those which are making a great deal of profit and those which are losing money or at the best approximately breaking even. The networks do not see fit to make supplementary affiliations in secondary markets under which a station

might soundly operate. A classic example is Tacoma, a city whose metropolitan population is in excess of 300,000 according to sales management and is located approximately 30 miles from Seattle, and it does not have either a radio or television network affiliation except K'TNT-TV. This latter, I understand, is on interim basis only until Seattle's channel 7 has been definitely assigned. The hilly terrain in this area precludes adequate TV service from Seattle stations, which are limited to a maximum of 1,000 feet above sea level, and yet the networks will not grant supplemental affiliation in Tacoma.

I strongly urge in this investigation that the network effect upon the economic lifeblood of TV stations be thoroughly explored. In the Tacoma case, the Seattle affiliate has a rate of \$800 per hour, and the KMO-TV rate is \$400 and is gasping for business because of the inability to compete programwise with network stations. This will result inevitably in communities such as Tacoma eventually not having any direct TV service.

Trusting this information may be helpful to you in your investigation, I am
Very truly yours,

K I T, INC.,
CARL E. HAYMOND,
President.

WEOK—MID-HUDSON BROADCASTERS, INC.,
Poughkeepsie, N. Y., April 16, 1954.

HON. CHARLES E. POTTER,
*Chairman, Subcommittee on Communications U. S. Senate,
Washington, D. C.*

DEAR SENATOR POTTER: In reply to your letter of April 7, regarding UHF-TV channel 21, the construction permit for which we finally returned to the Federal Communications Commission, wish to advise our reasons for doing so were as follows:

1. Although Poughkeepsie is approximately 75 miles north of New York City, strong VHF signals from the various New York City stations reach this area perhaps by reason of the open water up the Hudson River, plus a signal bounce from the Palisades, which puts an unusually good VHF signal in this vicinity. There is roughly a 70-percent VHF saturation of homes already in this area equipped to receive the New York City stations with antennas beamed to the top of the Empire State Building. Local residents are satisfied with the VHF reception they are now getting from New York City and judging from a general survey amongst potential UHF viewers the reaction unanimously indicated they would not consider the bother or expenditure to convert their present sets or antennas. This situation existed even before the New York City VHF stations increased their power.

2. Preliminary discussions with several of the networks also indicated a lack of interest in giving us an affiliation due undoubtedly to the fact they too realized the situation described above.

3. Since our area is located in very hilly terrain it was apparent we needed as strong a signal as possible and at the time of our interest in proceeding with our construction permit the manufacturers were not in production on sufficiently high powered transmitting equipment.

4. Due also to the terrain it became a "must" that we have as high a transmitting site as possible. We were frustrated in our several attempts to establish a suitable location by a series of rejections by the Civil Aeronautics Authorities, one of which came several months after an original approval. In summary, it seemed impractical at the time to rush into such a costly venture until the atmosphere cleared and at least some of the existing problems were straightened out.

Sincerely yours,

ARTHUR J. BARRY,
President, Mid-Hudson Broadcasters, Inc.

WATERTOWN DAILY TIMES,
THE BROCKWAY CO.,
Watertown, N. Y., April 17, 1954.

HON. CHARLES E. POTTER,
*Chairman, Subcommittee on Communications,
Committee on Interstate and Foreign Commerce,
United States Senate, Washington, D. C.*

DEAR SENATOR POTTER: I have your letter of April 7, 1954, inquiring as to the reason why the Brockway Co. returned to the Commission its construction permit for UHF Station WWNY-TV, Watertown, N. Y.

In the television allocation proceeding our company requested the Federal Communications Commission to allocate a VHF channel to Watertown in order that we might render the widest possible coverage to the rural areas in Jefferson and surrounding counties of northern New York without other television service. However, because of insufficient mileage separations, the Commission found it impossible to allocate a VHF frequency to Watertown and instead allocated UHF channel 48, for which we then applied and received a construction permit.

Subsequently, due to a change in Canadian VHF allocations, the Commission on its own motion proposed to allocate VHF channel 7 to Carthage, N. Y., a community located approximately 15 miles from Watertown in Jefferson County. The Brockway Co. supported this proposed allocation which was made final. Thereupon we filed an application for channel 7 in Carthage and upon its grant, returned for cancellation our WWNY-TV permit in order to avoid conflict with the rules prohibiting ownership by one group of two television stations serving substantially the same area.

With the transmitter site of our channel 7 station WCNY-TV located between Watertown and Carthage, we will be able to render primary service to both of these communities, as well as render a very good service to areas of northern New York without any other service. As you may know, on VHF it is possible to render wider coverage than of UHF and at less cost.

I have enjoyed the manner in which you have conducted yourself and directed your interests on the Senate permanent committee on investigations. You have shown a commendable discernment with respect to fairness and breadth that attests to your experience and belief in the American system.

With best wishes, I am,

Sincerely yours,

JOHN B. JOHNSON,
President and Treasurer.

WFTM—STANDARD TOBACCO CO., INC.,
Maysville, Ky., April 15, 1954.

HON. CHARLES E. POTTER,
*United States Senate, Senate Office Building,
Washington, D. C.*

DEAR SENATOR POTTER: Our reasons for returning the construction permit granted to the Blue Grass Television Co. by the Federal Communications Commission were as follows:

1. The aversion of the general public to spend additional money to convert their sets to receive UHF.
2. The inability to get firm commitments for network service.
3. The inadequacy of the 5-kilowatt UHF transmitter.

Along with the three major points as outlined above, there were several minor facts that governed our decision to return our construction permit to the Federal Communications Commission. All things taken into consideration, it added up to be an unsound economical venture.

Due to the facts outlined above, we have also asked the Federal Communications Commission to dismiss the application of WFTM-TV without prejudice.

Sincerely yours,

BLUE GRASS TELEVISION CO.,
J. W. BETTS, *General Manager.*

WTOB-TV,

Winston-Salem, N. C., April 17, 1954.

Hon. CHARLES E. POTTER,

*Chairman, Subcommittee on Communications, United States Senate,
Capitol Building, Washington, D. C.*

DEAR SENATOR POTTER: I have been away from the office for several days and this is my first opportunity to reply to your letter directed to T. E. Allen & Sons, Inc., at Durham, N. C.

I am answering this letter because our company owned 50 percent of the T. E. Allen & Sons, Inc., company and by mutual consent, we were charged with the responsibility of constructing and operating the station at Durham.

We returned the permit for channel 46 at Durham, as indicated by the records at the FCC, and I will attempt to explain to you as briefly as possible why we took this action.

As will be shown by the application we filed with the Commission and on the basis on which the grant was issued, we were certainly well financed and the permit was not returned because of lack of funds.

Insofar as availability of equipment, we were assured by RCA they could deliver equipment to us by August or September of 1953.

Basically, the permit was returned because we felt we could not obtain permanent network service. We were informed we could obtain the services of the top networks but that, as soon as the VHF channels were granted, we would in all probability lose this service.

Another important factor in our decision was the experience of the operation here at Winston-Salem where our station has been on the air since September 1953.

Our experience here indicates a number of factors which make it extremely difficult for a UHF station to compete with a VHF station. Some of these are as follows:

1. The converters and strips that are used to adapt existing sets to UHF channels are grossly inferior and in a vast number of instances are so unsatisfactory as to be useless. We receive hundreds of complaints from the American public who have gone out and purchased this equipment only to find that it is not satisfactory.

2. In the sale of new receivers, the manufacturer charges a higher price which in turn is passed on to the consumer and the public becomes very reluctant to spend an additional \$20 to \$50 more in order to receive a single UHF station.

3. Because of the inefficient converters and also the resistance to converting to the UHF channels we, of course, do not have the circulation or potential audience that the VHF stations have. As a result, the advertisers are reluctant to buy time on the UHF station. Surprising enough, this is not true here in our home town, where the advertiser is close to the situation and knows exactly what the station is doing. Here in our own market, we outsell the VHF station by a considerable margin. However, the national advertising agencies who place advertising dollars for nationally advertised products have apparently decided they will not buy UHF stations under any conditions.

4. The RCA 1-kilowatt transmitter we are using does not supply the coverage we expected from it. As a result, the signal strength is so low both in our own city and within a few miles of our transmitter that, even with a converter that works satisfactorily, we do not have sufficient signal strength to provide a television picture. When we move out from our city for a distance of 20 to 25 miles from the transmitter, our signal strength falls off so rapidly that it is absolutely unsatisfactory. We can in no way compete with the VHF signal. This is a situation we cannot correct because RCA does not have the equipment available. When the equipment does become available it is priced so high that it costs considerably more for a UHF station to operate with less power than it does a VHF station.

In view of the factors listed above which we experienced in the Winston-Salem station, we concluded that the difficulty of undertaking a UHF station in the Durham market was overwhelming and we requested the Federal Communications Commission to cancel our construction permit.

In addition to the permit at Durham, we also hold a construction permit for channel 29 at Richmond, Va., and it probably will be necessary for us to cancel that one also for the same reason.

I hope this information will be helpful to you.

Very truly yours,

JOHN G. JOHNSON,
General Manager.

WTOB-TV,

Winston-Salem, N. C., April 17, 1950.

Hon. CHARLES E. POTTER

*Chairman, Subcommittee on Communications,
United States Senate, Washington, D. C.*

DEAR SENATOR POTTER: I have just returned to my office after an absence of several days and this is my first opportunity to thank you for the courtesies extended me on my recent visit.

I thoroughly enjoyed my meeting and talk with both you and your counsel, Mr. Zapple.

We called a meeting of more than 20 UHF stations in Washington on last Monday and over a period of some 18 hours, we thoroughly explored this UHF problem.

We retained legal and engineering counsel to work with the stations in preparing and coordinating a presentation for your committee hearing. We believe this is the sensible approach and will give your committee the full benefit of all the information and suggestions at our command.

There is one factor I think should be particularly brought out during the hearing. This is the present survey being conducted by the Federal Communications Commission into the economic status of UHF stations. As outlined to you and Mr. Zapple, the problem exists only in the mixed markets where UHF and VHF channels are in competition.

We found at our meeting, there are some UHF stations in mixed markets which are presently faring reasonably well but, in each instance, the station was frank to admit that just as soon as the additional VHF channels assigned to their markets go on the air, the UHF station will automatically lose its network service, as well as most of its business. This means the Federal Communications Commission survey may be, to a certain extent, misleading because these particular stations will show a healthy situation today but will probably be in desperate financial condition in the near future. I refer here specifically to such markets as Buffalo, New York, St. Louis (Belleville, Ill.), and there are others which are in the same condition.

I merely wanted to bring this out because I think the survey is based upon conditions as they exist now, whereas, these conditions will be considerably changed as soon as all the VHF stations have been granted and begin operation. To this extent, this survey may be misleading.

Again, I wish to thank you for the courtesies extended to me on my recent visit with you.

Sincerely,

JOHN G. JOHNSON,
*General Manager.*GORDON ALLEN & ASSOCIATES,
Salem, Oreg., April 14, 1954.

Senator CHARLES E. POTTER

Senate Office Building, Washington, D. C.

DEAR SENATOR: Thanks a lot for your inquiry on the FCC's handling of the UHF-TV problem. First let me say that these are the remarks of a young broadcaster of 34 who is a graduate engineer.

In Oregon, the FCC's channel assignments in the Willamette Valley were such as to preclude any UHF development in this area. There were 2 educational VHF's assigned where one would have covered the valley and then the bulk of the assignments in the populated areas down the valley from Portland were all UHF's with the exception of 1 VHF in Salem and Eugene and none in the Lebanon, Albany, Corvallis area (95,000 population).

Under these conditions and with the high cost of UHF equipment, a conversion problem, and network's hatred of UHF I see no possibility of a competitive TV situation in the Willamette Valley in Oregon.

The low-cost operation of local UHF or even VHF here in Salem is out of the question. I feel that the FCC's proposed minimum of UHF transmitter power of 5 kilowatts so as to get the same coverage that a 1/2 kilowatt VHF transmitter would give is a perfect example that to make UHF work technically one has to have 10 times the power at twice the cost or more.

If the same FCC engineer that is recommending this had had the least bit of commercial sales experience on the street he would have known how stupidly impractical this proposal is. We would have to get 95 percent of our small

market TV revenue locally and yet the lowest cost equipment and best coverage is being denied to small markets where low cost operation is a must!

I know of no small market VHF or UHF operation west of the Mississippi that compares with the same comparable investment in AM radio as far as a good business venture is concerned.

Part of the trouble is this "pie in the sky" attitude of the FCC.

Now, as far as UHF in Eugene where I dropped my CP—with a VHF grant there to a consolidated group with a logger mainly picking up the tab, I felt that a broadcaster looking to go into a business venture could not possibly compete with a conversion problem and without any type of network income.

The powerful VHF station in Eugene gets to Salem (about 75 miles). My little UHF percolator would get about half way here and the dealers can't sell all channel sets. (Because of low profit margins in TV set they cut the cost by selling the cheaper VHF set.) Portland also has a UHF conversion problem even tho it is a pioneer UHF area because of strip tuners and then Sackett's second UHF station is still broadcasting to a primary VHF-set area. I am sure he'll tell you some of these same things.

So, as far as allocations go there is no possibility for TV competition here in the Willamette Valley.

The FCC's allocation of channels is a burden on small markets because instead of permitting a fellow to go on the air with low-cost equipment built around the kernel of a low cost ½ kilowatt VHF transmitter they have put the premium on costly power and necessity for conversion of sets already manufactured.

Then, a rebuttal would be "well, if you haven't the money don't go into the TV business." This doesn't hold because it isn't good business, unless one is in the field of broadcasting just to be broadcasting. Commercial broadcasting is a business and when a fair profit can't be made then the business is impractical.

I maintain that UHF-TV is impractical in Oregon for a number of reasons, one major reason being the allocation plan of the FCC allowing no chance for a low-cost competitive TV operation of let's say 500 watts VHF in the three population centers of Salem, Lebanon-Albany-Corballis and Eugene-Springfield.

High programing costs and network's desire to reach only major markets are other factors. The advertising dollar is sliced so thin that actually most retail accounts are relieved when they don't have to consider buying TV.

Under these conditions the 3-year freeze and the theoretical assignment of nationwide TV channels was just a pipedream of a group of engineers who obviously never sold a dollar's worth of advertising time in their lives. And I speak from the standpoint of one who is an engineer himself. The freeze was a fiasco and the allocation plan in Oregon worse. These are my feelings.

Very truly yours,

W. GORDON ALLEN.

St. Louis, Mo., April 20, 1954.

Senator CHARLES E. POTTER,

*Chairman, Subcommittee on Communications,
Senate Office Building, Washington, D. C.*

DEAR SENATOR POTTER: Thank you for your letter of the 10th advising of the change of dates for the scheduled UHF hearings. I will definitely attend these hearings on the dates scheduled.

It has only been a very short time since my recent visit with you. However, within that period 1 of the 3 UHF stations here (KACY) has gone off the air, and the examiner for the FCC has recommended approval of a VHF grant on channel 4. This further jeopardizes the position of UHF in this market. Already the expectation of channel 4 coming on the air has lead the advertisers to immediately cancel shows and time on our station.

Thank you ever so much for your kindness in writing me.

Sincerely yours,

HARRY TENENBAUM.

ALLEN B. DU MONT LABORATORIES, INC.,
Clifton, N. J., April 14, 1954.

HON. CHARLES E. POTTER,
United States Senator,
Senate Office Building, Washington, D. C.

DEAR SENATOR POTTER: In response to your letter of April 7 inquiring as to the reasons for our surrender of the construction permit for our Kansas City UHF station, we are pleased to forward the complete file of the material which we assembled in connection with the surrender. As you can see from that file, the reasons had a base in virtually all of the suggestions made in your letter. The file contains:

- (1) Copy of a letter to the Federal Communications Commission from Dr. Du Mont, announcing the decision to surrender.
- (2) Copy of a letter from Dr. Du Mont to all television broadcasters.
- (3) Summary of reports (from our surveyors and staff) concerning KCTY, Kansas City.
- (4) Copy of a letter from Mr. Bergmann, director of our broadcasting division, to advertising agencies and advertisers.
- (5) Copy of a letter from Mr. Bergmann to Du Mont network affiliates.
- (6) Copy of a memorandum of information on the subject.

I hope the information contained in this file will be of help to you and your committee.

Sincerely yours,

KEETON ARNETT,
General Assistant to the President.

ALLEN B. DU MONT LABORATORIES, INC.,
Clifton, N. J., February 12, 1954.

Subject: KCTY, Kansas City,

FEDERAL COMMUNICATIONS COMMISSION,
Washington, D. C.

(Attention: Hon. Rosel H. Hyde, Chairman.)

GENTLEMEN: It is with reluctance that we must notify you of the intention to close our UHF Television Station KCTY in Kansas City.

When upon short notice we took over the operation of this station from Empire Coil Co. at the end of 1953, we had hoped that the additional impetus of backing by Allen B. Du Mont Laboratories, Inc., with its receiver manufacturing and distribution, its transmitter manufacturing both in VHF and UHF fields, and its extensive television broadcasting operations would provide a more favorable possibility of eventually creating a successful operation of this ultrahigh frequency station in Kansas City. We immediately set out to make a detailed survey of the entire situation in Kansas City. This survey reveals a very discouraging situation, perhaps peculiar to Kansas City, but nevertheless conclusive as to its indication that we must forego further effort toward continued operation of this station.

In brief, operation of KCTY in Kansas City is an unsound business risk under the present circumstances. Our survey reveals the following pertinent factors:

There exists very stiff competition from the three VHF channels 4, 5, and 9 (dual operation) currently operating in Kansas City and the fourth VHF channel 2 in nearby St. Joseph, Mo. For successful competition the present technical facilities of KCTY would require extensive further capital investment to permit moving of the UHF station to the center of the area served and the equipping of facilities to permit extensive local program operations.

An extended period of operation with its consequent costs would be required before there would be even a possibility of reaching a break-even point. Such interim operation would be required so as to encourage the expansion of adequate UHF receiving facilities into the majority of the homes in Kansas City. Presently only a token quantity of the homes are properly equipped with necessary outside antenna facilities to provide good quality UHF performance.

Only when extensive circulation has been achieved would there be the possibility of advertiser support of an operation to a degree which would make the station profitable. These obstacles appear so severe a financial problem that we are forced to conclude that it is impractical to continue KCTY at this time in Kansas City.

We feel, however, that UHF television operations can and probably will prove to be quite successful in certain other areas where a more favorable combination of circumstances can be anticipated.

We contemplate that the programing will be terminated on or about February 28, 1954.

Soon thereafter, we expect to relinquish the formal construction permit and special temporary authorization papers to the Federal Communications Commission, the specific form of tender to be contingent somewhat upon disposition plans for the station's equipment which are currently being determined.

Respectfully yours,

ALLEN B. DU MONT, *President.*

ALLEN B. DU MONT LABORATORIES, INC.,
Clifton, N. J., February 12, 1954.

To All Television Broadcasters:

DEAR SIR: Sound business judgment forces us to the conclusion and decision that we should terminate television broadcast service to the Kansas City area from KCTY (channel 25) on February 28.

As one associated with television broadcasting, you may be interested in the conditions surrounding our original acquisition of the station and the reasons governing our present decision to terminate operations.

In the closing hours of 1953, it became apparent that KCTY was in a precarious position and was in imminent danger of being forced to close down. In the interest of maintaining UHF service in Kansas City while a complete survey of all of the factors contributing to the economic difficulties of the station could be completed, we seized this opportunity to study its problems at first hand. By doing so, we not only acquired knowledge and experience, but were able to extend the period of service to the few in Kansas City who had equipped their sets to receive a UHF signal.

During the time we have operated the station, we have conducted extensive and intensive studies of the local problem. These studies have embraced the fields of economics, civic characteristics, programing, television trade problems, competition, and propagation. We utilized the best-trained personnel and specialists in each field which were at our command.

The reports they made and our careful analyses add up to these conclusions:

1. Nearly all viewers of the Kansas City area, with nearly 400,000 VHF receivers, are content with their choice of programs from three VHF stations which they are equipped to receive.

2. Programs from all four networks (including Du Mont) are received in the Kansas City area on VHF receivers.

3. Nearly all viewers, due to the aforementioned freedom of choice, are reluctant to spend additional sums of money for equipment necessary to receive service from channel 25.

4. Due to the transmitter location several miles outside of Kansas City, outdoor antennas are required to receive the channel 25 signal in most of the service area. Resistance to the use of outdoor antennas appears to be more pronounced than in any other area of which we have knowledge.

5. The VHF services which are available to local advertisers to reach large established audiences appear to be in excess of demand for their use.

6. The operation of UHF broadcasting service in Kansas City faces problems of a local nature not common to all other markets.

7. The opportunity for a fair return on money invested to overcome those problems is not present.

As you can see, our action at KCTY is predicated on circumstances applicable to that area.

We, at Du Mont, will continue our development, design, and production of transmitting equipment for television broadcast stations throughout the television band. We believe the ultimate goal of nationwide television service can be obtained successfully only through VHF and UHF.

We are providing you with a summary of reports our personnel made, as a means of highlighting the abnormal situation in Kansas City and to offer information and conclusions which may be helpful to you.

Sincerely yours,

ALLEN B. DU MONT, *President.*

SUMMARY OF REPORTS CONCERNING KCTY, KANSAS CITY

I. *Technical considerations*

(1) Transmitting equipment: KCTY operates with an ERP of 20 kilowatts, the three local VHF stations with ERP's ranging from 30 kilowatts to 100 kilowatts. A fourth VHF station located at St. Joseph operates with an ERP of 52 kilowatts.

(2) Transmitter location: KCTY transmits from a location approximately 10 miles southwest of the center of Kansas City. The three local VHF stations transmit from locations very close to the center of the city.

(3) Receiving equipment: Not more than 7 percent of the Kansas City population is equipped to receive a satisfactory signal from KCTY, whereas 78 percent of the population is equipped to receive satisfactory signals from the three VHF stations.

(4) Nature of the service area: The rolling nature of the terrain in the area further discriminates against the reception of satisfactory UHF signals, compared to VHF reception.

(5) Aversion to outdoor antennas: Since the inception of television in Kansas City in 1949, a very strong local anti-outdoor-antenna campaign has been in effect. This campaign has been more detrimental to UHF than VHF because the UHF field is considerably weaker than the VHF field.

(6) UHF signal strength: The survey group found through measurements that adequate signal strength exists over substantially the entire metropolitan area of Kansas City to permit satisfactory reception of KCTY providing good UHF installation practices, including an outdoor antenna, are employed.

II. *Economic considerations*

(1) Competitive VHF stations: There are 3 VHF stations operating in Kansas City, plus a fourth VHF station in St. Joseph, less than 50 miles distant, all 4 providing service to Kansas City.

(2) UHF conversion problem: It has proven very difficult to convince the television viewer that he should make a conversion investment of from \$50 to \$100 merely to receive a fifth television channel. As noted above, after 8 months of operation, only 9 percent of the television owners have seen fit to make the conversion.

(3) Programming: The 4 VHF stations carry most principal programs of the 4 major networks. Hence, except for locally-originated programs, KCTY could only duplicate some of the programs already available.

(4) Station revenue: Due to the very limited audience, it has proven extremely difficult to persuade advertisers, either locally or nationally, to utilize the facilities of KCTY.

In evaluating the size of the investment required to make KCTY competitive in all phases of its operation, against the probable ultimate earning capacity of the station, it can only be concluded that such an investment is economically unsound.

It should be emphasized that the items listed above are peculiar to, and apply specifically to, the Kansas City market. As is well known, UHF broadcasting is operating very successfully in many parts of the country, where conditions are more favorable.

We, at DuMont, are firmly convinced of the long-term need and the ultimate success of UHF broadcasting. We are backing this conviction with the resources of all the divisions of the laboratories, including research, manufacturing, and broadcasting.

LETTER TO ADVERTISING AGENCIES AND ADVERTISERS FROM TED BERGMANN

Personalized letter printed on Du Mont television network stationery

FEBRUARY 13, 1954.

Dear _____:

Perhaps you missed the announcement, issued back in the Christmas holidays, of Du Mont's purchase of Station KCTY in Kansas City. I certainly can't expect that you will remain long unaware of our decision to suspend that operation on February 28. It was my feeling that you as a buyer of advertising are entitled to all the facts leading to that decision.

We took over in Kansas City on the very eve of a scheduled surrender of its license, to avert, if possible, loss of service to our network clients already using the station, a lessened availability of programing to viewers in that area and the possibility of inferences being drawn—however mistakenly—of a failure chargeable to the shortcomings peculiar to the ultrahigh frequency bands.

In the 6 weeks since that time, we have invested many man-hours of study and thousands of dollars in surveys. We have analyzed advertising support at both network and local levels, listening habits in the whole Kansas City area, the competitive situation and the public attitude.

We are now convinced that neither the viewers interest nor the future of UHF would be served by perpetuating, under the spotlight of publicity, an operation which through a combination of conditions applicable only to this market and situation cannot be justified as either investment or public service.

Chief among those obstacles are a low rate of set conversion and the public's reluctance, under pressure of a civic campaign, to mount outdoor antennas capable of delivering a channel 25 signal to the great majority of homes. The availability of ample television programing from three existing VHF channels within the market and a fourth with substantial penetration from nearby St. Joseph, assures both Du Mont advertisers and the viewing public of adequate continuing service in this important area.

The Du Mont position with respect to UHF remains unchanged, and is in no way involved in our decision. It is our continuing belief that United States television cannot furnish advertisers and set owners a truly national and competitive service without the utilization of the ultrahigh frequency.

We hope by our action in Kansas City to help, rather than hinder, this vitally important development.

Sincerely,

TED BERGMANN.

LETTER TO DU MONT AFFILIATES FROM TED BERGMANN

Personalized letter printed on Du Mont television network stationery

FEBRUARY 13, 1954.

Dear _____:

You have probably read in the trade press the announcement that Du Mont is ending its operation of KCTY in Kansas City, and surrendering the CP and STA for the station, effective February 28. We believe, as a Du Mont affiliate, you are entitled to an explanation of our action in this situation.

We took over KCTY on the very eve of a scheduled surrender of its license, on literally less than 48 hours' notice. We did this to avert a precipitated loss of service to our clients using the station, to prevent a lessening of programing service to viewers in that area, and to prevent any inferences being drawn, however mistakenly, of failure chargeable to any alleged shortcomings of UHF.

In the six weeks since that time, we have invested many man-hours of study and thousands of dollars in surveys. We have analyzed advertising support at both network and local levels, listening habits in the whole Kansas City area, the competitive situation and the public attitude.

As a result of these studies, we are now convinced that neither the viewer interest nor the future of UHF will be served by perpetuating a situation which, due to a combination of conditions peculiar to this market, cannot be justified either as an investment or as a public service.

Chief among these obstacles are a low rate of set conversion and the public's reluctance, under pressure of a civic campaign, to mount outdoor antennas capable of delivering a satisfactory signal. To overcome this obstacle would entail moving the present channel 25 transmitter to a completely new location,

with greatly increased power, and with proportionately great additional investments. From a sound business viewpoint, taking into consideration the three TV services which now exist locally and the one additional service which has substantial penetration from nearby St. Joseph, such additional major expenditures to bring KCTY up into a competitive position just could not be justified.

The Du Mont position with respect to UHF remains unchanged and is in no way involved in our decision. It is our continuing belief that United States television cannot furnish advertisers and set owners a truly national and competitive service without the utilization of the ultrahigh frequencies.

We hope by our action in Kansas City to help, rather than hinder, this vitally important development.

Sincerely :

TED BERGMANN.

MEMORANDUM OF INFORMATION

TELEVISION STATION KCTY, CHANNEL 25, KANSAS CITY, MO.

On December 31, 1953, Allen B. DuMont Laboratories, Inc., purchased television station KCTY, channel 25, a UHF station, in Kansas City, Mo., from the Empire Coil Co.

HISTORY OF KCTY

Television station KCTY has been on the air since June of 1953. The owner was the Empire Coil Co., operator of the first commercial UHF station, in Portland, Oreg. When KCTY made its debut, there was but one other station operating in Kansas City, prefreeze WDAF-TV, channel 4. At the time the station began operations, it appeared there would be no other television station competition in Kansas City, for some time, as other applicants for VHF channels seemed to be headed for time-consuming hearings before the FCC. This situation changed quickly as a result of mergers and drop-outs, and KCTY soon found itself competing with three Kansas City VHF stations plus an additional VHF station in nearby St. Joseph, Mo. Despite intense promotion and the expenditure of a great deal of money, the station owners were faced with the prospect of continuing heavy losses. At the time of the transfer to Du Mont it is estimated that \$750,000 had been expended on behalf of KCTY in equipment and operating losses. The station was offered for sale and termination of operations was threatened.

(For use on or after 6:30 p. m., e. s. t., February 12, 1954)

CIRCUMSTANCES OF TRANSFER TO DU MONT

In the closing hours of 1953, the suggestion of effecting a transfer to Du Mont was first made by the Empire Coil Co., with the intimation that the station would be closed and its assets liquidated if the transfer were not completed on December 31.

In the interest of television broadcasting, Du Mont felt that an assessment of the situation should be made to see whether this UHF service could be salvaged.

There was not sufficient time to collect comprehensive facts and data about KCTY, the Kansas City market, or the competitive situation. Nevertheless, Du Mont agreed to the transfer so that service could be continued while a thorough analysis of the problem was made. There were two alternatives: Allow the station to go out of existence immediately, or agree to take it over, hoping that a thorough analysis of the facts would show a means for its permanent operation.

COMPREHENSIVE SURVEY IS MADE

Immediately after the transfer, Du Mont dispatched to Kansas City a team of experts in station operation, propagation, service, programing, advertising, and economics. Their purpose was to collect facts and thoroughly analyze the Kansas City situation so that Du Mont could determine its future course.

An exhaustive study of all findings revealed that continuation of television broadcasting by KCTY would be economically unsound.

TELEVISION BROADCASTING AT KCTY TO BE DISCONTINUED

The only possible sound decision for Du Mont to make as a result of this survey was to discontinue service from KCTY and to liquidate the station's assets. The station, therefore, will cease operation on February 28, 1954. The station's employees have been notified that the station will close.

THE ECONOMICS OF UHF IN KANSAS CITY

Du Mont Laboratories is sensitive to the fact that 2 of every 3 possible allocations for television stations are in the UHF portion of the spectrum. It realizes that a competitive television system on a national basis is dependent upon financially successful UHF operations. As a network broadcaster—as the pioneer company in television—as a leading supporter of UHF broadcasting, Du Mont is aware of the need to ascertain the strength and weakness of problems confronting UHF broadcasters. Du Mont's surveys show that problems local to Kansas City render UHF operation there uneconomical at this time.

Signal reception

Station KCTY uses a 1-kilowatt transmitter with its antenna located 10 $\frac{1}{4}$ miles from the center of the city. Acceptable signals are received in most of the metropolitan area by those receivers that have correctly installed outdoor UHF antennas.

Antennas

An important factor in Kansas City which makes it a difficult area for UHF television is the aversion of the public to outdoor antennas. This is the outgrowth of an inspired program to develop civic pride, which is manifested in this way to a greater extent than is generally the case.

Signals from four VHF stations can be received in Kansas City with varying reception quality on indoor antennas. UHF signals on channel 25 are received in only one section of the city with indoor antennas. UHF, in most instances, must have correctly installed outdoor antennas.

Set conversion

Dependent upon what survey is used as the basis for figures, the number of sets with capabilities to receive UHF are 50,000 or 58,000. However, a realistic appraisal of those receivers which can actually receive the channel 25 signal in a satisfactory manner is but a few thousand. With outside antennas numbering less than 5 percent of the homes (25,200), UHF outside antennas do not number more than 1 out of each 20 outside installations or a total of 1,250.

Cost factors

There is in Kansas City a situation in which the consumer has been educated against outdoor antennas and is able to receive signals from four VHF stations without taking on the extra cost of an antenna installation. Add to this the uncertainty generated by the advent of color television, and we find that the average consumer in Kansas City is buying television without incurring the added expense necessary to receive channel 25.

Competing stations

In addition to channel 25, the Kansas City area is presently served by station WDAF-TV, channel 4, which presents local and NBC programs. It is served by station KCMO-TV, channel 5, which presents local and ABC programs. It is served by station KMBC-TV, and WHB-TV, channel 9, on a share-time basis which present local and CBS programs. The area gets further service on VHF from station KFEQ-TV, channel 2, in nearby St. Joseph, Mo., which presents Du Mont programs and CBS programs. The Kansas City area is receiving very complete service on four different VHF channels with presentation of both national and local programs. Consumers in the area, because of factors mentioned above, show little inclination to spend the necessary money or to change their thinking about antennas in order to receive a fifth service.

DU MONT AND UHF

The rate of receiver conversions to UHF in other markets appears to be ahead of the rate of conversions in Kansas City, because of the peculiar local factors mentioned. Many UHF stations are currently operating at a profit and many others are approaching the break-even point. There is a direct relationship

between the success of a UHF station and the extent of established VHF competition. In Kansas City, the competing services number four.

The company believes that the Kansas City area is not a true proving ground for development of UHF possibilities. It believes, however, that UHF television operations can and will prove to be successful in other areas where a more favorable combination of circumstances can be anticipated.

Du Mont will continue to develop, design and produce UHF broadcasting and receiving equipment for use in achievement of a national competitive television system.

ASSOCIATION OF TELEVISION SERVICE COMPANIES,
St. Louis, Mo., April 20, 1954.

Hon. CHARLES POTTER,
Senate Office Building, Washington, D. C.

DEAR SIR: We in St. Louis view with considerable concern the future of UHF television in St. Louis in particular, and all over the country in general.

UHF channels 14, 30, 36, 42, and 54 have been assigned to the Greater St. Louis area but as of now, 30 and 42, because of the economic aspect, have not seen fit to go on the air. Channel 14 went off the air a couple of weeks ago and are perhaps insolvent. The channel 14 situation is a result of their inability to obtain and televise network programs.

It appears now that channel 4 (UHF) will be on the air very shortly. It is the consensus here that this would mean the end of UHF in this area and the resulting effect of relegating approximately \$25 million in UHF equipment to the scrap heap. There are about \$15 million in UHF converters, new sets and aerials in the hands of the public, about \$7,500,000 in the stocks of retail dealers and wholesale distributors, and about \$2,500,000 invested in the 3 UHF transmitters here.

The public did not complain too strongly when FM radio died here, but if the above mentioned UHF tragedy occurs here, it would not only make it impossible to sell the public any new radio or television ideas, but may ruin financially many places of business depending on television for their income.

Something must be done immediately by the FCC to prevent the failure of the UHF system. Keeping new VHF stations off the air in UHF areas until UHF is firmly established is one answer. Another is granting network programs to UHF stations. Although CBS has no basic TV affiliate in this area, channel 14 was unsuccessful in getting any CBS programs. Had they obtained CBS programs, we are convinced they would be successfully operating today.

Can you do something to prevent a "\$25 million UHF bust" in St. Louis? Time is of the essence! May we have your thought on what can be done and when it will be done?

Very truly yours,

VINCENT J. LUTZ, *President.*

Senator POTTER. In addition, I want to incorporate into the record at this point the letters and telegrams that have been received from various parties who are unable to testify here as witnesses.

(The material referred to is as follows:)

KXLF—PACIFIC NORTHWEST BROADCASTERS,
Butte, Mont., May 14, 1954.

Senator CHARLES E. POTTER,
Senate Office Building,
Washington, D. C.

DEAR SENATOR POTTER: I wish it was possible for me to attend the hearing you are having on UHF. UHF is definitely a problem child, but so is television in small markets such as we have in Montana. VHF is not doing so well in some of these small markets. When you finish your UHF hearing you may want to find a way to assure the people in small markets of continued television and of television comparable to that supplied the people in metropolitan areas.

When program costs are several times that of what we can sell our station time for, we approach the same problem that the UHF boys have, and someone may have to look around to try to find out what the answers are going to be before too many of these small market stations pass by the board.

Sincerely yours,

ED CRANEY.

MERIDIAN, MISS., May 19, 1954.

Senator CHARLES S. POTTER,
United States Senate, Washington, D. C.:

Local situation typical plight UHF stations over nation. WCOC-TV, channel 30, on air with very latest GE equipment with 252,000 watts. WTOK-TV, channel 11, on air with second-hand equipment and 31,200 watts. Stations located side by side highest point all this area. Antennas equal height—maximum allowed by CAA. WCOC-AM on air since 1926 and Mississippi first station. Operated 5,000 watts power day and 1,000 watts night on 910 kilocycles and has long record outstanding public service. Has been CBS radio affiliate 18 years.

WTOK-AM on air 1946 and operates 250 watts on 1450 kilocycles. Despite these conditions WTOK-TV has all four networks, although we made strenuous efforts to obtain network affiliation. This precludes our selling many national and regional spot accounts, as they require network stations. Greatly appreciate your efforts in behalf UHF and urgently ask that early action be taken to bring assistance to stations facing this almost unsurmountable handicap. To have all sets all channel would also be great aid.

Best regards:

WITHERS GAVIN,
Manager WCOC-TV.

FRESNO, CALIF., May 22, 1954.

Senator POTTER,
Senate Communications Subcommittee, Washington, D. C.:

Understand your committee considering new TV freeze. Which will further delay start of the only VHF station within 100 miles of this city. We believe further delay is unfair and unjustifiable.

GORDON DUNN,
Mayor, City of Fresno.

PORTSMOUTH, VA., May 20, 1954.

HON. CHARLES POTTER,
Senate Office Building, Washington, D. C.

DEAR SIR: First let me thank you for your interest in the problems facing UHF stations today, I was hoping that the Federal Communications Commission would do something to remedy the defects of their sixth report, to date no changes or recommendations have been made.

Most of the UHF stations are at present, operating with large losses and cannot continue under these conditions. This comes about from the fact that the station cannot secure revenue from advertisers if there is a VHF station in the area.

A UHF station cannot compete the VHF, this is due to the difference in coverage, inefficient operation of the UHF equipment and lack of development in tubes and items operating in the UHF band. Even if the tubes were developed, they would cost more to operate and again, could not compete with VHF.

I feel that it was the duty of the Commission to allocate a television band for this service instead of three, by using one band for television, the manufacturer would have less problems in designing equipment and antennas, also, the one band would equalize the facilities and competition would then be based on a program basis which I believe is the way it should be.

In view of the above, I think that there should be no mixture of UHF and VHF in the same markets. That there should be an immediate freeze to further study the situation and that network contracts should be investigated to determine a fair arrangement with regards to programs and revenue.

I am familiar with many UHF operations and have based the above on my experience, I tried to be as brief as I could yet give you the important points. Should you be interested in a complete evaluation giving facts, experience and etc., I would be only to glad to cooperate.

Respectfully yours,

JACK SIEGEL,
Radio Engineer.

WPAG-TV, WASHITENAW BROADCASTING Co.,
Ann Arbor, Mich., April 10, 1954.

SENATOR CHARLES E. POTTER,
United States Senate, Washington, D. C.

DEAR SENATOR POTTER: On the basis of the sixth report on final television allocations, our company invested a large sum of money, as well as time and effort, in the construction of a UHF station in Ann Arbor. WPAG-TV was the first UHF station on the air in Michigan, beginning operation in April 1953.

We have made a sincere effort to make the station serve the needs of the community. A service that no other TV station is able to perform and a service that this community can receive only under a competitive TV system.

Our entire effort is in jeopardy at the present time by two actions of the FCC. One was allowing VHF stations to go to superpower before UHF stations were underway. With Detroit and its three VHF stations 40 miles east of us, this resulted in the refusal on the part of the three major networks to feed programs to our station, even at the request of sponsors. Even programs that our station has been willing to carry at no charge to the sponsor or network have been refused by the networks. In addition, one Detroit station has attempted to influence film distributors to refuse sale of films to us, because of the Detroit stations' coverage of this market. This, in spite of the fact that Detroit and Ann Arbor are two separate markets, 40 miles apart.

The second action of the FCC, threatening the existence of UHF, is the juggling of the VHF portion of the sixth report by the FCC. I refer specifically to Jackson, Mich., 38 miles to the west of Ann Arbor. A UHF channel was assigned to Jackson, under the sixth report, and a grant was made. Before construction of the station was started, the FCC began consideration of a change in allocation to assign VHF channel No. 10 to that area. Now it has been allocated to that area and the UHF grantee returned his grant to the FCC. There will undoubtedly be a long hearing on the channel No. 10 grant, and the Jackson area, which would have had local TV service last year, will not have it for some time. UHF is dead in Jackson, and if and when the VHF station is granted there, our UHF station in Ann Arbor will be encircled by VHF stations.

Many advertisers appear so certain that UHF is doomed that they refuse to consider the use of a UHF station, regardless of individual conditions. The door is closed on any consideration of an individual station's merits, merely because it is UHF.

This condition is increasing and I believe it will spell the end of UHF unless drastic action is taken immediately. Any long drawn-out consideration of the problem will probably result in the closing of many UHF stations. I thereby urge that a halt be called at once to any further action by the FCC in all but those markets where there is no TV service whatsoever, and that consideration be given to reduction in power of superpowered VHF stations. The present trend in VHF power will lead to domination of television by a few.

Such an action would inspire UHF station operators to continue the battle and would result in renewal of interest in UHF on the part of advertisers, networks, and equipment manufactures. Only by the establishment of many stations across the country can people have a worthwhile television system. Domination of television by a few stations will not serve the public interest.

Very truly yours,

EDWARD F. BAUGHN,
Vice president and General Manager.

ANN ARBOR, MICH., May 7, 1954.

HON. CHARLES E. POTTER,
United States Senator,
Washington, D. C.:

Urge immediate freeze of all TV applications until UHF-VHF problems can be studied and reasonable solution of TV allocations can be realized.

VAN C. COOK.

WKAP, Inc.,
Allentown, Pa., March 8, 1954.

Hon. Ed. C. JOHNSON,
Senate Office Building,
Washington, D. C.

DEAR SIR: I would like to commend you upon your untiring efforts in trying to keep monopoly out of radio and television fields.

We are the permittees of a UHF station, channel 39, here in Allentown, Pa. At the present time we are not on the air, but hope to be some time this summer or early fall. The present wave of cancellations of UHF grants can certainly upset one's thinking.

We feel that the Allentown-Bethlehem-Easton area is an individual metropolitan section in itself and that in the long run its people, schools, and businessmen need the advantages of television. At present there is 1 station in Bethlehem, which is connected with NBC-TV Network, and 1 in Easton, which is connected with ABC-TV and Dumont networks. So we naturally thought that our connection would be with CBS-TV. However, when we came to talk to CBS-TV about the situation we were told that they believed that WCAU-TV in Philadelphia covered the area. This has been proven through engineering surveys not to be true.

However, they do send in a picture here. If you live by the FCC standards the picture is not a good picture, in fact it is nowhere near noise free. We even appealed to the head of the engineering department at WCAU-TV to give us the green light to get CBS-TV Network. However, we ran into the old radio claims that they were selling the coverage of Allentown and Bethlehem to their national advertisers and, therefore, they did not want to be surrounded by smaller CBS-TV stations. This was approximately the gist of the conversation.

Consequently, it looks like Allentown (a town with 106,000 population) will have UHF stations too, but on an independent basis. We would not feel too bad facing the prospect of losing money if the UHF equipment, such as transmitters, had the same penetrating qualities as the VHF, and if the cost of operation was not so rough as it is in UHF. Add to that the lack of sensitivity in receivers and you can possibly have trouble.

At the present time there is one CBS-UHF located in Reading, Pa., which does not have a good signal in the Allentown-Bethlehem-Easton area. However, the thing that we cannot understand is why Reading should get CBS-TV Network, but Allentown-Bethlehem market (which is a bigger market) is frozen out.

In other letters we are urging other Senators to cooperate with you in your investigations.

Again I want to say thank you, for a job well done.

Sincerely,

QUEEN CITY TELEVISION Co., Inc.,
O. R. DAVIES, *Manager*.

GRANCO PRODUCTS, INC.,
Long Island City, N. Y., May 5, 1954.

This is a confirmation of a telegram sent May 4, 1954.

HON. CHARLES POTTER,
*Chairman, Communications Subcommittee of the
Senate Interstate Commerce Committee,
Washington, D. C.*

MY DEAR SENATOR: I am taking the liberty of writing to you with regard to the pending ultrahigh frequency television hearings scheduled to be held by your subcommittee. As the head of a small company, whose entire commercial life has been devoted to the development, manufacture and sales of ultrahigh frequency equipment, I feel that immediate steps should be taken to do everything possible to strengthen and improve ultrahigh frequency television service, and dispel the atmosphere of gloom and pessimism which is growing within the industry. Because of my close association with the UHF market, I have been able to observe the rapid and steady growth of this service from its inception by the Federal Communications Commission, and have also seen a recent alarming tendency to falter and deteriorate because of both economic and technical reasons. This tendency can be halted if serious measures are taken to eliminate the many unfair competitive practices which face the ultrahigh frequency television stations throughout the country.

Specifically it is my belief that there are three primary causes for the lack of success of many of these UHF stations.

First is the practice of permitting a single television station to monopolize all of the desirable network programs channeled into many reception areas serviced by both a VHF and UHF station. In effect, this gives the established VHF station priority of choice over all desirable programs and leaves only left-overs for the weaker UHF station. By keeping these good network programs from UHF stations most of the incentive on the part of the public to receive these stations is eliminated. It appears to me that the only real solution to this problem is to eliminate this monopoly and enforce competition by a permanent equitable division of network programs among all stations both VHF and UHF, competing for the same market. Once such a division has been made the UHF stations can securely build a loyal viewing audience based upon good programing.

Another of the practices which has caused considerable trouble among UHF stations is that of allocating a new VHF channel in their primary service area. While there is no doubt that these stations are desirable and must be assigned eventually to these areas, any assignment following so soon after a UHF station has gone on the air serves only to multiply the technical and economic problems of the UHF station. In many cases these problems have resulted in the bankruptcy or near bankruptcy of these stations. If it is the intent of your committee and the Federal Communications Commission to foster the development of UHF television service, it would appear that a delay in the granting of VHF construction permits in UHF service areas should be given serious consideration. Such a delay of possibly 1 year would permit the UHF stations to solve many technical problems which face them in obtaining reliable coverage of their service areas, as well as the economic problems of building a viewing audience and obtaining advertising income. They would then be in a much better position to compete directly with any VHF competition which at present starts with all the odds in its favor.

Another serious problem which continuously faces an established UHF station is the recent trend among VHF stations toward increasing their transmitting power. In many cases this has resulted in the introduction of unforeseen competition from stations which normally have never satisfactorily penetrated into the UHF service areas. While I realize that such power increases are desirable and necessary, I feel that the timing is wrong. Again I urge that these power increases be delayed to permit the UHF service to strengthen itself before exposing it to the overwhelming competition of strong long-established VHF stations.

There are undoubtedly many other problems which your committee will uncover during this hearing; however, it is my belief that most of these are characteristic of any pioneering effort to establish a new service or industry. The industry has demonstrated its willingness to assume great risks and overcome many technical obstacles which were anticipated. However, it is unfair to expect it to cope with the problems outlined above. Your hearings coming at this time can serve as a much needed "shot in the arm" by first uncovering the facts and then demonstrating its serious intention to do everything in its power to aid the industry. This would restore the confidence of all of the many companies and individuals who are devoting their time and money toward building a strong and reliable national television service. It would be foolhardy at this time, after encouraging the industry to make such a large investment in ultra-high-frequency television, to force this service to get along on its own resources. We must recognize that it is still in its infancy and repeated aid and encouragement will be necessary before it can stand on its own feet and provide a complete nationwide television service equal to radio broadcasting.

Very truly yours,

HENRY FOGEL, *President.*

WICS TELEVISION,
Springfield, Ill., May 13, 1954.

HON. CHARLES A. POTTER,
*United States Senate, Chairman,
Subcommittee on Communications, Washington, D. C.*

DEAR SENATOR POTTER: Thank you for your reply of April 30 to my letter of April 27, 1954. You asked for material or data that would be helpful to the committee.

I enclose herewith a recent Videodex Research survey taken from April 1-15 showing the comparative reception in the 9 primary counties receiving our sig-

62 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

nal. Note that WICS, channel 20, heads the list of stations in the percent of all TV homes in those counties receiving various channels. This was a considerable increase over the last Videodex report taken the 1st of January. As I told you in my last letter, we have about 95 percent conversion in our home county.

I do hope that this will give you an indication of the ability of a UHF operation to do a community job. Thank you for your consideration.

Sincerely yours,

MILTON D. FRIEDLAND, *General Manager.*

SPRINGFIELD, ILL.

1. Range of counties currently receiving the UHF signal from Springfield, Ill.:

Sangamon	Logan	Cass ¹
Christian	Menard	Morgan
Macon ¹	Mason ¹	Macoupin ¹

¹ Partial.

2. 70.1 percent of all TV homes in the above range of counties do now receive UHF.

3. Percent of all TV homes in the above range of counties now receiving channels below:

	<i>Percent</i>
Decatur, Ill., UHF, WTVP	32.4
Champaign, Ill., VHF, WCIA	50.5
Davenport, Iowa, VHF, WOC	6.0
St. Louis, Mo., VHF, KSD	54.7
Springfield, Ill., UHF, WICS	66.9
Rock Island, Ill., VHF, WHBF	4.4
Quincy, Ill., VHF, WGEM	8.2
Hannibal, Mo., VHF, KHQA	5.7
Peoria, Ill., UHF, WEEK	7.2
Peoria, Ill., UHF, WTVH	4.3

WICS, test pattern, September 17, 1953; began programing, September 30, 1953.

WICS TELEVISION,
Springfield, Ill., April 27, 1954.

Hon. CHARLES A. POTTER,
United States Senate, Washington, D. C.

DEAR SENATOR POTTER: Station WICS, channel 20, operating out of the State capital market of Springfield, Ill., is indeed concerned with the trend of UHF television development and particularly with the pending hearings before your subcommittee of the Senate Interstate and Foreign Commerce Committee next week in Washington.

We wish to join with the numerous UHF stations in respectfully requesting favorable consideration of the UHF problem and in urging action to alleviate the mounting seriousness of the problem with positive action in the near future.

WICS is extremely interested in an equalization of facilities between UHF and VHF, particularly in markets such as ours. We would like to go on record as favoring one class of service. For your information, WICS is the only UHF station in Springfield, Ill. We have been on the air since September 30, 1953. We are not in distress but rather have enjoyed a steady increase in our business since our inception. Fortunately, we are in flat terrain and therefore have no physical barriers to the penetration of our signal and also are in an enviable position with respect to conversions to UHF. At this writing we have approximately 95 percent conversion in our home base. The potential looks good.

However, there is an application for a VHF channel 2 contested by 2 competitive radio stations, one a CBS affiliate and the other an NBC radio affiliate. We currently have a primary optional affiliation with NBC and secondary affiliations with both Du Mont and ABC. Needless to tell you, we do not have a firm contract with any of the networks, although we would very much prefer to have a firm 2-year affiliation with NBC. It is obvious that the networks are awaiting disposition of the grant of channel 2 in our market before committing themselves to any definite firm contracts with our UHF operation, despite the fact that we are doing

a fine job of serving the diversified interests in this community composed of commerce, agriculture, industry, and government.

This is one of our problems, Senator Potter; namely, one of basic insecurity with network affiliations for the future.

In addition the network picture is complicated further by the fact that VHF channel 3 operating out of Champaign, Ill., on a regional-concept basis covering a large area with its full power and close to 1,000-foot tower, definitely hurting UHF stations in Danville, Bloomington, and Decatur, as I understand it. Fortunately for us they have been unable to sell local advertisers in our market but without a doubt WCIA channel 3 in Champaign is definitely hindering us from obtaining a number of national network programs and spot business with their claims that they are covering our area. It wouldn't be too bad if they only had a CBS network affiliation, but they managed to get an NBC affiliation as well and have obtained and are continuing to obtain NBC clients to our detriment.

I wish to emphasize that where a UHF station is first in the market, such as in our case, it can develop television for that market and serve the community interests to the utmost if it is not impeded by a VHF competitor attracting strong networks and the national revenue necessary to a successful operation. As long as a feeling prevails among the large advertising agencies, and this feeling evidently does exist, that UHF generally is inferior to VHF, then the UHF station has a tremendous uphill fight on its hands against unfair odds. A UHF station can operate successfully if allowed to compete in a market with another UHF station, and particularly without the competition of a powerful VHF outlet situated in an area of relatively small population yet serving a large region.

Although the position of WICS channel 20 Springfield is now very good, we cannot point to the future with stability without a firm network affiliation with a strong network that affords top network programming. And without a doubt the public wants to see the popular network shows, of course, combined with good local programming; but a station must be able to offer strong network shows.

In conclusion, it is my opinion that immediate action must be taken to protect the UHF stations in their growth to achieve stability. Toward that end I feel that one class of service would be highly desirable. I look forward with great interest to the scheduled hearings and do hope that constructive action in favor of UHF telecasting materializes from them.

Yours very truly,

MILTON D. FRIEDLAND, *General Manager.*

WRITTEN STATEMENT OF ANDREW G. HALEY OF THE LAW FIRM OF HALEY, DOTY & SCHELLENBERG, WASHINGTON 6, D. C., ON BEHALF OF VARIOUS TELEVISION STATIONS AND APPLICANTS ON THE JOHNSON BILL, S. 3095

I am Andrew G. Haley and I am appearing on behalf of Sir Walter Television Co., permittee of WNAO-TV, Raleigh, N. C.; Mid-America Broadcasting Corp., permittee of WKLO-TV, Louisville, Ky.; Pioneer Television, Inc., permittee of WFIE, Evansville, Ind.; Prairie Television Co., permittee of WTVP, Decatur, Ill.; Pursley Broadcasting Service, permittee of WKAB-TV, Mobile, Ala.; Southwestern Radio & Television Co., permittee of KFSA-TV, Fort Smith, Ark.; University of Southern California, Allan Hancock Foundation, permittee of KTHE, Los Angeles, Calif.; and Great Lakes Television Co., permittee of WSEE, Erie, Pa.

As I understand the announcement of the hearing, the only formal legislation definitely to be considered is S. 3095, a bill introduced by Senator Johnson of Colorado to regulate multiple ownership of television broadcast stations. On May 13, 1954, Senator Bricker introduced S. 3456, a bill which would empower the Federal Communications Commission to regulate radio and television networks. This bill may also be considered by the subcommittee, but because of the recent date of filing and the great importance of the measure, I am not prepared in this brief statement to submit comments thereon.

I understand that this hearing is to be vitally concerned with gathering and assimilating facts for the guidance of the subcommittee and of the Federal Communications Commission. It seems to me that the great body of facts so carefully and laboriously gathered, assembled and considered by the Commission in the hearings, which formed the basis for its sixth report and order, should not be lost sight of and, in fact, should be available in a convenient form for the members of this subcommittee. Accordingly, I submit as appendix I to this statement a compilation of the data on utilization of the VHF band for televi-

sion considered by the Federal Communications Commission in acting upon and promulgating its sixth report and order in the matter of the amendment of section 3.606, etc., and, as appendix II, the data on the same subject with reference to the utilization of the UHF band, similarly considered by the Federal Communications Commission. The data submitted in these appendixes cover the statements made by witnesses who appeared and who voiced significant opinions—the brief condensations cover thousands of pages of record, but I most sincerely believe that every important opinion and fact is set forth therein.

The most casual reading of appendixes I and II will reveal that practically every problem that now exists was anticipated and considered during hearings before the Federal Communications Commission and numerous solutions to the problems were suggested. The value of these compilations, to my mind, reposes in the proposition that the committee will immediately have in a condensed form the facts heretofore considered by the Commission so that the committee will be able immediately to give its attention to new facts and new solutions, combining the wisdom of the past with the thinking of the present in the most convenient manner.

And now I will touch for a moment on the basic problem, namely, the preservation of UHF televising. This is a matter of supreme importance in the field of mass dissemination of intelligence and entertainment, as the utilization of the UHF spectrum is essential to a nationwide, competitive, television broadcasting system. The subcommittee will hear facts, opinions and proposed solutions from many competent persons, and we will limit observations to the following four points:

We are of the view that the problems of UHF televising would be significantly aided by the Commission relaxing its policy imposing severe limitations on television-station operated microwave relay links, so that network or multiple station program service could be transmitted to the users quicker and on a much cheaper basis than is now afforded by the great common carriers.

We believe that the Commission should authorize booster or satellite stations to penetrate blank spots in authorized UHF coverage areas.

We are of the view, without commenting on the wisdom of regulating the number of stations that any party may own, that UHF television would be aided by any regulation such as was proposed by the Federal Communications Commission in its proposed rulemaking of December 23, 1953, or as is proposed by Senator Johnson in S. 3095. In brief, any regulation that would give UHF a premium position, is of necessity good for UHF.

Finally, we believe that Senator Johnson's proposed measure to eliminate the 10 percent excise tax on UHF receiving sets and components, is a very practical step in aiding UHF circulation.

APPENDIX I

A COMPILATION OF DATA ON UTILIZATION OF THE VHF BAND FOR TELEVISION CONSIDERED BY THE FEDERAL COMMUNICATIONS COMMISSION IN ACTING UPON AND PROMULGATING ITS SIXTH REPORT AND ORDER IN THE MATTER OF THE AMENDMENT OF SECTION 3.606 OF THE COMMISSION'S RULES, ETC. (FREQUENCY ALLOCATIONS FOR TELEVISION BROADCAST STATIONS)

INTRODUCTION

The Commission has before it extensive testimony in dockets 8736, 8975, and 9175 on standards and allocations in the VHF band. Of particular importance are the general comments submitted at the hearings on July 26-28, 1948, on the proposed revised allocation plan of May 6, 1948; the testimony submitted at the September 13-14, 1948 conference with industry; the testimony submitted at the November 30-December 3, 1948 engineering conferences; and the report of the Ad Hoc Committee, released by the Commission on June 8, 1948.

The testimony in the above records has been analyzed and classified into the subjects to which it is directed, i. e., tropospheric effects, terrain effects, synchronization, directional antennas, etc., and the annexes attached hereto have been prepared on each of the subjects. In addition to the testimony of record, an annex has also been prepared on reported experiences obtained in the use of carrier offset as a means of reducing interference between stations. Analyses have also been made (annexes S and T) of pending applications and authorized stations (as of June 17, 1949) in terms of height and power requested and assigned.

ANNEX A. CONSIDERATIONS THAT ENTERED INTO THE ADOPTION OF THE EXISTING VHF ALLOCATIONS PLAN AND PRESENT CONCERN OVER IT

Adair (consulting engineer)

"In its original allocation report the Commission proposed the assignment of four channels to an area in order to permit assignment of a reasonable number to the smaller cities and to maintain a mileage separation which provide service to adjoining rural areas. The demands of the larger cities caused the Commission to change the number to seven. This required that either the smaller cities be denied television facilities or that service of each station be severely restricted. In general both of these undesirable conditions resulted. At the time of the allocation the Commission indicated this was a temporary allocation and recognized that tropospheric propagation would at times cause interference (and service) considerably beyond that indicated by the Commission's curves. While there is considerably more quantitative data available now, in my mind it merely substantiates the order of interference which was originally expected.

"In my opinion, the present concern over tropospheric effects has arisen more because of a somewhat changed viewpoint as to the meaning of the allocation than to any startling discoveries as to tropospheric propagation" (Tr. 1705-1706).

"The original concept of the tables of the allocation of channels was a guide to facilitate the selection of channels and to provide for an orderly allocation in so far as possible.

"It was expected that there would be changes and that the gaps would fill in as the need developed and applications were made, each application being considered on its merits.

"If I understand the present concept the allocation is considered as fixed and changeable only by an administrative hearing which has permitted a great emphasis to be placed on tropospheric effects and which at this date if applied would be almost a reversal of policy and would deny many areas of service" (Tr. 1706-1707).

"In 1945 when we had this problem we faced the same thing. In fact, the figures we have been kicking around for the last 3 days are almost exactly the ones that were kicked around in 1945 at which time the Commission backed the proposition that more stations were more desirable than the extended service. We are now attempting to back up on that. I don't know which is the best in the long run, but there is some balance in there" (Tr. C-285-286).

Du Mont (Du Mont)

"* * * in our experience we find that the present allocations in our estimation have worked out quite satisfactorily" (Tr. 1856).

"The one thing that bothers us more than anything else is the ability of the present number of channels to really provide a nationwide service" (Tr. 1857).

"We have come to the conclusion that now is about the time to consider a different allocation scheme than we have at the present time utilizing the UHF frequencies for some of the bad spots in our present allocation picture. The VHF frequencies would be retained pretty largely as they are except in these bad areas" (Tr. 1857).

"The particular spots that we consider bad in the present allocation plan of course are the allocations of less than 150 miles" (Tr. 1857).

"To give you an example of our thinking, such cities as Bridgeport, Waterbury, Hartford, Springfield, Worcester and Providence have very few channels assigned to them. With the congestion in that particular area under our present scheme very little relief can be expected. In addition to that if these stations go ahead on the present channels you may run into some interference problems.

"There are other areas where this same thing applies. For instance, out in the area around Canton, Youngstown, and that general area" (tr. 1858).

"We have found that it is very difficult in a town with a single television station, or even two, to create real interest, and also to supply a real public service to those people. They desire to have a choice of programs and I feel that at least four channels should be available in all these cities" (tr. 1858).

"Mr. COTTONE. In reference to your proposal for allocation of channels on the VHF, proposed allocation, you feel that the Commission should get back to the minimum 150-mile separation co- and 75 adjacent channel, as I understand your testimony?"

"The WITNESS. I would like to see the minimum of 150, and would like to see that spread as far as you can past that point where you can do it without causing conflict. The 75, I am not so worried about. I think you may be able to shade that. Seventy-five is certainly a good working distance. But that isn't as serious as the cochannel" (tr. 1866).

Guy (TBA)

"TBA is of the opinion that when our present standards were adopted, namely, 75 miles adjacent channel separation and 150 miles cochannel separation, that a better job was done than some people now seem to think. And TBA recommends that the Communications Commission proceed to allocate or make grants on the basis of these standards without waiting. We feel that if we were to start right now from scratch without any precedent to dwarf or affect our thinking, we would probably come up with standards that were very much like that. We see no need to withhold grants in which those separations are maintained" (tr. 1785).

Jett (WMAR-TV)

"Commissioner STERLING. Mr. Jett, do you recall the considerations which led to the choice of the 5 millivolt protected contour of television stations?"

"The WITNESS. Yes, I was on the Commission at the time and, as I said in my statement, there were only a few thousand receivers in service and a very few television stations on the air. We had just come out of a long, hard war, and there was very little experience. We called hearings, and because of the scarcity of channels—that is, the relatively few channels—it was felt that we would have to crowd stations in television more than might otherwise be desired. I do not believe, however, that anyone at that time realized that the actual standards would deprive certain metropolitan areas of coverage of the entire area" (tr. 1618).

Lodge (CBS)

"I believe, however, that the difference between the amount of interference that was anticipated when the present allocation plan was devised and that which will result when tropospheric transmission makes itself felt in actual reception will be much less than assumed by many here and that the net service will still be good for a large percentage within range of the station" (tr. 1819-1820).

Popple (TBA)

"In the discussion of modifications and additions to section 3.606, table showing allocation of television channels to metropolitan districts in the United States, proposed by the Commission on May 6, 1948, and the proposals by others, I believe it would be advantageous to review the television allocations by going back as far as 1944. On March 27, 1944, committee 4 of panel 6 of RTPB approved a subcommittee report No. 2, entitled, 'Suggested TV Allocations in the VHF Portion of the Spectrum.' This report was subsequently approved by panel 6 and submitted to the Federal Communications Commission as an exhibit in Docket 6651. This report showed the number of stations that could be obtained if some 26 channels were made available for television broadcasting. It further showed where these stations might be assigned. The placement of cochannel stations was based upon a minimum separation of about 170 miles and of adjacent channel station separations in the order of 80 miles. At that time there was practically no measured data available on groundwave transmission nor was there any information available on tropospheric transmission. The performance of television sets, when they would again be made—the war was still in progress—was a matter of conjecture. Thus, there was no way of accurately ascertaining the service areas which these stations might have when they were limited by interference from other television stations. A study made at that time indicated that any substantial increase of these separations for co-channel and adjacent channel stations would require a considerable increase in the number of channels necessary to provide the facilities in the same cities.

"The Commission, in its report of allocations from 25,000 kilocycles to 30,000,000 kilocycles, dated May 25, 1945, set up 13 television channels, below 300 megacycles. On September 22, 1945, the Commission proposed rules and regulations including a table of allocations of television channels to metropolitan districts in the United States. The cochannel separation of stations within this table was also in the order of 170 miles. Principally, since these proposed allocations provided for only four stations in the New York metropolitan area, they were objected to by TBA and others. Television Broadcasters Association showed that substantially the same number of stations could be accommodated in the bands assigned and

that New York could have seven stations if directional antennas were employed to serve some of the smaller markets. The Commission agreed that New York should have seven stations but was unwilling at that time to require directional antennas for television stations. Instead, the Commission, in a report on November 21, 1945, established an allocation table in which some of the cochannel separations were decreased and community stations were permitted on channels 2 to 13 in addition to channel 1. This table provided assignments only for cities within areas defined as metropolitan districts by the United States census. * * *

"As I have mentioned above, the early allocation plans were formulated upon cochannel separations in the order of 170 miles. In these plans, only the large cities comprising metropolitan districts were considered. While there were considerable differences in the sizes of service areas necessary to cover these different metropolitan districts, it did not seem feasible in the early plans to differentiate between them * * * there should be considerable study devoted to the merit of equal treatment of many individual assignments when these assignments are the cause of substantial interference to other stations" (tr. 1420-1426).

ANNEX B. AN ALLOCATION PLAN BASED ON A PROTECTED AREA RATHER THAN A PROTECTED CONTOUR

Allen (FCC)

"That procedure would involve, as I see it, something of a departure from previous concepts of what a service area ought to be. It seems to me we have been thinking in terms of service up to the 500-microvolt or the 5,000-microvolt contour whereas the needs of the community might not agree with the 5,000-microvolt contour at all, it might be a trade area, or something of that nature, so that the Commission would say that this trade area has a community of interest with this trading center in this town, and he would have to put a certain signal over this area. Once you get 1 millivolt, say, at the edge of the trading area, immediately, and I believe the Commission has in a few cases expressed it, we want to protect the 1-millivolt contour all around here, not because it has any community of interest with this trading area, but it is a usable signal; so it would seem that some different approach to the type of service to be protected would be involved in this case" (tr. C-158-159).

Jett (WMAR-TV)

"The point marked 'X' is the southernmost boundary of the Baltimore metropolitan area, and it was my thought that a metropolitan station should be protected throughout its metropolitan area. Therefore, if a contour circle were drawn from that point marked 'X,' which would include all of our metropolitan area, and some of nearby contiguous rural areas, then we would ask for protection to the 1,000 microvolts per meter * * * (tr. 1726-1727).

"Secondly, I recommended that the Commission call an engineering conference with a view to revising the rules and standards on the basis of sound engineering principles, and I pointed out that such a conference may possibly recommend one type of standard for a particular region and a different type of standard for another region. For example, FM stations in area 1 are protected to their 1,000-microvolts-per-meter contour, where in others it may be protected to its 50-microvolts-per-meter contour" (tr. 1728).

Kear (ABC)

"Inasmuch as our study has disclosed means whereby the effect of tropospheric propagation may be reduced within the present framework of section 3.606, we are making recommendations of a general nature which we believe are not only valuable in the particular instances which we have used for demonstration purposes, but also will aid Commission consideration of the final form of section 3.606, as revised on the basis of this hearing * * * (tr. 1335-1336).

"* * * the American Broadcasting Co. recommends and strongly urges that the following steps be taken prior to the approval of a revised section 3.606 of the Commission's rules:

"(1) The charts of appendix V should be prepared and released and their use should be made mandatory in computing interference. At the same time a formula should be added to the standards whereby the summation effect of two or more interfering signals can be computed.

"(2) Section 3.604 (b) should be revised so as to eliminate reference to protection to any specified contour. Likewise, section 3.606 (b) should be revised so as to eliminate all reference to definite distance separations.

"There is a very good reason for that. In the standard broadcast band we talked about contours, 5 millivolts per meter and 2 millivolts per meter contours,

with a fair degree of assurance. It was something we could tie down, measure, and determine, and if a person bought a receiver in the standard broadcast band, and put an antenna up, he could receive a certain signal and we could tell him just about what sort of signal he would receive.

"Such is not the case in the television band. * * * the actual meaning of mv/m is very vague and any reference to contours, protected contours, in terms of millivolts per meter tends to become meaningless. Likewise, in connection with the distance separation table our experience in the standard band indicated, I believe, that it was far more satisfactory to protect areas on the basis of actual interference computations rather than on the basis of distance separations * * *.

"(3) Since in section 3.606 the FCC has undertaken to specify the cities in which television stations can be located, they should also specify in connection with each city the area which a television station located in this city is intended to serve. This can be, for example, on the basis of the trading area for rural stations, the metropolitan district for metropolitan stations, and the immediate community for community stations. Other definitions can be established but care should be taken to avoid specifying any field intensity contour as the boundary of service. The area to be served should be determined by geographical or economic features, not by the artificial means of field intensity contour.

"(4) Having decided upon the areas and populations which should receive service and having supplied the missing portions of the Standards of Good Engineering Practice, the Commission should then reanalyze the existing section 3.606 to determine to what extent the allocation outlined therein will provide the intended service to the desired areas and populations. Where it is found that on the basis of the standards, the interference-free contour of the station contemplated in 3.606 does not extend to the boundary of the area which must be served, steps should be taken to revise the allocation to afford the additional required protection. In many cases, this can be done by regulating and limiting the permissible radiated power. For example, a station required to serve the Chicago area would probably require greater radiated power than one serving the metropolitan district of Grand Rapids. It is probable that adjustment of power will not solve all of the interference problems. In such cases the FCC should notify the station or stations involved that at such time as directional antennas have been shown to be feasible and economically practical, they will be required to directionalize to the extent necessary to afford the requisite protection to the other station or stations involved. In many cases the geographical distribution is such that reasonable directionalization, together with proper adjustments will be able to effect a highly satisfactory degree of mutual protection, thereby insuring interference-free service to the area set forth in section 3.606.

"(5) When this realization has been completed the Commission should next examine the presently proposed revision of section 3.606 to determine what portions of this revised section could be adopted without introducing additional interference to the stations designated in the present 3.606. Here again judicious choice of radiated power and the specification of directional antennas as needed will no doubt enable many of the proposed additional allocations to be included in a revised 3.606, such revision being based upon adequate protection to the desired service areas with the protection being computed on the basis of the revised Standards of Good Engineering Practice hereinbefore referred to.

"(6) The recommendations of paragraphs (1) to (5), inclusive, having been adopted by proper legal procedure, additional proposals from the industry may be considered. Consideration should be given to these only when such proposals meet the requirements of paragraphs (a) and (b) of section 3.606 of the rules as revised * * * (Tr. 1350-1355).

"Mr. Cottone:

"QUESTION. Dr. Kear, I take it that your basis for determining allocations would be entirely different from that which has been followed by the Commission in the past, namely, the protected service contour and specifying a specific service area that is based upon the normally protected contour. Am I correct in so interpreting your testimony?

"ANSWER. Yes, sir; if you mean in speaking of a normally protected contour assigning it any particular value, like 5 millivolts and 2 millivolts, since as I pointed out at these high frequencies the value of a contour ceases to have a great deal of meaning * * *.

"QUESTION. How would you deal with the situation where you have licensed a station, let's say in New York, on a particular channel, and presumably you license it to serve the metropolitan district of New York, or some other specified area, and you have a subsequent request in another community, let's say for the purpose of the illustration Albany, where the only available channel may be

one already assigned to New York. What standard would you have the Commission follow under those conditions?

"ANSWER. * * * I would say that the applicant for a station in Albany would be required to restrict the power radiated in the direction of New York that the contour of the New York station which surrounded the metropolitan district was not interfered with. In his case it would be the region nearest him. So it would be the contour at the normal metropolitan district that would be required to be protected.

"QUESTION. Even though the use of that channel in Albany, taking Albany as an example, might not result in service to the Albany metropolitan district?

"ANSWER. Well, that again would be, then, a matter for the Commission to decide as they decided in the cases of interference in the standard band. Frequently they decided additional service warranted a grant even though some interference was created. But as far as the relative merits, it would be consideration on the basis of the degree of protection afforded this metropolitan district, which presumably would be interference free" (tr. 1360-1364).

Wilmotte (consulting engineer)

"The next question is service. Well, if an operator is asked to serve a certain town I think it would be possible to put a certain line around that town and say whatever you do you have got to give good service inside of that line, and by good service we mean good service, and you can define a very good service. The service beyond that line then is something up to the operator to extend as far as he can, provided in so doing he does not cause more interference than he is permitted in his license" (tr. C-157).

"Well, I agree that the remarks made just now, and the remarks I am making now, are in complete variance to the thinking that has been going on in the Commission and the engineering division since early 19—the early 1930's—but I have never been sympathetic with that type of thinking, I have great difficulty in believing that the public interest is connected with the millivolt contours. It is my very strong feeling that that concept has done serious damage to the regular broadcast band and I hope it can be dropped before these new bands are completely jammed up. I think that the economic, social and geographical problems are the dominant problems from the public service angle, and that the engineers, including the Commission engineers, of course, but basically, more basically the engineers connected with the designing of stations or a system, should be given a degree of responsibility to fit their millivolts to the economic requirements, rather than to try to make the economic requirements fit the millivolts" (tr. C-159).

ANNEX C. THE CONTOUR TO WHICH PROTECTION SHOULD BE AFFORDED

Goldsmith (DuMont)

"The methods of approach outlined in the FCC report TID 4.2.1 treat this adequately and we feel that the 500 uv/m contour of a station should be protected for a net service 90 percent of the time" (tr. C-35).

"* * * we feel that the ground wave 2,000 uv/m contour should be considered as a primary service area and should be protected under all conditions. Wherever possible, protection should further be granted to the 500 uv/m as a secondary service boundary. The FCC has treated this adequately in its recent report" (tr. C-38).

"When one inspects the service areas in a number of cases which have been brought out in this hearing, it is quite obvious that many important centers of population will not be provided with service if a station is protected only to its 5,000 uv/m contour and encounters interference beyond this boundary. We therefore recommended that the Federal Communications Commission rules be modified so that engineering protection is provided to a station to its 2,000 uv/m contour and, where possible, on out to its 500 uv/m contour.

"It should be pointed out that the 2,000 uv/m contour is not a smooth circle as it would be deducted from smooth-earth ground-wave theory alone. The irregularity of terrain causes the signal strength to depart materially from the smooth-earth theory, in some cases being above the theoretical values and in others well below the theoretical value. The extension of protection to the 2,000 uv/m contour, as a rule of thumb, will to some degree offset the uncertainty of this terrain factor pending the time when a dependable quantitative terrain factor correction can be applied in allocation planning" (tr. 1512).

Guy (TBA)

"It seems possible and desirable that the protected contours be changed. Two millivolts seems like it might be reasonable and attainable" (Tr. 1783).

Jett (WMAR-TV)

"I believe that the 5,000 microvolts per meter contour, which is now referred to in the Commission's rules, is entirely too stringent, that something between 500 and 5,000, and, in my opinion, and I am not basing my opinion upon a detailed study, but in my off-the-cuff opinion I feel that 1,000 microvolts, similar to the standard for area 1 of FM, would be a reasonable standard. However, I realize that it would be necessary to examine any particular contour in reference to the metropolitan districts throughout the United States to insure that all metropolitan stations would at least be provided protection within their metropolitan areas" (tr. 1729).

Poppele (TBA)

"(2) Two mv/m contour and protection standards: Protection standards should be reviewed prior to the adoption of any new allocation plan. This is particularly true of the protection normally afforded different classes of stations. As a result of the study of the engineering committee, the Television Broadcasters Association recommends that protection be afforded to the 2 mv/m contour from cochannel and adjacent channel interference, in consideration of (a) the existence of tropospheric transmission, and (b) the likelihood that increased television power will be necessary to provide an improved grade of service as the television art advances" (tr. 1420).

"This determination of interference involves, in addition to propagation information, a realistic protection standard and due care that no unnecessary 'white areas' are created in television service. The present rules specify that, 'The service area of a metropolitan station shall not be protected beyond the 5,000 uv/m contour.' It must be our conclusion that such protection of service will not result in preserving an adequate, and in most cases, the only service available to urban and farm areas which surround television cities. Much of this service would be destroyed by allocations such as those proposed. It would seem that a more reasonable figure for the normally protected contour would be in the order of 2 mv/m or less. If such protection is not afforded, many television stations in the East will have the interference-free service areas which would be comparable with the night service areas of many regional stations on standard broadcast bands. This would leave large areas in the populous East without television service" (tr. 1430).

Siling (RCA)

"We feel that the interest of the public in the maximum utilization of the 12 VHF channels will best be served if the Commission will promptly lift the 'freeze' and make its assignments upon the basis of protecting the 2 mv/m contour of metropolitan stations for not less than 90 percent of the time. The service areas of such stations would be extended to approximately the 500 uv/m contour for not less than 90 percent of the time by use of synchronization of carriers, where that is necessary for adequate service. When this is done the stations should be protected to the 500 uv/m contour. Such an extension of the service area would have the advantage of making television available to a larger part of the rural population of the United States" (tr. C-321).

ANNEX D. ALLOCATIONS BASED ON ERP'S OTHER THAN THE INFLEXIBLE STANDARD OF 50 KILOWATTS AT 500 FEET OR ITS EQUIVALENT

Adair (consulting engineer)

"This [tropospheric interference] difficulty can be minimized by the judicious use of directional antennas and by allocating power according to the needs of the area and of the areas of other stations which would be affected thereby * * * (tr. 1708).

"I personally did not think that 50 kilowatts 500 feet is the proper power for all areas.

"Mr. Dowd. In other words, there should be some variation between areas and applications rather than a uniform height and standard power that might be impractical" (tr. 1711).

Cullum (consulting engineer)

"We now have, then, the existing operating plan and we have need for additional service. Don't you think we could fill in that need for the additional service by analyzing the existing coverage, taking into account all of the best engineering factors and then breaking the country up into not one area, or two areas, but a whole bunch of areas and fitting in additional services to those areas

to provide the service where it is needed and not to provide an additional service in those overlapping areas? What I have in mind is:

"Do you feel we are on the right track so that we can set it up with a push-button allocation from here on, or should we be realistic about it and recognize that we do have allocation problems now and that there are gaps in service, and not set it up as a pushbutton allocation plan but a plan whereby we can take into account all of the engineering factors, and take it up from there?" (tr. 1721).

Dowd (attorney)

"The second point that we wish to note is the difficulty of getting something a little more than 1 kilowatt at 500 feet and something considerably less than 50 kilowatts at 500 feet. Because of the procedures that the Commission has adopted in seeking to set forth a rather ironical allocation plan we find ourselves in the position of having clients who desire to cover a certain market in a certain area and they cannot do it with a community station under the present standards. On the other hand, they do not wish to have 50 kilowatts at 500 feet. In view of the fact that they want to use 2 kilowatts they are forced to come in to a proceeding and prove that if they use 50 kilowatts at 500 feet they would not cause interference to someone else" (tr. 1842-1843).

Duttera (NBC)

"When lesser separations occur, the same protection should be afforded existing stations by reduction of the effective radiated power of the proposed stations, by adjustment of its height, by the use of a directional antenna, or a combination of these" (tr. 1755).

Guy (TBA)

"* * * TBA does not feel that the Commission should make grants which violate those separations until an attempt is made to give protection which would be equivalent, by the use of reduced power, directional antennas or both * * * (tr. 1786).

"Perhaps some of them could be helped by adjustment of powers. I can visualize the situation where a station in a small community might feel that 50 kilowatts at 500 feet is an economic burden which he did not relish and he could serve his market with substantially less power and would be glad to have it" (tr. 1792).

Jett (WMAZ-TV)

"There may be other ways to take care of the situation, by either reduction of the antenna height, in case of one, or reduction of power" (tr. 1739).

Kear (ABC)

"The second point is that, as pointed out in the testimony, the 50,000 watts at 500 feet as an arbitrary level of power for all metropolitan stations is believed not to be desirable; that there should be provision somewhere to adjust the power to the needs of the community. As was pointed out in my testimony, we propose that the area to be served be decided upon and then the power adjusted to provide service to that area.

"In some cases, as previous witnesses have testified, in New York it might require higher power. Places out in the center of the country that are smaller might require a lower power. By judicious choice of power a considerable number of stations might be able to be added to the present allocation without creating additional interference even if full consideration was given to the most serious considerations of tropospheric propagation" (tr. 1885-1886).

ANNEX E. RURAL SERVICE IN A VHF ALLOCATION PLAN

Adair (consulting engineer)

"It seems to me that television right now, while it is a very desirable thing for the people in the rural areas and smaller towns, depends on the economics for development largely from the more built-up areas and to get it started on that basis would seem more proper" (tr. 1716).

"It seems to me when you are located out in a fringe area, just because you want to receive New York when you should receive Washington—when you can receive Washington and cannot receive New York—well, you have got to be more or less satisfied or take some steps to cure it. In some cases, as pointed out, you can at least improve the situation with more complex receiving antennas.

In some cases you cannot do much about it. But that is the unfortunate situation that occurs in any radio service which, under our system depends largely on large populations to support it. When a person lives out in an area distant from that, he has to take what he can get and do the best he can about it" (tr. 1718).

Jett (WMAR-TV)

"Do you think in establishing standards we should strive for ideal or practical standards, one that would provide reasonably satisfactory service in rural areas and good service in urban areas? * * * (tr. 1691).

"It was my hope that at this conference the Commission could spring on a point between the ideal on one hand and the day-to-day practice on the other. I think we have got to do that if we are going to provide facilities with 12 channels for most of the cities.

* * * As a practical matter, we know that the people within the service area of the transmitter tune their picture signal down and they still have signal left, and when they fish for distance, then they turn their picture signal up and they get a picture. That has been my experience in going around talking to people, that they get different results * * * (tr. 1692).

"I would like to emphasize once more that I do not think it would be well, in view of the limited number of television channels, to strive for an ideal standard. I think that in actual practice you will find that people at a distance do have their receivers turned up, and do take advantage of the last microvolt per meter. But out to 15 to 25, or so, miles, I think in most cases the televiewer has some signal to waste from the local station, and that in practice he will turn his controls down, and by so doing he will automatically eliminate much of the tropospheric interference that theoretically and sometimes in practice is actually existent * * * (tr. 1733).

"Mr. CORTONE. "Would you be concerned about the possible failure to protect rural areas?"

"WITNESS. No, because as a practical matter you don't have stations all around the periphery of your contour. There are many areas out at a distance where there will never be any interference problem. For example, down on the Eastern Shore of Maryland, in the area of Cambridge, let us say, I doubt very much if people down there will ever be bothered from interference from Philadelphia or Washington. They will look to Baltimore as the station that should serve that area. Yet Cambridge is probably 70 miles from Baltimore air line, 60 or 70" (tr. 1741).

Kear (ABC)

"I believe that with the present limit on the number of channels, and the number of people who are applying for the facilities in those channels, it is going to be exceedingly difficult to have any large number of purely rural stations, and very likely the only rural type of operation we will be able to achieve is from some city which is given an increase in power, an increase in protection from neighboring stations so they can serve rural areas. I don't believe that is a condition we would select if we had free choice. We would rather have channels available where we have full protection. I think this is a question of limitation" (tr. 1890-1891).

ANNEX F. TROPOSPHERIC PROPAGATION IN AN ALLOCATION PLAN

Adair (consulting engineer)

"However, I did want to go on another point, with respect to the 99 percent and the 1 percent, which, to me are figures entirely out of reason. In television service particularly with the experience we have had with respect to ignition interference, diathermy interference, outside interference, flutter, and everything else, it seems to me that 10 percent is the most interference we should talk about here. As to FM service I think that is entirely a different proposition, but with television I think we are kidding ourselves even with 35 microvolts at 50 feet. There is a considerable amount of interference where the homes are located close to the streets" (tr. C-287).

Boese (FCC)

"The conclusion should be kept in mind that the data upon which this study has been made are very limited and that rather great variations may be anticipated in other parts of the country. However, it is believed that the present study represents a first approximation of the effect of tropospheric propagation

on allocations which, while far from accurate, will give a better picture than the curves in the FM and television standards at the present time" (tr. C-6-7).

Guy (TBA)

"Under our present standards—that is for 10 percent of the time—under our present standards that would imply that in the area of interference you had no service. That is not so. You do have service. If you go out just a bit further, you have a little less service, and if you go out to the half millivolt contour you have a little less. It is just a matter of degree. But at all times you may have a signal which is salvageable and which has entertainment value and which you stay with once you have it. You don't lose all that service. You only see some interference on it * * *.

"There is this difference: Where you have interference you don't lose service, you merely don't get as perfect a picture. So when we say there is tropospheric interference with a separation of 150 miles, we can say on the one hand that service is lost over a large part of area or we can be a little more realistic and say that the service is still there but the service is not as perfect as it could be over a portion of the area" (tr. 1788-1789).

Poppele (TBA)

"(1) Standards re tropospheric transmission: On October 11, 1945, at the Federal Communications Commission's hearing with reference to docket 6780, the Television Broadcasters Association pointed out the interference that would result from tropospheric transmission. Since that time, it is understood that additional data thereon has been collected by the Federal Communications Commission and others; but no standards have been established for tropospheric transmission. It is the recommendation of Television Broadcasters Association that such standards be immediately considered and established before additional allocations are made in which there is less than a 150-mile metropolitan, co-channel separation, or wherein the protected area of any station for any class or condition is less than the equivalent of that protection received by cochannel metropolitan stations 150 miles apart" (tr. 1419).

RMA Committee TS-3

"It is obvious that in setting up a practical allocation scheme compromises with quality and extent of service are involved. The committee believes that to expect service 99 percent of the time is probably unnecessarily idealistic. Certainly other broadcast services do not have this near an approach to perfection. Perhaps 90 percent service may have to be the compromise. In this regard it should be noted that the degree of tolerance of more-than-perceptible interference levels is a subjective problem which has received no study at all so far as this committee is aware. Also, ameliorating local expedients may be useful, such as directional receiving antennas" (JTAC rept. vol. II, annex 7, p. 4).

ANNEX G. TROPOSPHERIC PROPAGATION IN PARTICULAR SECTIONS OF THE COUNTRY

deMars (consulting engineer)

"I feel quite certain that as far as the west coast is concerned, and when I say 'west coast' we understand that area to be the area between the Pacific Ocean and the first range of hills, that the duration of tropospheric signals and their intensities will differ markedly from any east coast data or any other section of the country that we know of. And it seems to me the only way that can be dealt with is by giving it special consideration. And it is quite true that special conditions exist over the Great Lakes and the gulf, and even in some time of the year along the Atlantic coast. Those conditions are pretty well understood because of the correlation, or let me say the dependence on meteorological conditions. They can be predicted reasonably well.

"I think that the only way those anomalies or departures from average conditions can be dealt with is to treat them as specific cases" (tr. C-445-446).

Leydorf (WJR and WGAR)

"One of the serious tropospheric transmission problems facing television is that presented by transmission across the Great Lakes" (tr. C-92).

"It appears from the data which has been analyzed that there is a pronounced seasonal effect in transmission across Lake Erie, strong signals being very frequent in the summer and quite infrequent during the winter" (tr. C-93).

Lubeke (Don Lee)

"The characteristic variation of field intensity is one of slow variation. The yearly variation is marked and is particularly identified with a long and steady

tropospheric propagation during the summer months, from perhaps May to September, inclusive. As a matter of fact, the way that this matter first came to our attention was the reception report of a Mr. L. G. Gilbert in San Diego, who, living on the seacoast, assembled a television receiver and indicated to us that he was receiving the television images of W6XAC at an elevation of 2,000 feet in San Diego with clarity and dependability. This was in the summer of 1946 and we immediately rendered a report and two subsequent reports to the Commission on this phenomenon.

"With respect to this coastwise tropospheric propagation relatively little diurnal variations have been noted" (tr. C-44).

"The tropospheric propagation in a qualitative way appears to be independent of frequency, channel 13 being received as well and with the same general characteristics of reception with respect to time and season as channel 2" (tr. C-45).

"I would like to conclude with merely the statement that for the unusual condition of the persistent temperature inversion during the summer on the west coast, and because of the almost constant field strength, as a consequence the log normal distribution for considering the tropospheric propagation is probably not the correct one. It is almost a constant case and may be duplicated around the Great Lakes, or other places, where persistent temperature inversions are to be expected" (tr. C-49).

ANNEX H. TROPOSPHERIC INTERFERENCE PRIMARILY A FUNCTION OF POWER

deMars (consulting engineer)

"Mr. Chairman, in order to introduce an optimistic note into the meeting I would like to state that up to the point where the study of the effect of the troposphere, that is, the factors dealing with antenna heights, fading factors, and so forth, reach the point of attempting to be tied into a theory, I believe that the results represent the best that can be obtained from the available data. I think that the curves with respect to the 1 percent or 10 percent values for 500-foot antennas come as close to representing the probable tropospheric situation as can be determined from present data. But I think that it is completely unwarranted to attempt to fit this data into a theory and then extend the use of that into antennas of other heights and over other distances.

"We have heard a good deal of testimony to the effect that the signal intensity via the troposphere is related directly to the power and not to the heights of the antenna. If that is the case and it turns out that that is substantially the fact then the adoption of an earth radius 10 times to normal for predicting conditions other than for the 500-foot antenna would be in error and the error would increase in proportion to the height differences with 500 feet * * * (tr. C-189-190).

"Now, the tropospheric signal that we predict is not independent of antenna height at 100 miles. Consequently, we can't draw the sweeping conclusion that the tropospheric signal is dependent only upon one power and not upon height, unless we qualify it by the distances involved.

"I am convinced that the tropospheric signal intensity at distances in excess of 200 miles is much more dependent—in fact almost entirely dependent upon the radiated power rather than antenna heights for antenna heights under 5,000 feet" (tr. C-443).

Fink (JTAC)

"In particular, the influence of the transmitting antenna height on tropospheric propagation of the signal is a critical question, since the value of antenna height used in practice may depart widely from the value assumed in the curves cited. If such departures impair the utility of the curves, the effect of such departures must be taken into account in establishing the effective radiated powers and antenna heights permissible or desirable in the allocation plan * * * (tr. C-15).

"*Effect of transmitting antenna height.*—It is the opinion of JTAC that the present FCC regulation concerning effective radiated power as a function of antenna height requires careful review. The present rule states that the effective radiated power must vary inversely as the square of the ratio of the actual antenna height to 500 feet. There is practical and theoretical evidence that the signal level propagated to a distance by the troposphere is nearly independent of antenna height. If this is proved generally to be the case, the ratio of the tropospheric interference area to the service area must decrease as the antenna height is increased, the power radiated remaining unchanged. It would then appear that the service to the public would be maximized by the use of the highest feasible antenna height, consistent with cost, regulations of the Civil

Aeronautics Authority, and similar factors. The use of a lower than maximum antenna height increases the interference area, when higher power is associated with the lower height, without increasing the service area.

"Based on the existing evidence, JTAC surmises that the proper exponent, relating antenna height ratio to the effective radiated power, should lie between the values 0 and 1 (class C), rather than 2 as presently stipulated in the Commission's rules. The JTAC is not in a position to recommend a definite change in this regulation, but suggests that study of the matter is in order to maximize service areas relative to interference areas" (tr. C-19-20).

Goldsmith (Du Mont)

"The difficulty lies in the apparent fact that the tropospheric interfering signals are primarily a function of power only and are relatively little affected by antenna height. On the other hand, the desired signal strength is influenced advantageously by increased height, particularly to those service areas at distances of 20 to 50 miles. Let us take for example two stations on the old height-power power allocation plan. Let them operate on co-channel assignments assuming station A to have a power of 50 kilowatts at 500 feet. Let station B have a power of 12½ kilowatt at 1,000 feet. Let stations A and B be separated by, say, 150 miles. The higher power of station A will give a more serious long-distance interfering signal than will station B. The resultant service area which is free of interference for 90 percent of the time will, therefore, be considerably smaller for station B in spite of its higher antenna tower than for station A. We, therefore, recommend that it would be more equitable for allocation purposes to set a power ceiling for broadcast stations irrespective of antenna height and encourage all stations to use very nearly this full power. Then the individual applicants will automatically plan to use as great an antenna height as is practical in each case in order to increase their primary service areas" (tr. C-36-37).

Lubcke (Don Lee)

"I would like to agree with the Commission's findings and other testimony indicated today that the height of the television transmitter has little relation to the tropospheric propagation that is to be expected" (tr. C-43).

"Our own station at a height of 200 feet above sea level for the transmitting antenna operating on Channel 2 is found to be received in the San Diego area with approximately the same efficiency, let us say, as the several other television stations now operating in the Los Angeles area, notably KTLA, on Channel 5, KFI-TV, on Channel 9, and KFAC-TV, on Channel 13. Thus our data indicates that a ceiling on power and all the height that a telecaster can achieve is the proper overall plan of allocation rather than the inverse ratio of the more height you are able to achieve the less power you should be granted" (tr. C-44).

Siling (RCA)

"We do not believe that the effect of transmitting antenna height is well established in either the standards affecting principally the ground wave coverage or in the tropospheric curves affecting principally a station's interference capabilities. It is therefore suggested that this subject receive more intensive study involving measurements to determine specifically the height effect. The making of such a study does not, however, require that a lifting of the 'freeze' be postponed until the measurements are completed" (tr. C-322).

Wilmotte (Consulting Engineer)

"* * * that the interference seems to be principally dependent upon the powers used, and not very much on the height" (tr. C-157).

RMA Committee TS-3

"The above discussion would indicate a condition consistent with a physical characteristic that the tropospheric field beyond the horizon is dependent mostly upon transmitter power, and very little upon antenna height. Whether this is actually the case should, we feel, be explored through a series of measurements directed toward this point specifically.

"If such a condition is, in fact, found to exist, then the committee would recommend that the present allocation practice with respect to reducing assigned power where the antenna height exceeds 500 feet, be modified. This would remove what appears to be a serious inequity in the present allocation plan.

"The modification required would be in the direction of assigning power independent of antenna height" (JTAC Rept., vol. II, annex 7, p. 4).

ANNEX I. INTERFERENCES OTHER THAN TROPOSPHERIC AS FACTORS IN AN ALLOCATION PLAN

Adair (consulting engineer)

"From my personal standpoint I have never received any interference from another station on television. I have received quite a bit of interference due to automobiles and diathermy and noises of that nature, but not from other stations" (tr. 1709).

Chittick (RMA)

"In general, ignition interference into television receivers is not a problem if the television signal strength is 5,000 microvolts per meter or higher. There are few instances where interference is present at these high levels, but most of these cases are due to close proximity to very heavily traveled highways. Ignition interference becomes progressively worse as the television signal frequencies fall below 5,000 microvolts. At 1,000 microvolts or lower, the ignition interference is a serious problem, both from the standpoint of interference in the picture, and the possible loss of synchronization. One company has reported that 5.6 percent of all their television installations are affected by ignition interference to the extent that a service call is necessary" (JTAC Rept., vol. II, annex 9, pp. 1-2).

Gillett (Consulting Engineer)

"While it is true that tropospheric transmission will reduce for a small portion of the time the service of the television stations to a somewhat smaller range than was originally expected, it is also true that in the fringe service areas thus affected, other types of interference have already degraded the service there to where the tropospheric interference may not be nearly as significant as the bare curves would indicate.

"Also, this interference can be greatly minimized by synchronization, as has been shown by the RCA experiments. The rather extensive experiments which were carried out by the Bell System in the early 1930's show that the synchronization of AM broadcasting stations would reduce the effect of cochannel interference by a factor of about 20 decibels. * * *

"Also, the normal dipole and reflector that will be used with the average receiver in the outer-service areas of a television station will have a directivity which will discriminate automatically against the undesired interfering signal by an amount between 6 and 12 decibels. Even higher discrimination is easily available from the better receiving antennas, as has been shown by Dr. Brown's one here" (tr. C-392).

Goldsmith (Du Mont)

"A number of interferences other than from adjacent or cochannel operation are present in areas where television receivers are now operating. The severity of such interferences will be increased when full occupancy exists under the allocation plan. Examples of these further interferences are the beats between stations widely separated in frequency resulting in intermediate frequency signals, image responses, local oscillator radiation and acceptance of intense direct signals through the circuits because of lack of shielding of critically sensitive parts. Many of these conditions can be greatly alleviated by more attention being given to the radio frequency tuned circuits of the receiver. Additional RF selectivity is highly desirable for many reasons and will be essential in receivers even though it substantially increases the technical complexity of future sets" (tr. 1503).

Kaar (RMA)

"(1) Signal strength to give satisfactory receiver performance.

"(a) * * * It would thus appear that no less than the present FCC figure of 500 microvolts per meter should be provided for satisfactory pictures and that even this is only half enough in the high band of 174 megacycles to 216 megacycles.

"(b) In the presence of man-made interference, in metropolitan regions, the field strength must be increased above the 500 microvolt level. In general, it has been our experience that 5 millivolts is usually sufficient although not always. At a few locations the noise is so high that even 50 millivolts is insufficient. Based on a rough estimate of the number of such situations, however, it is believed that 90 percent of the locations will receive satisfactory service with a 5 millivolt per meter field strength." (JTAC Rept., vol. II, annex 16, pp. 1-3.)

ANNEX J. TERRAIN EFFECTS IN THE PREDICTION OF SERVICE AREA

Goldsmith (Du Mont)

"* * * we find that the shadows of hills and buildings materially change the measured average field intensity from that calculated from the smooth earth predictions. Field strength values for 90 percent of the measurements made lie between the values predicted by theory and values 20 decibels lower than these. Some latitude should be allowed for this practical condition when choosing safe allocation spacings for stations" (tr. C-35).

"* * * we definitely feel that a terrain factor and perhaps distribution factor as defined above should be considered in the methods of predicting service areas * * * (tr. C-37-38).

"I should like to list here a few of these further major factors. The condition of the terrain surrounding a television station causes the realizable field strength at the homes of the potential customers to depart widely from the smooth-earth ground-wave theoretical predictions both regarding service and interference. An appropriate quantitative means of evaluating and applying a terrain factor is desirable" (tr. 1444).

Lubcke (Don Lee)

"Now, with respect to terrain, we find that the Commission's considerations are in general supported by our data and experiences. We have in the past made measurements in which we determined that California hills are 10 times as efficient barriers to VHF waves as New York buildings. And we find that the lower the carrier frequency the less effect a hill or a building has upon the possibility of proper image reception behind such a hill or building" (tr. C-47).

Smith (Cornell)

"We have here a brief study made by us as a result of examination of the data presented in one of the technical information division reports on study of terrain factors. The paper we are here commenting on concerns the effect of systematic terrain discrimination upon oppositely traveling very high frequency waves, and its influence upon permissible ratios of general levels of desired to undesired signals when potential interference areas lie in irregular terrain.

"The current development of engineering standards for television allocation appears to be coming to an acceptance by engineers of 40 decibels as a ratio of desired to undesired signals for negligible video cochannel interference and 30 decibels as a ratio for acceptable service. These ratios, when combined with attempts to protect ground wave 500 microwave contours from 10 percent tropospheric signals, lead to the necessity for reduction of the number of station assignments on the presently available channels, Nos. 2 through 12, in line with the release of the Bureau of Engineering of the Federal Communications Commission dated November 18, 1948. In many cases the need for such severe deletion as there illustrated can be removed when the potential interference areas involve irregular terrain" (tr. C-86).

"Conclusion: Full consideration of the above factors will operate greatly to the advantage of the rural listeners in irregular terrain by permitting more closely spaced stations on available channels. This necessarily results in a larger percentage of receiver locations unable to overcome local conditions in securing a minimum of multiple choice television service" (tr. C-89).

ANNEX K. CARRIER SYNCHRONIZATION IN AN ALLOCATION PLAN

Fink (JTAC)

"Effects of carrier synchronization on interference. The JTAC has received information that the cochannel protection ratio of 40 decibels may be reduced by a substantial amount if the 2 television picture carriers are rigidly synchronized (tr. C-246) * * *.

"The carriers of stations WNBT, New York, and WNBW, Washington, have been synchronized and the results observed at Princeton. A marked improvement in signal to interference ratio, estimated at approximately 15 decibels, has been noted on the viewing screen. If such a method were applied universally to all stations on the same channel in contiguous interference areas, the permissible interfering signal at points intermediate to the stations might be increased by approximately 15 decibels. This is class C figure (tr. C-247) * * *.

"We come to the phase-synchronization of television carriers and our recommendation concerning it. The benefits of phase-synchronization of television station carriers appear to be so important that they should be considered as a

factor in allocations planning, despite the meager experience with the system. In particular it seems to JTAC that it would be unfortunate if an allocations plan were put into effect, in advance of reliable information on phase-synchronized carrier operation, which precluded utilizing the potential benefits of this method.

"Experiments indicate that the interfering carrier may be increased by 15 decibels relative to the desired carrier without incurring additional interference, when the phases of the 2 carriers are locked in a fixed relationship.

"This is at present a class C estimate. There is some theoretical justification, not yet fully developed, for assuming that such an improvement might be expected. If further experience shows that this 15 decibel increase in interfering signal strength may be a fact to be tolerated, the advantage gained in allocating stations is very substantial. In the illustrative examples in chapter VI, it reduces the minimum separation for 90 percent protected time from over 210 to 150 miles at 63 megacycles and to 163 miles at 195 megacycles. In fact, a separation not substantially different from that set up in the allocation prior to September 1943 (150 miles) would become feasible, provided these examples turn out to be engineer conclusions" (tr. C-261-262).

Kell (RCA)

"Using the data presented in the FCC report Summary of Tropospheric Propagation Measurements and the Development of Empirical VHF Propagation Charts it would appear that for a 40-decibel desired to undesired signal ratio 90 percent of the time at the 500 microvolt per meter contour, a separation of 230 miles is required.

"If an improvement of 10 times in voltage or 20 decibel due to synchronizing of the carriers is assumed the same interference will be obtained at 146 mile separation 90 percent of the time on the 500 microvolt per meter contour. Again, taking an improvement of 15 decibel the separation required is 164 miles to protect the 500 microvolt per meter contour to a 40 decibel desired to undesired signal ratio on the same basis.

"From a practical point of view the 146 or 164 mile separation may be considered as 150 miles. On this basis it is believed that the field strength contours can be given the same protection with 150-mile separation with synchronous operation of the television stations as can be obtained with 230-mile separation and nonsynchronous operation" (tr. C-349).

Siling (RCA)

"RCA Laboratories has developed a system of synchronizing the carrier frequency of cochannel television stations. We believe this system holds much promise of valuable results to the television industry:

"(a) In minimizing the effects of tropospheric interference,

"(b) In making possible a greater service area for individual television stations, and

"(c) In permitting a larger number of television stations in the VHF band,

that we recommend it for consideration by the Commission in making its channel allocations" (tr. C-320).

"We feel that the interest of the public in the maximum utilization of the 12 VHF channels will best be served if the Commission will promptly lift the 'freeze' and make its assignments upon the basis of protecting the 2 mv/m contour of metropolitan stations for not less than 90 percent of the time. The service areas of such stations would be extended to approximately the 500 uv/m contour for not less than 90 percent of the time by the use of synchronization of carriers, where it is necessary for adequate service. When this is done the stations should be protected to the 500 uv/m contour. Such an extension of the service area would have the advantage of making television available to a larger part of the rural population of the United States" (tr. C-320-321).

"Mr. ALLEN. In your recommendation (3) on page 5, that television stations be protected to the 2 microvolt contour for not less than 90 percent of the time without synchronization of the carriers, or to the 500 uv/m contour for not less than 90 percent of the time with synchronization, do these figures agree with Mr. Fink's 15 decibel? It would seem to me his 15 decibel wouldn't make quite this much improvement" (tr. C-323-324).

"Mr. SILING. These are based on, first of all, not 15 decibel, but a ratio of 20 to 1, that would be 20 decibels, so there would be some difficulty, but taking the Commission's curves they are based on 20 decibels.

"Mr. ALLEN. Rather than 15?"

"Mr. SILING. Yes, sir. And I think represent approximately the proper distances" (tr. C-324).

"Mr. GOLDSMITH. Have you arrived at some corresponding safe mileage separation on the basis of these several separations? What sort of mileage would it be?"

"Mr. SILING. Roughly speaking this would bring it practically to about 150 miles separation between stations, cochannel stations" (tr. C-328).

Allen (FCC)

"For synchronized operation, a 150-mile spacing is approximately equal to the 210-mile unsynchronized, if you assume that a synchronized ratio of 20 to 1 is satisfactory." Proceedings of the NAB Engineering Conference, April 7-9, 1949, page 339.

ANNEX L. USE OF CARRIER OFFSET IN AN ALLOCATION PLAN

[No testimony or exhibits were submitted at the allocations hearings or engineering conferences with respect to the use of carrier offset as a means of reducing interference. In recent weeks, however, the trade publications have carried accounts of experimentation that has been conducted on carrier offset and of the results that have been obtained. Excerpts or summaries of these accounts are hereinafter set forth in chronological order.]

"In its hunt for interference-reducers, RCA is currently experimenting with separating cochannel stations by half of line frequency (about 8 kc.). It has no conclusions yet, may have some in a few weeks. If system works well, it would have some advantages over synchronization in that no intermediate station or phone line would be needed." (Television Digest and FM Reports, vol. 5, No. 16, Apr. 16, 1949.)

"A system of off-frequency cochannel television assignments has been developed by RCA labs which its exponents are confident will reduce interference at least as well as synchronization, without synchronization's extra expense.

"Not yet formally announced because work is still in progress, the plan is believed capable of permitting cochannel operations at spacings of approximately 150 miles—the separation FCC aimed at in its original allocation.

"Dr. C. B. Jolliffe, executive vice president in charge of RCA labs, told Broadcasting that the heart of the plan is to stagger the carrier frequencies of cochannel stations by about one-half the line frequency. Thus, he said, the venetian-blind pattern arising from mutual interference is reduced to about the width of a scanning line, and disappears.

"Dr. Jolliffe said the new system has been in operation on RCA-NBC's WNBT (TV) New York and WNBW (TV) Washington for about 2 months. The results, he said, are fully as good as were obtained by the exact synchronization of the two stations' frequencies in earlier tests." (Broadcasting, January 3.)

"If utilized by the Commission, the system would pose no extra cost for broadcasters. FCC's assignment producers would specify the exact carrier frequency to be used—about 8,000 to 10,000 cycles apart for cochannel operations—and station operators would buy the crystals they need, just as they do now.

"Cost of producing units similar to those used in the previous synchronization tests has been estimated at about \$5,000.

"If 150-mile separation for cochannel stations is shown to be feasible, FCC could salvage much of the allocation plan which many authorities regarded as doomed by tropospheric interference effects. In many instances, however, the allocation provided for spacings narrower than the goal of 150 miles for cochannels and 75 for adjacent channels. * * *" (Broadcasting, p. 31, May 23, 1949).

"'Offset carrier' system of cochannel interference reduction (vol. 5:16-19) was due to start this weekend between Boston's WBZ-TV, Schenectady's WRGB, New York's WNBT. After watching it work between Detroit-Cleveland and New York-Washington, RCA has definitely shelved synchronization. Offset is said to give improvement of 20 decibels, compared with 15 decibels for synchronization—without the expense and complexity. CBS was sufficiently impressed with system to order new crystal, will shortly offset New York's WCBS-TV from Baltimore's WMAR-TV, on channel 2" (Television Digest and FM rep., vol. 5, No. 23, June 4, 1949).

"Closer spacing of television stations on the same channel, or at least a reduction in cochannel interference, may develop from the displaced carrier or off-frequency technique, judging from results of experiments at FCC's Laurel, Md., laboratory.

"In a demonstration of the off-frequency method, the laboratory last Monday showed how interference is reduced. * * *

"The FCC's tests of offset carrier technique to reduce cochannel interference supported findings of RCA (Broadcasting, May 23), in the opinion of a number of engineers who watched the Laurel demonstration.

"Edward W. Chapin, chief of the FCC Laboratories Division, directed Monday's tests. * * *

"When normal AM video and offset AM were compared, with the same ratio of desired-to-undesired signal, the offset or displaced technique revealed a vastly better signal. Most observers said the improvement was at least 5 to 1" (Broadcasting, p. 40, June 13, 1949).

"By on 'offset carrier' operation authorized by FCC, WCBS-TV New York and WMAR-TV Baltimore have extended their interference-free viewing areas by 10 miles, according to a claim by William B. Lodge, CBS vice president and general director of engineering.

"The change went into effect June 16 and by the next morning viewers said in unsolicited reports expressing gratification at the improvement, it was said.

"The operation involved a slight shifting of the station frequency, so slight, however, as not to affect the tuning of receivers. Until the change, both stations, which are on channel 2, maintained their frequencies precisely in step. Now they differ approximately 6,200 cycles—only a tiny percentage of channel 2's band of 6,000,000 cycles" (Broadcasting, p. 47, June 27, 1949).

"Use of offset carrier to reduce TV interference, increase coverage (vol. 5: 16 et seq.) begins to look almost like a network operation. All reports we've received so far are extremely good. If FCC's new allocation proposed to delete many vhf channels from major cities, you can expect major argument from applicants claiming offset can save channels. On channel 4, following stations are now offset—either 10.5 kilocycles up, 10.5 kilocycles down, or on frequency: Boston's WBZ-TV, down; Schenectady's WRGB, up; New York's WNBTV, on; Lancaster's WGAL-TV, up; Washington's WNBW, down; Cleveland's WNBK, up; Detroit's WWJ-TV, on; Chicago's WNBQ, down. On channel 2, New York's WCBS-TV and Baltimore's WMAR-TV report 10-plus miles extension of coverage for each through offset. Both say they received unsolicited calls from enthusiastic viewers the morning after start of operation June 16" (Television band of 6,000,000 cycles" (Broadcasting, p. 47, June 27, 1949).

ANNEX M. COCHANNEL AND ADJACENT CHANNEL INTERFERENCE PROTECTION RATIOS

Adair (consulting engineer)

"* * * it is my opinion that 100 to 1 is very idealistic at the present time, particularly with respect to the ghosts that are being experienced in the very high frequency band and with respect to the channel limitations particularly caused by the coaxial cable networks, that to set 100 to 1 as the basis of allocation at this time is a little impractical.

"I believe that not more than 50 to 1 would be required to provide the same order of service that we are receiving from other sources" (tr. 1709).

Fink (JTAC)

"Cochannel interference protection ratios. The RMA Television Systems Subcommittee TS-3 received unanimous agreement in the replies to its questionnaire (annex 7) that the cochannel interference protection ratio would be 100-to-1 (40 decibels) in field strength, as is now established in the Commission's rules" (tr. C-244).

"Adjacent channel protection ratios. The adjacent channel protection ratio (desired to undesired signal strength ratio) specified in the Commission's rules is 2 to 1, or 6 decibels" (tr. C-247).

"The FCC rule specifying 6-decibels protection is adequate on the lower adjacent channel and more than adequate on the upper adjacent channel. These figures have class B reliability" (tr. C-248-249).

"Mr. Fink, for explanation on that point, take channels A, B, and C, if you want to put a station on channel B the interference ratio with respect to channel A being low, you would have to have 6 decibels, but with respect to channel C it would be zero decibels?

"Mr. FINK. That is right.

"Mr. PLOTKIN. When you look at it from C's point of view wouldn't C need 6 decibels?

"Mr. FINK. Very definitely. If there is no choice in a case like that obviously the higher protection ratio must be adopted but we believe that there

are places where this tolerance of 6 decibels could make the difference of getting one more station in" (tr. C-249).

Goldsmith (DuMont)

"However, to be practical, we feel that the 100 to 1 signal strength ratio is probably adequate" (tr. C-38).

"We feel that the adjacent channel ratio at the receiver input terminals may safely be reduced to 1 to 1 for allocation purposes but we do not believe that adjacent channel operation in the same service area is practical because of the signal distribution due to the terrain factor" (tr. C-38).

Guy (TBA)

"We have 100 to 1 as the standard for desired to undesired signal intensity as our yardstick. That yardstick in the opinion of T. B. A. might be modified to advantage (tr. 1783) * * *.

"In other words, 50 to 1 may be an acceptable picture, although the interference may be visible to a slight degree. That would mean that the area subject to interference would be very substantially reduced" (tr. 1694).

Kear (ABC)

"The next item has to do with the 100-to-1 ratio on cochannel protection. I don't believe there is any intent of the Commission or industry to set up this 100-to-1 ratio as any sacred number. However, I believe it was adopted after careful consideration by a committee appointed for that purpose, and at that time it no doubt represented an adequate ratio of protection.

"It is quite possible that nowadays with more knowledge of propagation conditions and the operation of receivers and the tolerance values which viewers may have, that this ratio should be changed.

"However, I do not believe it should be changed until a study has been made, which could be made by the engineering department of the Federal Communications Commission, to determine whether any reason exists for amendment of that ratio" (tr. 1886).

Kaar (RMA)

"100-to-1 ratio of wanted to unwanted signal should be provided in the allocation plan against cochannel interference. This is 40 decibels previously deemed satisfactory for random noise * * * the regular pattern formed by carriers beating together is much more annoying than evenly distributed interference of the noise type. The beating carriers cause a venetian blind pattern on the picture. A 720 cycle carrier frequency difference would cause a pattern having 12 slats.

"The protection ratio against interference on adjacent channels is based on the selectivity provided by receivers of practical and economic designs.

"(a) With respect to interference in the upper adjacent channel, the ratio of fields strength may be 1 to 1.

"(b) With respect to interference in the lower adjacent channel, the ratio of field strengths should be 2 to 1 in favor of the desired channel" (JTAC rept., vol. II, annex 16, pp. 1-3).

ANNEX N. ADJACENT CHANNEL INTERFERENCE

Fine (FCC)

"If we glance at figure 1 we see that the rate of degradation is much more rapid for the adjacent channel than the cochannel station. For example, if say the 2 mil contour were specified as the protected contour, an adjacent channel would cause much more havoc to the service beyond that protected contour than a cochannel station, and for that reason it might be wise to specify the limitations to be protected. For example, we might say that the 2 mil contour must not be invaded by the 10 percent interference signal and the 1 mil contour should not be invaded by, say, the 50 percent interference signal.

"The second basic proposal is that each interference should be treated individually. It is shown here that the interferences are practically additive. If two stations are causing interference to the desired station the total interference is practically the sum of the two" (tr. C-237-238).

Gillett (consulting engineer)

"As for adjacent channel interference, my viewpoint has always been that that is largely controllable by receiver set design, and that factor therefore is subject

to improvement as time goes on and as the requirements are imposed on the receiver manufacturers to do it.

"As pointed out yesterday, the manufacturers will get by with as poor discrimination as they can economically do, and I think adjacent channel interference is not in the same order of weight that co-channel interference is" (tr. C-395).

Goldsmith (Du Mont)

"Use of exhibit L, which is the family of loci of points at which the radius of desired signal to interfering signal is 2 to 1 for adjacent channel metropolitan stations would indicate on the map that many areas would be subject to interference of this magnitude of 2 to 1 well within the 500 uv/m contour, and in some cases, even within the 5,000 uv/m contour. We feel that this 2-to-1 factor may be pessimistic provided the best design considerations are given to television receivers. If the television receiver has good selectivity in its intermediate frequency tuned circuits, then it can reject adjacent channel signals at a ratio where the desired signal to the interfering signal is 1 to 3.

"I am not suggesting a change in that 2-to-1 factor, but I am saying that we would have some leeway for safety in that particular factor" (tr. 1502).

Kear (ABC)

"Answer. That is correct. There is another thing we should bring out. That is an adjacent channel operation in which event the tropospheric effect is far less important than it is on cochannel" (tr. 1415).

Kell (RCA)

"Mr. PLOTKIN. How about adjacent channel problems?"

"Mr. KELL. I do not believe there are any" (tr. C-366).

Siling (RCA)

"In general it has been our experience that adjacent channel interference is not anywhere near the same factor as the cochannel interference and is more probably corrected by receiver design, whereas we cannot correct cochannel interference by that method. That is, I think we are a little bit more concerned about cochannel interference for that reason" (tr. C-326).

ANNEX O. DIRECTIONAL TRANSMITTING ANTENNAS IN AN ALLOCATION PLAN

Adair (consulting engineer)

"This difficulty can be minimized by the judicious use of directional antennas and by allocating power according to the needs of the area and of the areas of other stations which would be affected thereby" (tr. 1708).

Bailey (consulting engineer)

"As far as directional antennas are concerned the standards now provide for them I believe in both FM and television. They reflect a certain amount of our AM thinking. I call attention to the fact that it is required that it be specified the relative phasing amplitudes of currents in the elements, and you may recollect that Mr. Alford was at a loss to give that type of information, the type of antenna he proposed. I think we ought to make those flexible enough so it will cover almost any type. I am recommending that we do not in the standards eliminate now the possibility of directional antennas. I think it should be kept, that enough leeway be put in to allow for any reasonable proposal which is thought of.

"Now, in the discussion of directional antennas, and this is not a new thought, I think JTAC advanced it, but I have considered it for some time, there are two ways to fit them into an allocation picture. One is to see if by the use of directionals, if you are going to set up your allocation ahead of time, you cannot get a few more stations in by putting directionals back to back, protecting each other, getting these values down to where they will not be interfered with. It is a method which might apply, it was a method which I think TBA proposed at one time on the eastern seaboard in order to make what they felt was better use of the channels. It has one fault and that is, as can be seen in the presentation last summer, the use of a directional antenna in television requires an availability of a site and proper direction, that the energy be distributed properly over the city, that there not be reflecting points which will cause a lot of radiated energy to be reflected back into the protected area, and it is quite a job to fit it in.

"The alternative is to go ahead and build your plant on a nondirectional basis, raising it, perhaps, to saturation, which will soon happen, I am sure, no matter what we decide, and then leave it to the person who desires to add a facility

to prove that he will not seriously affect the other stations planned for or existing, and the Commission can, as they have many times, then weigh, if there is a little damage, the good versus the damage. * * *

"Weighing the two I would recommend taking the latter course, that is, building up your plant on a nondirectional basis and let the directionals come in where they can. For instance, I would hesitate to tell a place like Scranton, or Wilkes-Barre, that they have to use a directional which radiates north, west, and southeast. It might not be the proper way. Therefore I think the latter would be more desirable" (tr. C-107-110).

Brown (RCA)

"Mr. ALLEN. Have you any remarks to make with regard to directional antennas?"

"Mr. BROWN. For transmitting?"

"Mr. ALLEN. Yes.

"Mr. BROWN. Well, I personally feel this way. We all know that directional antennas have been used in these frequencies, they have been used during the war for radar purposes. I don't regard directional antennas at these frequencies as anything very mysterious, they are things that can be built.

"I suppose that on the matter of directional antennas for these frequencies I would regard the problem something like this. I would have not the slightest hesitation now in feeling that I could design rather easily directional transmitting antennas with, let's say a 10-to-1 suppression. By that I mean 10 to 1 down in voltage from what we would get from an r.m.s. pattern. As we go into the thing we are going to have to get engineering experience.

"I would find it difficult to say that 10 to 1 is what we can do and 20 to 1 is what we cannot do. As we begin to go down to suppression of the order of, maybe, 50 to 100 to 1, those are the things we have to learn by experience, we are going to have to learn about all these factors that have been mentioned—reflections from buildings that may get back to the service area, there may be changes in those reflections at times of the year, say a hill may give a different sort of reflection in the winter or summer—those are things we are going to have to learn about.

"As to problems of monitoring directional antennas, which has been mentioned, I think it was mentioned yesterday, I haven't any concrete thought to offer, but I would like to say that in the broadcast station directional antenna you have a ground system that you are using as part of your system, most of these high frequency antennas are built on a pole, they may be a tube, may be some sort of sheet radiator, there are those factors that might make a change, icing probably will do things—those are things that are subject to correction. But I don't feel that we have quite the change at the antenna that we may experience in the broadcast directional antennas, and I don't look at the problem of directional antennas as, should we say, at least the problem as far as the manufacturing is concerned, the installation, I don't look at it as anything but a straightforward engineering problem" (tr. C-376-377).

Duttera (NBC)

"After an examination of tropospheric propagation standards and a review of protection to be afforded the service area of individual television stations, we believe it will be found that additional allocations in some areas can only be made in the public interest by the utilization of directional antennas. Until these standards are set up, the separation of metropolitan stations should not be less than 150 miles on a cochannel basis and 75 miles on an adjacent channel basis. When lesser separations occur, the same protection should be afforded existing stations by reduction of the effective radiated power of the proposed stations, by adjustment of its height, by the use of a directional antenna, or a combination of these. We therefore believe that the Commission should adopt suitable standards for the use of directional antennas" (tr. 1755).

Fink (JTAC)

"Transmitting antennas having horizontal directivity are considered practicable and should be used in particular instances where they can be shown to afford protection to other stations without unwarranted reduction of the intended service. However, it is suggested that the use of directive antennas be confined to assignments in particular situations warranting their use, and that their use should not be taken as a basis for setting up the basic allocation to television and FM broadcasting stations. * * *

"The remarks regarding directive antennas are based on Class A information" (tr. C-54). (See also, tr. C-261.)

Gillett (consulting engineer)

"Mr. BOESE. Do you have any suggestions with regard to these directive antennas?"

"Mr. GILLETT. Why should we cut our throats and not take advantage of all the technical tools we have?"

"Mr. BOESE. What would you suggest as reasonable limits?"

"Mr. GILLETT. Well, at the present stage of the art I would think that a 10 decibel reduction between maximum and minimum would be a safe limit to consider. There are a few cases like the Detroit-Cleveland area where perhaps greater directivity would be warranted if it can be obtained. You are there faced with the situation already existent and you have to go as full out as you can to clean it up * * * (tr. C-402). * * *

"Mr. ALLEN. One further question on that. Your idea on directional antennas is that they should be used in specific instances where an improvement would be made, or should an allocation plan include the required directional antennas in specific cities or areas?"

"Mr. GILLETT. If the gain is large, for instance, certain seacoast areas, I don't see why we shouldn't require it. That would depend essentially on the population distribution of the area in question" (tr. C-403).

Goldsmith (Du Mont)

"The use of directional antennas for the broadcast station and for receivers promises relief under some circumstances where interference would otherwise be quite extensive with regard to both cochannel and adjacent channel operation. Television receiver design improvements may contribute substantially to relief of certain interference conditions. Appropriate choice of intermediate frequency selectivity and adequate radio frequency selectivity are important factors concerning receivers which will allow for the most efficient utilization of broadcast channels" (tr. 1446).

"Directional antennas at the transmitting site may prove beneficial in serving areas of congested population where there is a scarcity of available channels. The combination of directional antennas with appropriate natural terrain distribution can readily provide some protection from interference" (tr. 1502).

Guy (TBA)

"T. B. A. takes the position that the Commission should revise their policy with respect to directional antennas to permit their use, if not to encourage it.

"I see no reason why directional antennas for television cannot be developed and manufactured just like any other piece of television equipment. We feel that when there is a demand for such antennas they will become available.

"We feel that by the use of directional antennas it will probably be possible to make grants in a number of instances where it would not be possible to otherwise make them without causing destructive interference" (tr. 1780).

Herbst (RCA)

Regarding high gain and directional antennas, RCA has completed the development work on such equipment and is in the position to supply such radiating systems on order. The realizable power gain of omnidirectional antennas is in the order of 20:1 the directional patterns available are an offset circular pattern, cardioid pattern, and bidirectional pattern. The ratio of the power radiated in the direction of the maximum and in the direction of the null is in the order of 10:1. The advantages of both the high gain provided by vertical directivity and the directional characteristics in the horizontal plane may be incorporated in one antenna structure" (JTAC Rept., vol. II, annex 11D, p. 1).

Kear (ABC)

"I think * * * we should take into account the possibility of employment of directional antennas at some time when we have found they are practicable—and we may find when Mr. Goldsmith testified; I am not passing judgment on that—use the directional to reduce the interference in the television spectrum the same as we have in the standard broadcast * * * (tr. 1405). * * *

"The American Broadcasting Co. favors the use of directional antennas for television stations where such use would provide more adequate use of the spectrum space. We feel, however, that they do need proving so far as their design is concerned, before any indiscriminate licensing of stations with directional antennas is undertaken. One or two pilot installations might well be authorized and the procedure determined from their operation which could be followed in later general procedure for use of directional antennas, should the Commission decide that such action is desirable" (tr. 1885).

Lodge (CBS)

"Consistent with our viewpoint that there should be the maximum number of signals available, we recommend that the engineering standards provide for the use of directional transmitting antennas" (tr. 1816).

Lubecke (Don Lee)

"As to horizontal directivity, it has been our experience in using a horizontally directive antenna since 1940 that a horizontal directivity of a few times, such as 2, 3, or 4 is practicable, unless it is necessary to service, we might say, important segments of the public behind hills, or, in other words, located in transverse valleys" (tr. C-48).

Poppele (TBA)

"(4) Directional antenna: The Television Broadcasters Association urgently recommends that the Commission immediately review in general the question of directional antenna for television broadcast purposes and its own policy with regard thereto (tr. 1420).

"If there were not other ways in which television stations could be allocated to additional cities and towns, there would seem to be no doubt that the proposed assignments would be in the public interest. However, the operation of these additional stations on a nondirectional basis, with many of the separations as proposed, is quite similar to the operation of standard, regional, broadcasting stations with nondirectional antennas. This does not mean that the service areas of the television stations would be reduced to the same extent as would the service areas of the standard regional stations operating nondirectionally, but, rather, that the problem of protection of video stations is not greatly unlike the same problem which regional stations have faced in standard broadcast for years. Economically, the investment of a television station in a directional antenna is in a far smaller ratio in comparison with the total cost of the television plant and in comparison with television operating expenses, than is a directional antenna for a standard broadcast station. The problem of obtaining a suitable location for a directionalized television operation should be much less complicated than is the same location problem for a regional station, principally because such a television station requires only sufficient land for the erection of a tower and a transmitted building, while the regional standard broadcast station requires acres of land in order to erect a multiplicity of towers and install an adequate ground system. In areas of irregular terrain, the regional station must also find rather extensive cleared plots of ground which have no great terrain irregularities and which are purchasable. It therefore seems reasonable that full consideration should be given to the practicability of directional antennas in television allocation matters, and that because of the possible use of these antennas it is entirely feasible to provide adequate protection to areas in which the program service of other stations would not be replaceable" (tr. 1430-1432).

Siling (RCA)

"We suggest that the Commission require the use of directional transmitting antennas where such use will permit the operation of new stations without impairment of the public service capabilities of existing stations. The use of such antennas would make possible the operation of television stations which would not otherwise be practicable. If directional transmitting antennas are authorized, the allocation plan itself should, of course, be based on the use of such antennas, where practical" (tr. C-321).

Kaur (RMA)

"The use of directional transmitting antennas should be permitted in order to provide more effective coverage and to minimize the nuisance field in the direction of a cochannel station" (JTAC Rept., vol. II, annex 16, pp. 1-3).

ANNEX P. DIRECTIONAL RECEIVING ANTENNAS AS A SAFETY FACTOR IN AN ALLOCATION PLAN

Brown (RCA)

"There has been some discussion during these hearings * * * on whether directional antennas for receiving should be used in allocation. As Mr. Siling indicated, we believe that synchronization, proper spacing of stations should be used in an allocation plan, and we look on the receiving antennas, directional receiving antennas, as an additional insurance, the factor that takes care somewhat of our engineering guesses on the other factors, and again I say we do

not believe it should be used in the allocation plan as a governing factor, because one can easily cite instances where directional antennas just don't do any good, because of the relations of the stations and the person at the receiver" (tr. C-366-367).

Fink (JTAC)

"Receiving antennas having horizontal directivity are likewise practicable and may be employed by the public to avoid interference in many stations, particularly in locations collinear with the desired and interfering stations. But in situations where interference may be experienced from more than one direction, and particularly where the desired and interfering stations lie in nearly the same direction, their utility is much reduced. In any event, it is the conviction of JTAC that the allocation should not rely on the possible use by the public of highly directive receiving antennas" (tr. C-54).

Goldsmith (Du Mont)

"The television receiving antenna can serve to minimize, in many cases, the interference which would be indicated by use of the cochannel and adjacent channel curves shown on the transparent charts of exhibits K, L, and M. At Cleveland, for example, parts of the interference areas would receive service in spite of signals from Detroit because, generally speaking, the dipole antennas would be directed toward Cleveland and would be end on for a minimum signal reception from Detroit" (tr. 1504).

Kear (ABC)

"So the problem of receiving antennas is one which must be preserved for elimination of ghosts and for satisfactory service in the receiver, and I think not considered in connection with protection of cochannel stations" (tr. 1412).

Lodge (CBS)

"There are two I have in mind. First * * * if the receiving antenna were directional in nature, that a closer spacing would be feasible?" (tr. 1696).

"I was only trying to bring out that if directional antennas were used at the home receiver, some of the people who were listed as not receiving service in your data might be able to improve their situation * * *" (tr. 1697).

Siling (RCA)

"High-gain directional television receiving antennas with high front-to-back ratios are now available. Since the receiving antenna is an element of television service not under the control of the Commission, it cannot, of course, be used directly as one of the bases for an allocation plan. Nevertheless, such antennas are very effective in eliminating interference and constitute an important safety factor for whatever allocation plan may be determined. It is suggested that the Commission may wish to recommend the use of such receiving antennas as one means of neutralizing interference in troublesome fringe areas" (tr. C-321).

ANNEX Q. COMPARISON OF COVERAGE ON CHANNELS 2 TO 6 AND 7 TO 13 VERSUS THE EQUAL POWER CONCEPT FOR ALL STATIONS IN THE SAME CITY

Kear (ABC)

"The following conclusions may be drawn from the results of the foregoing tests * * *.

"First, the voltage delivered across the receiver input terminals for a given installation varies considerably with frequency. * * * A given field intensity on the low channels will produce substantially greater receiver terminal voltages than the same field intensity on the high channels, when reasonable, practical, and properly installed receiving antennas are used. * * *

"Second, the radials made generally north of New York show a tendency for channel 5 to establish a more nearly uniform field and to be less affected by rise and fall of the terrain. * * *

"On the basis of the foregoing observations it is believed that further consideration and study should be given to the meaning of field intensity insofar as it affects service on the television channels. On the basis of these observations, it can be concluded that provision should be made for equalizing the service on the various channels" (tr. 82-84).

Kirchner (consulting engineer)

Kirchner compared the voltage at the receiver terminals on channel 4 and channel 11 in New York to determine what power increase would be required on

channel 11 to make the coverage equivalent to that given by channel 4 (tr. C-220-221). After plotting the measurements, he found that power increases for channel 11 of up to 100 times would be required to bring the voltage at dipole terminals equal to channel 4 in the 1- to 2-mile sector (tr. C-221). In the 5- to 10-mile sector a power increase of approximately 10 times would be required (tr. C-221). From 10 to 40 miles, power increases of perhaps 8 times would be required to obtain equal voltage at the dipole terminals (tr. C-222). For 70 percent of the median sectors to give equivalent dipole voltage, a power increase of 11 times would be required, and for 50 percent of all sectors to give equivalent dipole voltage, a power increase of 9 times would be required (tr. C-222).

Fink (JTAC)

"There is a footnote to the effect that we are using in this report the customary units for denoting service contours and field intensities, namely microvolts per meter or millivolts per meter. The IRE Wave Propagation Committee has brought to the attention of JTAC the opinion that these units are not particularly well suited to allocations problems, particularly for services covering a wide range of frequencies, and in addition to the record here the suggestion was made that a unit of power density, such as watts per square meter, or watts per square wavelength, would be a more appropriate and more suitable unit to measurement, in that it would minimize variations in reception conditions which occur with frequency if microvolts per meter is used.

"JTAC, however, does not wish to inject that change at this time, for very obvious reasons. We do feel, however, that it will be a very pertinent matter for discussion in the future, and possibly before the standards are written (tr. C-241).

"The FCC value of 500 microvolts per meter is shown to be satisfactory for the low-band channels 2 through 6, but on the low side for the high-band channels 7 through 12" (tr. C-242).

"The requirement for higher field strengths on the high band channels and in the presence of ignition interference may justify the establishment of a higher value than 500 microvolts per meter (tr. C-243).

"The signal strength for suburban-rural television service on channels 7 through 13 should be somewhat greater than that for channel 2 through 6. A value between 500 and 1,000 microvolts is recommended for channels 7 through 13" (tr. C-260).

Gillett (consulting engineer)

"The measurements introduced by Mr. Ring for WPIX, Dr. Kear for WJZ-TV and Dr. Brown's earlier measurements confirm our measurements at WATV as well as fundamental studies which show that if the basic concept incorporated in the present allocation at the television stations on the various channels in a given metropolitan area shall have an equal service range, we will have to abandon the equal power limit for these stations.

"Our studies indicate that the service areas can be approximately equalized if the stations are granted effective powers increasing with frequency so that they deliver an equal field strength per wavelength at the outer service limit at the stations. This approximation apparently fits quite well the sum of all the factors entering into the result and has the very real advantage for regulatory purposes that it is easily defined and understood (tr. C-390) * * *

"Mr. ALLEN. Now, your recommendation includes not setting a particular power assignment but that the power should go up with the frequency so as to include approximately the same service radius.

"Mr. GILLETT. Yes. If you are going to maintain the concept on which the allocation was apparently based, that the various stations in a given area should have the same service area, then the measurements which we have made of WATV and others introduced here, shows that you must give the high frequency stations much more power relatively. That is due to the fact that the grazing influence is much larger—the effects of trees and buildings, is much larger. And measurements of WATV show many such examples of differences along a tree-lined avenue as compared with open terrain. So you can't just blast through and get anything like the same coverage as the lower frequencies.

"Mr. BOESE. That would mean that the high band stations would have something like ten times the power of low band stations?

"Mr. GILLETT. That is right. You will have to do that if you are going to give them the same service area (tr. C-399-400) * * *

"Mr. BOESE. In other words, you would think that before we raise the power permitted on the lower channel beyond 50 kilowatts, we should wait until we get 50 kilowatts on the higher band?"

"Mr. GILLETT. Yes, or whether you allow the high band to go up to antenna height under the present rules to get increased coverage by increasing their antenna height. There are other ways of getting power. Also, it is easier to get high gain on the higher frequencies. So the effective power, not the transmitting power must be increased (tr. C-401) * * *

"Mr. ALLEN. Mr. Gillett, in correcting for this apparent lesser coverage on the higher band, would it be your opinion as a matter of procedure that the Commission might abide by its present $4/3$ earth curve in the standards and apply this field correction with frequency that you have, or that the Commission should try to establish a different set of curves which included the frequency effect in the propagation curve?"

"Mr. GILLETT. Well, actually we arrived at the approximation on the assumption that the present curves would continue to be used. And if you change your curves, then you will have to change your correction factor to correspond, if the change is large enough. We are not advocating that this is good to the second decimal point, or a significant figure. I question whether regulatory practices should be based on the second significant figure for the most part.

"Mr. ALLEN. As a simple procedure, then, you feel it would be equally satisfactory to maintain the present curves and then use a correction factor, in other words, as you have suggested here?"

"Mr. GILLETT. Use a Butcher factor to make up for it. After all, they are not very close to the facts. Whatever they do, they are computed on an average condition that doesn't fit the individual condition too closely (tr. C-410) * * *.

"Mr. HEFFERNAN. Mr. Gillett, I would like to go back to your Butcher factor for a moment. You mentioned the ignition and diathermy interference.

"Mr. GILLETT. Yes.

"Mr. HEFFERNAN. In determining what your Butcher factor should be, I take it you would agree that that kind of interference to which the lower channels are more subject than the upper channels, is one of the factors that ought to be taken into consideration; is that right?"

"Mr. GILLETT. Oh, sure. I don't advocate being blind to any facts" (tr. C-416).

Wilmotte (consulting engineer)

"There has been some discussion on this equality of area problem, on the principle that all the stations covering a particular town should have all the same service. Mr. Gillett pointed out that in order to do that it would be necessary for the higher frequency stations to have more power than the lower frequency stations. At the same time he said that the maximum power available should be used at all frequencies. Since the likelihood is that the equipment is likely to be more difficult to produce for high power at high frequencies than at low frequencies, there is a contradiction in the proposal. I should have asked Mr. Gillett his opinion at that time but I did not think about it until afterward. However, it leads to this:

"It seems to me that it should be pointed out to the Commission that if they retain the principle that the engineering interpretation of equal area for all the stations, means that the public will receive the minimum service that can be obtained over the frequency band and over various conditions such as the ownership of a high tower, or the ownership of a high building.

"That, I think, is the engineering presentation, and separated from the social aspect as to the relative merits to the American public of reducing the degree of competition. The point should be presented I think clearly that the principles imply a minimum service and not a maximum service" (tr. C-516-517).

ANNEX R. THE USE OF HIGHER EFFECTIVE RADIATED POWER WHERE NEEDED TO PRODUCE ADEQUATE SERVICE AND WHERE CONSISTENT WITH THE STANDARDS

Duttera (NBC)

"We feel that, under prevailing interference conditions, it is only by the use of higher power that improved reception can be provided for the public throughout the service area of a television station. This interference results from automobile ignition, diathermy, amateur stations, and other types of man-made electrical noise.

"The use of higher power may also make it possible to reduce the cost of television receivers.

"Accordingly, we recommend that the Commission authorize increases in power where such increases would be consistent with the standards which it may determine relating to tropospheric propagation and protected contours" (tr. 1755-1756).

Guy (TBA)

"I would like to point out the situation in one city with which I am particularly familiar. Now the Commission's power lid is 50 kilowatts and 500 feet. In New York City we have a very large metropolitan district as defined by the United States Bureau of Census.

"With the present Federal Communications Commission power lid it is not possible for a New York television station to serve more than about 25 percent of the metropolitan district with the 5 millivolts, your standard of service. There are other cities where 50 kilowatts and 500 feet is adequate and there are probably now, or there may be in the future, other communities, metropolitan districts where less than 50 kilowatts at 500 feet would be adequate to serve their area and population.

"Therefore Television Broadcasters Association feels that the Commission should keep an open mind with respect to power and make grants where power is needed to adequately serve the areas" (tr. 1781-1782).

Goldsmith (Du Mont)

"We recommend that the Commission's rules placing a limit of 50 kilowatts at 500 feet for metropolitan stations be amended upward to allow a maximum power corresponding to 500 kilowatts at 500 feet. If all television stations were to increase their power by the same percentage, the mutual interference conditions between stations would not be altered seriously. The interference boundaries would still be in about the same position. Thus, the same minimum spacing conditions would satisfy this higher power. However, television receiver owners would experience a considerable improvement in signal-to-noise ratio, the receivers being able to operate much more satisfactorily in the presence of industrial noise and other nontelevision interference" (tr. 1513).

Siling (RCA)

"We believe that the Commission should authorize the use of higher power for television stations, and, if that is done, revise the protected contour of such stations accordingly.

"We feel that by the use of higher power improved reception can be provided for the public throughout the service area of a television station. Higher power would also make possible the simplification of receiving antennas and the installation of television receivers. Accordingly, we suggest that the Commission authorize increases in power where such increases would be consistent with the standards which it may determine relating to tropospheric propagation and protected contours" (tr. C-322).

RMA Committee TS-3

"The committee notes that, with the present allocation structure based on 50-kilowatt 500-foot stations, many stations having antennas higher than this are operating at reduced powers. In many cases, it has been necessary to reduce the transmitter power output to 50 percent of the rated transmitter output. We feel that this is unfortunate, since the service provided is degraded to a level lower than that which the transmitter could provide were it operated at full output."

"It is felt that effective radiated powers must be increased beyond the presently contemplated 50-kilowatt ceiling. If the power increases are made in 'horizontal' fashion, the quality of service will be improved over a given area. This will mean that existing ideas of protected contours will have to be revised upwards, but the service areas will remain unaffected. This, the committee feels, is a very desirable object, and urges that its accomplishment be planned and expedited" (JTAC rept., vol. II, annex 7, pp.4-5).

90 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

ANNEX S.—Analysis of pending applications in terms of height and power requested

City and State	Channel	Requested		Equivalent power at 500 feet †
		Power	Height	
		Kilowatts	Feet	Kilowatts
Birmingham, Ala.	9	25.8	911.5	80
Phoenix, Ariz.	4	15.3	350	8.6
Do.	7	30	1,010	270
Tucson, Ariz.	6	20	611	34
Little Rock, Ark.	10	3.1	399	1.9
Do.	8	2.47	540.5	3.3
Bakersfield, Calif.	8	2.47	283	650
Do.	10	1	441	850
Fresno, Calif.	4	15	218.5	3.3
Do.	5	17.1	1,931	600
Do.	7	20	358	10
Do.	7	30	1,183	500
Do.	7	26.9	317	10
Do.	2	14.2	511.6	1
Los Angeles, Calif.	13	29.52	2,915	(*)
Do.	4	25.22	3,015	(*)
Oakland, Calif.	11	28.2	1,650	(*)
Sacramento, Calif.	3	17	415	13
Do.	10	29.3	263	8.5
Do.	6	15	350	7
San Diego, Calif.	10	19.8	436.5	16
Do.	6	19.8	509	3.5
Do.	10	2.67	565	55
Do.	3	17.995	803.5	500
San Francisco, Calif.	9	31.4	1,396	(*)
Do.	2	32.5	2,371	(*)
Do.	9	30.5	2,523	(*)
Do.	11	31.35	1,235.4	400
Do.	11	28.2	2,378	(*)
San Jose, Calif.	13	33.2	2,263	(*)
Do.	13	250	3,098	(*)
San Luis Obispo, Calif.	3	1.74	773	4.3
Santa Barbara, Calif.	6	1.68	—905	430
Do.	6	1.5	260	4.5
Visalia, Calif.	10	30	655.3	170
Denver, Colo.	9	31.6	922	1.6
Do.	4	16.3	147	18
Do.	4	29.6	403	11
Do.	5	16.9	370	5.2
Do.	2	15	217	10
Do.	9	27.9	314	511
Do.	2	25.8	511	80
Bridgeport, Conn.	10	38.25	637	65
Hartford, Conn.	10	20	768	100
Do.	10	29.1	833	52
Do.	10	15	802	3
New Haven, Conn.	6	18.9	190	100
Waterbury, Conn.	12	29.6	500	9
Do.	12	27	790	9.5
Jacksonville, Fla.	6	18.5	855	33
Miami, Fla.	7	29.9	303	10
Do.	7	46.8	436	7
Do.	5	23.87	318	502
Do.	5	16.2	328	24
Do.	7	17.7	502	17
Do.	7	24.8	478	600
Orlando, Fla.	3	14.3	534	13
Do.	10	3.128	240	18
St. Petersburg, Fla.	5	16.8	417	497.5
Tampa, Fla.	2	15	540	511
Do.	4	22.5	497.5	463.3
Do.	9	25.8	511	16
Atlanta, Ga.	11	18.35	463.3	17
Do.	11	25.23	438	500
Do.	8	27.25	500	214
Macon, Ga.	7	3.08	214	2,961.5
Bosch, Idaho	6	20	2,961.5	(*)
Chicago, Ill.	4	25.2	650	43
Do.	11	21	553	30
Do.	2	16.5	520	20
Do.	13	37.5	562	51
Do.	2	15	566	19
Quincy, Ill.	11	23.6	934	130
Rockford, Ill.	12	28.7	357	8.5
Rock Island, Ill.	4	13.6	350	6.5
Springfield, Ill.	10	2.48	423	1.7
Do.	10	26.2	500	296
Do.	8	25.1	296	7.8

See footnotes at end of table.

ANNEX S.—Analysis of pending applications in terms of height and power requested—Continued

City and State	Channel	Requested		Equivalent power at 500 feet ¹
		Power	Height	
Evansville, Ind.	11	<i>Kilowatts</i> 28	<i>Feet</i> 500	
Fort Wayne, Ind.	4	16	280.5	5
Do	4	16	338	7.5
Do	2	15.07	500	
Indianapolis, Ind.	8	24.1	440	17
Do	12	33.4	426	23
Do	12	27.8	498	
Do	8	26.2	457	21
South Bend, Ind.	13	27.7	561	36
Boone, Iowa	7	2.5	215	.4
Cedar Rapids, Iowa	7	22.1	350	9.5
Davenport, Iowa	2	1,625	236	.400
Des Moines, Iowa	12	31	(⁵)	1
Do	9	28.5	632	52
Do	5	23.9	379	15
Do	2	16.85	497	
Do	2	16.85	497	
Iowa City, Iowa	11	32.65	169.4	3
Topeka, Kans	7	0.950	187	.140
Do	11	26.3	441	20
Wichita, Kans	4	15.1	500	
Louisville, Ky	5	³ 24.1	355	13
Do	13	27.6	500	
Baton Rouge, La.	9	26.9	415.6	18
New Orleans, La.	10	29.3	350	12
Do	2	14.385	505	
Shreveport, La.	11	18.25	514	
Do	8	24	600	40
Do	6	18.3	522	23
Do	4	14.25	500	
Do	8	26.4	494	
Portland, Maine	11	30.5	500	
Do	8	29.3	327	11
Cumberland, Md	2	1.52	1,488	15
Do	2	1	410	.700
Frederick, Md	3	.276	987	1.0
Hagerstown, Md.	6	.767	1,308	7.5
Boston, Mass	9	27.5	500	
Do	9	26	504	
Do	9	20	546	25
Do	13	29	493	
Do	13	22	480	20
Do	13	5.95	402	3.8
Do	13	32.16	470	28
Do	4	³ 15.61	536	18
Fall River, Mass.	8	1	495	
Do	8	8	490	
Holyoke, Mass.	3	8.5	1,004.5	40
Lawrence, Mass.	6	15.2	565	18
Lowell, Mass.	6	16.18	630.5	25
New Bedford, Mass.	1	1	500	
Springfield, Mass.	3	18	502.5	
Do	3	18.9	541	23
Worcester, Mass.	5	18	502.6	
Do	5	16.886	693	43
Detroit, Mich.	5	16.4	538	19
Do	5	17.8	530.5	24
Do	2	³ 16.5	500	
Flint, Mich	11	2.93	205	.400
Do	11	2.8	347	1.4
Grand Rapids, Mich.	9	25.86	486	
Saginaw, Mich.	13	2.55	389	1.6
Do	8	2.75	233	.390
Minneapolis, Minn.	7	18	500	
Do	7	25	397	16
St. Paul, Minn.	2	13.7	406	9
Jackson, Miss.	7	20.2	408	13
Clayton, Mo.	2	.980	533	1.4
Kansas City, Mo.	2	15.4	565	20
Do	5	18.1	407	13
Do	7	20.8	495	
Do	5	20	565	29
Do	9	27.5	503	
Do	5	18	497	
St. Joseph, Mo.	13	2.33	612.8	4.0
Do	13	3.05	303	1

See footnotes at end of table.

92 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

ANNEX S.—Analysis of pending applications in terms of height and power requested—Continued

City and State	Channel	Requested		Equivalent power at 500 feet ¹
		Power	Height	
		Kilowatts	Feet	
St. Louis, Mo.	4	20	528	24
Do.	7	22.192	586	32
Do.	4	22.9	717	50
Do.	9	36	586	55
Do.	9	29.6	595	47
Omaha, Nebr.	7	26.2	578	42
Do.	7	24.4	415	16
Reno, Nev.	7	30	2,775	(*)
Portsmouth, N. H.	5	27.5	733	87
Manchester, N. H.	12	10	955	66
Atlantic City, N. J.	8	1	500	-----
Do.	8	1	405	.600
Do.	8	1	378	.600
New Brunswick, N. J.	8	540	159	.054
Trenton, N. J.	8	1	252	-----
Albuquerque, N. Mex.	5	17.5	3,987	(*)
Do.	5	16.45	279	5.3
Albany, N. Y.	7	5	1,171	35
Do.	11	12	864	45
Do.	9	29.6	1,007	220
Do.	9	8	1,061	60
Binghamton, N. Y.	12	* 23.45	855	90
Buffalo, N. Y.	7	25.6	500	-----
Do.	9	20	515	-----
Do.	9	30.4	472	27
Do.	9	30.8	388	17
Corning, N. Y.	9	.650	595	1.0
Elmira, N. Y.	9	2.9	704	5.4
Ithaca, N. Y.	4	13.6	847	43
New York, N. Y.	11	* 18.5	755	67
Do.	4	* 15.2	1,280	130
Niagara Falls, N. Y.	9	23.1	423	17
Rochester, N. Y.	6	* 21.94	505	-----
Do.	11	37.6	465	33
Do.	11	36.1	534	41
Do.	2	22.4	386	15
Syracuse, N. Y.	8	* 26.7	580	15
Troy, N. Y.	9	10	924	50
Durham, N. C.	4	18.5	570	-----
Do.	7	2.46	468	2.3
Charlotte, N. C.	11	2.8	460	2.5
Do.	9	25.5	443	20
Do.	9	27.805	442	24
High Point, N. C.	12	1	378.6	.550
Salisbury, N. C.	4	14.85	263	4
Greensboro, N. C.	10	23.6	369	15
Winston-Salem, N. C.	6	18.5	500	-----
Raleigh, N. C.	5	16.6	621	24
Winston-Salem, N. C.	6	28.4	356	15
Akron, Ohio	11	23.35	372	14
Do.	11	31	310	9.5
Bellare, Ohio	12	27	538	34
Canton, Ohio	7	24	442	18
Cincinnati, Ohio	2	31.2	522	36
Cleveland, Ohio	2	14.9	786	41
Do.	2	15.5	636	25
Do.	7	27	685	70
Do.	7	11	568	16
Do.	4	39.22	619	70
Do.	2	14.3	595	19
Columbus, Ohio	6	* 6.51	543.8	8
Toledo, Ohio	11	17.66	520	19
Do.	3	16.7	500	-----
Do.	13	31.8	439	25
Youngstown, Ohio	13	20	512.5	-----
Do.	13	23.6	(*)	-----
Do.	13	23.4	509	-----
Oklahoma City, Okla.	5	23.4	482	16
Do.	5	16.6	482	-----
Do.	5	17.3	490	-----
Do.	9	20.5	462	25
Do.	9	29.52	525	34
Tulsa, Okla.	10	18.3	498	-----
Do.	10	26.9	369	14
Do.	8	24.13	520	20
Do.	8	31	396	19
Do.	8	18.5	263	4

See footnotes at end of table.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 93

ANNEX S.—Analysis of pending applications in terms of height and power requested—Continued

City and State	Channel	Requested		Equivalent power at 500 feet ¹
		Power	Height	
		<i>Kilowatts</i>	<i>Feet</i>	<i>Kilowatts</i>
Portland, Oreg.....	8	22.2	1,401	650
Do.....	12	2.84	1,037	17
Do.....	10	30	2,768	(4)
Do.....	6	10	984	50
Do.....	10	8.5	674	52
Allentown, Pa.....	8	.440	727	1.2
Do.....	8	.576	773	1.2
Altoona, Pa.....	9	3.11	1,095	26
Do.....	9	7	1,048	50
Bethlehem, Pa.....	8	2.59	829	9.5
Easton, Pa.....	8	.450	753	1.3
Erie, Pa.....	3	1	431	890
Harrisburg, Pa.....	8	3.1	310	1.2
Do.....	2	1.4	620	6.4
Hazleton, Pa.....	8	.210	677	400
Meadville, Pa.....	13	2.5	580	3.5
Philadelphia, Pa.....	12	19.4	525	23
Do.....	12	28.8	488	
Pittsburgh, Pa.....	8	30.8	489.5	
Do.....	10	27.6	546	35
Do.....	10	26.6	444	19
Do.....	10	31	265	7
Do.....	10	14.5	804	51
Do.....	6	24.9	670	50
Do.....	10	23.8	721	41
Reading, Pa.....	5	.630	632	1.2
Do.....	5	.400	739	1
Scranton, Pa.....	7	2.78	841	9.5
Do.....	11	2.61	1,201	11.2
Wilkes-Barre, Pa.....	11	4.5	1,230	47
Do.....	11	8	1,011.5	46
Williamsport, Pa.....	13	3.64	1,291	40
Do.....	13	3.13	558	4.9
York, Pa.....	8	.700	549	.950
Do.....	8	.775	558	1.0
Providence, R. I.....	13	50	616	85
Greenville, S. C.....	10	27.8	1,187	340
Chattanooga, Tenn.....	10	30	1,050	260
Memphis, Tenn.....	5	14.4	380	8.5
Do.....	2	15	302	5
Do.....	9	19.2	513	
Do.....	9	25.8	420	27
Do.....	7	24	435	29
Knoxville, Tenn.....	8	30	497.3	
Nashville, Tenn.....	2	16.2	407.1	12
Do.....	9	28.6	290	8.0
Do.....	7	16	746	45
Do.....	5	17.1	744	50
Amarillo, Tex.....	5	1.85	449	1.7
Austin, Tex.....	10	27.54	352	13
Do.....	8	4.25	455	3.6
Beaumont, Tex.....	10	28.4	485	
Do.....	3	13.2	543	15
Brownsville, Tex.....	7	2.66	461	2.3
Corpus Christi, Tex.....	6	19.7	417	15
Do.....	3	16.46	493	
Dallas, Tex.....	8	* 19.4	490	
Do.....	12	30	478.5	25
Do.....	10	30.24	415	20
Do.....	4	* 15.8	463	15
Do.....	10	24.84	564	34
Do.....	11	20.3	483	19
Do.....	2	16.53	507	
El Paso, Tex.....	5	16.5	461	
Do.....	7	2.94	877	11
Fort Worth, Tex.....	10	25.16	504	
Do.....	2	14.2	518	16
Harlingen, Tex.....	9	2.81	459	2.7
Houston, Tex.....	4	15	474	14
Do.....	7	19.2	498.5	
Do.....	4	14.5	426	12
Do.....	7	17.9	454	16
Do.....	5	30.4	502.5	
Longview, Tex.....	7	1	430	.740
Lubbock, Tex.....	3	1.85	374	1.2

See footnotes at end of table.

94 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

ANNEX S.—Analysis of pending applications in terms of height and power requested—Continued

City and State	Channel	Requested		Equivalent power at 500 feet ¹
		Power	Height	
San Antonio, Tex.	9	<i>Kilowatts</i> 22.713	<i>Feet</i> 587	<i>Kilowatts</i>
Do.	7	26.24	342.8	9.5
Do.	12	21.94	463	17
Do.	2	14.68	510	
Do.	2	13.5	472	13
Tyler, Tex.	9	1	395	.600
Waco, Tex.	6	2.3	353.5	1.4
Do.	3	16.46	511	1.4
Wichita Falls, Tex.	8	2.72	460	2.2
Do.	10	30	199	4
Salt Lake City, Utah	4	² 4.15	499	
Do.	9	2.6	10.7	
Do.	7	30	919	160
Do.	7	50	-372	
Do.	2	15.4	38.2	
Newport News, Va.	7	23.9	416	15
Norfolk, Va.	13	30.2	292	9.5
Do.	11	27	324	9.5
Do.	13	19.9	409	13
Richmond, Va.	10	23.5	500	
Do.	10	27.3	343	11
Do.	3	17.113	362	9.5
Do.	8	18.5	546	23
Winchester, Va.	12	31.5	1,475	950
Seattle, Wash.	2	16.7	513	
Do.	7	28.1	1,584	900
Do.	7	30	3,200	(⁴)
Do.	11	30.4	1,426	900
Do.	7	26	1,260	52
Do.	11	26.9	749	80
Do.	7	30	2,725	(⁴)
Tacoma, Wash.	4	12	291	3.5
Do.	13	29.7	508	
Do.	9	30	1,073	270
Yakima, Wash.	6	29	995	110
Charleston, W. Va.	7	26.5	568	37
Do.	2	19	184	2.7
Do.	13	27.2	582	42
Oak Hill, W. Va.	6	1.9	397	1.3
Wheeling, W. Va.	12	32.49	598	51
Madison, Wis.	9	2.91	337	1.3
Do.	9	28.2	502.5	
Do.	9	26.78	515	
Milwaukee, Wis.	10	28	439	20
Do.	6	28	479	28
Do.	8	26	482	24

¹ Computed from appendix IV of the Standards of Good Engineering Practice.

² As used herein, “—” indicates that calculation of equivalent power at 500 feet has not been made either because the height specified in the application is within a few feet of 500 feet and consequently there would be no appreciable change in power, or because the height specified is less than 100 feet and there is no means afforded by appendix IV of the standards for converting such heights into 500 feet equivalents.

³ Indicates request for change of existing station or modification of CP. Italic represents change from original authorization sought.

⁴ Over 1,000 kilowatts.

⁵ 100 feet above ground—height above average terrain not available.

⁶ 700 feet above ground. Height above average terrain not available.

ANNEX T.—Analysis of authorized stations in terms of height and power requested

City and State	Channel	Requested		Equivalent power at 500 feet ¹
		Power	Height	
		Kilowatts	Feet	Kilowatts
Birmingham, Ala.	4	14.5	500	(2)
Do.	13	26	875	100
Do.	5	17.5	400	11
Phoenix, Ariz.	7	29.4		
Los Angeles, Calif.	4	15	3,041	(3)
Do.	11	31.5	2,345	(3)
Do.	9	31.4	3,100	(3)
Do.	13	28.1	2,955	(3)
Do.	5	30	2,921	(3)
Do.	2	18	1,779	380
Do.	8	20	1,710	55
San Diego, Calif.	7	27	1,261	500
San Francisco, Calif.	5	29.9	540	43
Do.	4	14.5	1,325	130
Do.	6	1.82		1.9
New Haven, Conn.	7	.476	480	.425
Wilmington, Del.	9	27.3	460	22
Washington, D. C.	7	27.7	542	42
Do.	4	20.5	330	9.5
Do.	5	17.5	587	19
Jacksonville, Fla.	2	15	500	(2)
Do.	4	14.8	430	12
Do.	6	19.4	355	10
Miami, Fla.	4	1.45	306	.600
St. Petersburg, Fla.	7	26.2	385	14
Atlanta, Ga.	8	23.8	545	30
Do.	2	4.9	930	19
Do.	5	18	531	22
Chicago, Ill.	5	21.8	595	30
Do.	4	12.42	627	19
Do.	7	25	650	52
Do.	9	11.2	685	17
Do.	6	17.22	561	22
Rock Island, Ill.	4	13.6	400	8.5
Bloomington, Ind.	10	1	215	.180
Indianapolis, Ind.	6	28.2	400	17
Ames, Iowa.	4	13	506	(2)
Davenport, Iowa.	5	22.9	350	13
Louisville, Ky.	9	9.6	529	11
Do.	5	16.6	355	7.2
New Orleans, La.	4	14.5	380	8.5
Do.	6	30.6	390	19
Do.	7	21.5	575	38
Baltimore, Md.	11	32.6	525	37
Do.	2	16	405	11
Do.	13	26.1	529	32
Boston, Mass.	4	14.3	547	17
Do.	7	26.6	501	(2)
Waltham, Mass.	2	50	373	28
Detroit, Mich.	4	17.1	588	23
Do.	7	27.9	485	26
Do.	2	14.26	500	(2)
Grand Rapids, Mich.	7	19.7	500	(2)
Kalamazoo, Mich.	3	15.7	341	17
Lansing, Mich.	6	20.6	420	14
Minneapolis, St. Paul, Minn.	5	24.7	560	30
Do.	4	17.9	490	17.9
Do.	9	20.5	700	54
Do.	4	22	745	60
Kansas City, Mo.	5	18.15	524	20
St. Louis, Mo.	6	10.2	590	23
Omaha, Nebr.	3	11.7	590	17
Do.	3	30.5	595	44
Newark, N. J.	4	4.5	48	(2)
Albuquerque, N. Mex.	12	12	855	45
Binghamton, N. Y.	4	16.2	335	7
Buffalo, N. Y.	9	9.5	973	50
New York, N. Y.	5	14.25	640	30
Do.	2	13.7	910	53
Do.	7	29.5	565	42
Do.	4	7	1,280	50
Do.	11	16.3	560	23
Rochester, N. Y.	6	16.7	497	(2)
Schenectady, N. Y.	4	18.25	832	50
Syracuse, N. Y.	8	15	380	8
Do.	5	25.8	640	50

See footnotes at end of table.

ANNEX T.—Analysis of authorized stations in terms of height and power requested—Continued

City and State	Channel	Requested		Equivalent power at 500 feet ¹
		Power	Height	
		Kilowatts	Feet	Kilowatts
Utica, N. Y.	13	13	830	57
Charlotte, N. C.	3	16.3	1,160	110
Greensboro, N. C.	2	1.67	470	1.7
Cincinnati, Ohio	7	21	695	46
Do	11	24.5	650	45
Do	4	23.5	670	47
Cleveland, Ohio	9	21	725	60
Do	5	16.3	640	29
Do	4	15	627	25
Columbus, Ohio	10	28.4	485	28
Do	3	15.2	455	15
Do	6	14.3	363	7.5
Dayton, Ohio	13	24.6	570	20
Do	5	16	490	(²)
Toledo, Ohio	13	27.4	524	32
Oklahoma City, Okla.	4	12.1	935	48
Tulsa, Okla.	6	16.6	480	15
Portland, Oreg.	3	15.5	865	55
Erie, Pa.	12	2.0	165	280
Johnstown, Pa.	13	6.5	1,120	52
Lancaster, Pa.	4	1	260	200
Philadelphia, Pa.	10	25	670	54
Do	6	27	650	50
Do	3	18	720	46
Pittsburgh, Pa.	3	16.6	818	50
Providence, R. I.	11	30	615	50
Memphis, Tenn.	4	13.6	650	25
Nashville, Tenn.	4	14.4	755	40
Dallas, Tex.	4	15.1	465	15
Do	8	27	330	11
Fort Worth, Tex.	5	17.6	490	(²)
Houston, Tex.	2	15.1	502	(²)
San Antonio, Tex.	5	17.9	440	15
Do	4	21.6	480	21
Salt Lake City, Utah	5	18.4	—435	(²)
Do	4	14.5	—542	(²)
Norfolk, Va.	4	24.2	365	13
Richmond, Va.	6	12.16	431	10
Seattle, Wash.	5	18.95	408	14
Huntington, W. Va.	5	18.2	500	(²)
Milwaukee, Wis.	3	16.1	319	7

¹ Computed from appendix IV of the Standards of Good Engineering Practice.

² Calculation of equivalent power at 500 feet has not been made either because the height specified in the application is within a few feet of 500 feet and consequently there would be no appreciable change in power, or because the height specified is less than 100 feet and there is no means afforded by appendix IV of the standards for converting such heights into 500-foot equivalents.

³ Over 1,000 kilowatts.

BLONDER-TONGUE LABORATORIES, INC.,
Westfield, N. J., April 30, 1954.

Hon. CHARLES E. POTTER,
Senate Office Building,
Washington, D. C.

DEAR SENATOR POTTER: We most sincerely urge you and your committee to give all possible support to the continuance and growth of UHF television.

Entertainment, education, and news coverage through the magic window of television is now possible for many additional millions of people. This has only been made possible by the establishment of many new UHF stations.

Regarding the fallacious opinion that these areas might have been covered by VHF channels, we in the television business know that good reception is possible at distances over 200 miles with VHF channels, and we have received many complaints in regard to reception difficulties where several channels can be received on the same, or adjacent frequencies.

The addition of local UHF stations transmitting on widely separated frequencies is the only answer, and we have already received a great many expressions of thanks for the equipment we manufacture which adapts VHF sets to receive all of the new UHF channels. This group also includes subscribers to community and master TV systems which provide both UHF and VHF to an estimated

1 million viewers in remotely located cities and towns, and also the tenants of hotels, apartment houses, etc., all over the country.

Thanking you, I remain,
Very truly yours,

JOSEPH H. KERNER, *Sales Manager.*

AERO SALES Co.,
Ann Arbor, Mich., May 14, 1954.

HON. CHARLES POTTER,
*United States Senate,
Washington, D. C.*

DEAR SIR: The present confused state of UHF-TV and its effect on our local station WPAG-TV (UHF), is of great concern to our association.

We feel that its operation is in jeopardy and that the loss of the station would be a great loss to this community, both culturally, as well as, a local public service. It is our feeling that the mixing of high power VHF coverage in this region, works an insurmountable handicap for the local UHF station. Needless to state, public acceptance of UHF is extremely difficult to arouse on any equitable volume basis, which we feel is the direct result of mixing as above stated.

In our opinion, the present situation tends to create a VHF monopoly, which if allowed to continue, is likely to result in the loss of local TV service to communities such as ours.

We respectfully ask that you use any influence you may feel warranted to correct the inequities in the present situation.

Yours very truly,

J. E. LITTELL,
Secretary, Ann Arbor Television Service Association.

WTAO-TV, MIDDLESEX BROADCASTING CORP.,
Cambridge, Mass., April 22, 1954.

HON. CHARLES E. POTTER,
*United States Senate,
Washington, D. C.*

DEAR SENATOR POTTER: As recently as February 1, 1954, in a letter to Commissioner George E. Sterling I expressed the feeling that intermixture of VHF and UHF channels in the same community was necessary to provide for a truly nationwide competitive TV service. However, on that date I also stated that in my mind I had some doubt that UHF's problems would be of short-term duration if the current trend continued; also, that some of the economic problems arising out of intermixture might seriously hamper the healthy, competitive growth of television. On that date I requested that a hearing be set up by the FCC to consider the economic and financial problems arising out of intermixture, before any further VHF stations were given construction permits in currently intermixed areas.

In my opinion, fast-moving events of the past 3 months clearly indicate that intermixture is not working out satisfactorily; UHF economic problems are now reaching crisis proportions; the future development of the entire television industry is seriously affected; public interest, investment and faith dangle precariously in the balance.

On February 28, 1954, Du Mont terminated television broadcast service to Kansas City from UHF station KCTY (channel 25). This action began what appears to be a continuing chain-reaction of UHF shutdowns in intermixed areas. UHF stations are rapidly becoming a statistical series of disasters. The trend indicates an increasing and alarming rate of UHF failures; these shutdowns are strong evidence of UHF economic vulnerability in intermixed areas and stronger evidence that intermixture is seriously breaking down.

In my opinion, the protection of the public interest, the development of UHF, and the solution to the intermixture problem will not be found by allowing the current economic trend to continue. If the Commission wants to develop properly

a strong nationwide television service, may I request that an immediate halt be called to the further issuance of VHF permits in intermixed areas.

I am now convinced that many of the currently unassigned VHF channels will be needed in working out a solution to intermixture.

Sincerely,

FRANK LYMAN, JR., *President.*

THAMES BROADCASTING CORP.,
New London, Conn., April 27, 1954.

Senator CHARLES E. POTTER,

*Chairman, Subcommittee on Communications,
Interstate and Foreign Commerce Committee,
Senate Office Building, Washington, D. C.*

DEAR SENATOR POTTER: This communication is in compliance with your invitation for comment from the UHF industry.

UHF—the upper high frequency band in television—has now reached the end of its second complete year. And, with it, this spectrum has reached the crossroads, in the opinion of many executives at every level of the radio-broadcasting industry. UHF's past is black, and its future is bleak, say many of the experts—people in a position to know.

Many serious questions are now being raised concerning UHF. Can it ultimately succeed, technically? Can it survive, economically? And—transcending all other questions in importance—is the public being served to the limit of America's ability? Your own special congressional subcommittee is now reviewing the whole UHF question. In an effort to aid this committee, and to help supply some of the answers to the questions asked above, this letter presents a succinct analysis of the entire UHF problem. The data contained herein represents the findings of this company, in a continuing 2-year study of ultrahigh frequency. The conclusions drawn are based upon the beliefs of numerous experts in the radio-television field—engineers, station operators, general managers, economists, advertising agency executives, and firms engaged in station representation.

Primarily, whence came UHF? UHF was designated in April 1952 as a new spectrum to fill the gaping void in television service, in this country. The VHF spectrum was—and still is—grossly inadequate and ineffective, in its service to the public of the United States.

Exactly what were UHF's aims; goals; overall purpose? To better serve the public:

(1) Through an adequate, more effective, TV system. As a result of the new spectrum, the American public hoped—

(a) For a greatly expanded television reception.

(b) For a real selectivity in stations, on their home TV set.

(c) For a choice of networks on their home TV set.

(2) By means of a highly desirable UHF service, available to every home, without forcing that home to pay a prohibitive price for such service.

(3) From the station standpoint, the UHF operator was encouraged by this cheering news: the admittedly powerful sending signal of existing VHF stations would be offset by compensating power to be allotted UHF stations (up to 1 million watts, of generated power) it was pointed out.

(a) Network service would be readily available, it was assumed, with (at least) a four-network system, i. e., CBS, NBC, ABC and Du Mont.

(b) Station operating costs (it was hoped) for UHF would be no higher than operating costs for a VHF station, the income being much lower than VHF.

(4) Viewed from the national-economy standpoint: The new UHF allocation promised to revivify the important TV-set industry and many millions of additional sets would be sold, everyone thought. And so, everyone within and without the industry, in fact, the country as a whole, looked forward, hopefully, to fulfilling the promise held out in the new allocation, confident in their knowledge that America can lick any problem, even UHF. And so, what happened? Just this: After 2 long years of blood, sweat, and tears, the great majority of folks in the industry are in agreement on one point: Appraised as a whole, UHF is a fiasco, and steadily deteriorating.

(a) From the public's viewpoint: Instead of filling the void left by VHF, UHF has proven merely a weak, supplementary service to the public, expensive, inadequate, often exposing the viewers to pitiful programs, 10th-rate

films, no network service, inconsistent signal, inadequate signal, or no signal at all.

(b) From the station operator's standpoint: Many stations have been unable to obtain network service; others have lost the network when a VHF became available; still others fear losing it, in the future, to a VHF (perhaps now in a hearing) when that VHF goes on the air.

(c) Ten stations have now either been sold to avoid business failure, or suspended operation for the same reason. More are expected. Forty-eight additional UHF licenses have been turned back to the FCC.

(d) The TV set industry failed to come up to expectation, because of UHF's failure.

But, you ask, why has UHF been a failure? Why can't American initiative, inventive genius, and manufacturing ability, lick the UHF problems? Where did it fail? Is there a better method of expanding the American television system? Over all other considerations, is the public being served by a continuance of the UHF allocation, in its present form? There are many reasons for UHF's failure. Specifically, these fall into three main headings:

- (1) Set difficulties.
- (2) Station difficulties.
- (3) Failure of equipment manufacturers to deliver.

Let's look at the reasons from these three different vantage points.

(1) Set difficulties:

(a) All-band TV sets at one low price are not yet available, and the sensitivity is extremely inferior on the existing higher cost all-band sets.

(b) Comparable UHF sensitivity not only does not now exist but it is doubtful if it ever will, because, in the opinion of the experts, no sincere effort has been made by leading manufacturers to produce UHF receiver tubes and circuitry, capable of adequate performance.

(c) In the case of UHF converters, the sensitivity is equally, highly inadequate.

(d) Yet, despite this unsatisfactory performance, the overall cost of conversion remains prohibitively high, for the average American family.

(2) Station difficulties:

(a) Two years have elapsed since UHF came into being, yet the manufacturers have failed to produce a satisfactory, high-power UHF transmitter. Many highly regarded figures in the industry, seriously challenge the sincerity of the manufacturers' efforts in behalf of UHF, particularly when leading equipment manufacturers are inextricably involved in the VHF field, and TV network ownership.

(b) Cost of maintaining a UHF transmitter is so prohibitive as to be unsound, economically.

(c) Instead of the compensating power designed to put UHF on an equal footing with VHF, as promised by the Commission, UHF almost from its inception, was working against itself, when superpower, and high antenna privileges extended to VHF stations by the FCC, proved an almost insuperable economic barrier to overcome, for new UHF stations.

(d) Because of the difficulty outlined in (c) above, station owners find it very difficult, indeed, to obtain—

- (1) Network affiliations.
- (2) National-spot business.
- (3) Regional business.

(e) The stations thus wind up with inferior programming and hence, offer little incentive for the public to convert sets to UHF.

(f) VHF stations are now boasting coverage up to, and selling advertising based upon, their 100-microvolt contour, a service apparently never envisaged by the FCC when the Commission granted so-called super power to VHF stations. This has had an added crippling effect to UHF operators.

(g) On the one hand, color has been held up as the probable all-powerful future salvation of UHF. On the other hand, the possibility of moderate-cost color in the near future has actually had a definite retarding effect on UHF conversion, with the public.

(h) Further, once again the manufacturers' sincerity is suspect, in that the first color TV sets coming off the assembly lines are geared for VHF only.

(i) Another farcical factor faced by stations struggling for conversions: Manufacturers have so reduced the cost of brand new VHF sets that, in

many cities, it is possible to buy a VHF set, for less money than it costs to convert an old set to UHF.

(j) While it is a fact that a handful of UHF stations are ostensibly flourishing, the following factors have a sobering effect on any enthusiasm raised by these few outlets:

(1) Such stations are usually enjoying a temporary, false prosperity because of contributing factors such as these: VHF service has been postponed because two or more applicants are tied up in hearing; or the VHF station servicing the area has not yet availed itself of allotted super power.

(2) Further, such stations are usually enjoying top network service temporarily pending the entrance into the field of a VHF station, delayed for reasons outlined in (1) above. More often than not, the existing UHF loses its network affiliation to the VHF, then.

(3) For every station that seems to be enjoying this temporary success, based upon a false foundation, there are dozens of others, either in the red, in a perilous financial condition, or, at best, in a dangerous status quo.

(3) Manufacturers' difficulties:

(a) Manufacturers have failed to produce a UHF transmitter with power anywhere near comparable to VHF.

(b) Manufacturers have failed to produce a one, low-priced, all-channel set.

(c) Life span of UHF transmitter tubes is but a fraction of VHF tubes' life span.

(d) Despite this short span of life, the UHF transmitter tubes are ridiculously costly compared with VHF tubes.

(e) Maintenance costs for UHF transmitters are fantastically high.

(f) Manufacturers have found engineering bugs in UHF equipment to be innumerable and insuperable.

Who is to blame for the UHF fiasco? There is a great unanimity of opinion throughout the entire television-broadcasting industry, holding that the FCC is entirely inculpable. In fact, when one stops to consider the gigantic workload accomplished by the Federal Communications Commission in both radio and television, since 1947, with a limited budget, one can only agree with this consensus: that it (the Commission) has done a monumental job, with a modicum of money.

In the case of UHF, the Commission certainly was well motivated. And, while great technical difficulty was foreseen for UHF, few, if any, folks in the industry expected that, after 2 years, the new spectrum would still be in a state of retrogression, instead of healthy progress.

Indeed, the Commissioners, like the rest of us, doubtless take great hope from statements like the following (every time we feel like throwing in the sponge):

"Manufacturers see hope ahead for UHF."

"UHF still very much alive." (The corpse moved a little, when kicked again, as rigor mortis had not as yet set in.)

"Experts see UHF as a genuine competitive system, with some technical improvements."

"UHF bugs will be straightened out in the years ahead," etc.

Yes, you've seen statements like these; we all read them, every day, in the trade press. But UHF continues on the downgrade, with its basic problems entirely unsolved.

Well, what is the honest, factual, future of UHF? We discussed UHF's future with scores of radio-television people, at every level. A handful were optimistic; a surprisingly small segment expressed hope; the great majority of people in a position to predict, however, foresaw nothing but disaster ahead. Here are some of the consequences still to be faced, in the opinion of the experts, should UHF be continued in its present form:

(1) There will be scores of additional failures among UHF stations. And, while it is not within the Commission's purview to fret over the financial survival of station operators, yet, all are agreed that such a shaky financial foundation augurs anything but a bright future for the television industry, but, on the contrary, portends a shaky structure, indeed.

(2) The VHF system, through consistent aggrandizement will become one of the most powerful, invincible, financial monopolies ever perpetuated in this country. It already has a giant start, thanks to UHF.

(3) Over all else—just as they have not been served in the past by this system, just as they are not being served, presently, by this spectrum, the public will not

be served in the future, through a continuation of UHF in its present form, because—

(a) Millions of American homes will continue to be denied anything better than grade C television service.

(b) Millions of American homes will continue to be denied a selectivity of TV stations, for home entertainment.

(c) Millions of American homes will continue to be denied a choice of network service.

(4) Consequently, television can never be the great medium that it should be in America, despite its great popularity with the American people.

"In short," roar the experts in the UHF field, "the public is not being served, and the FCC would do well to act before it's too late."

Many radio-television people saw definite dangers ahead on "promises." "Watch out for these manufacturers' promises", they warned, "they'll generate terrific enthusiasm for a one, low-priced, all-channel, set that they have coming off the line. Later, after the Senate subcommittee, the Commission and the industry take on new hope, we'll discover that it's an 'all-channel' set, in name only. The sensitivity will still be inferior; the circuitry inadequate, and the performance, nebulous. But, the damage will be done! Next, you'll be hearing about a powerhouse, UHF transmitter, 50 kilowatt probably! The joker, however, is that maintenance power and tube costs for such a transmitter would run into such astronomical figures, as to be fool-hardy. Watch out for such promises!" (These comments crystallize the opinions expressed around the industry, although, in almost every case, the speaker did not care to be quoted.)

Well, what about therapy? What can be done to put American television in a stable, sound position? To establish a truly competitive system? Cures, remedies, and pain-killers were a dime a dozen, from Madison Avenue to Sunset Boulevard. However, again, a great majority of the experts, particularly in the engineering field, were in agreement. The one, great, panacea, they insisted, is to break down the VHF system, in any one of many ways, such as:

(1) More realistic and practical use of the present FM band.

(2) The use of directional antennae in VHF.

(3) Possible use of frequencies now held by the Government and other services.

(4) There are several additional plans which are feasible.

Although some difficulties would have to be faced, should UHF be discarded, and a greater use of VHF be made, these difficulties do not compare, in number, nor intensity, with the problems faced by a continued ultra high frequency system. In fact, they are anything but insurmountable:

(1) The present VHF stations need not be affected in any way, should UHF be entirely supplanted by a larger VHF spectrum. Their power need not be reduced; their resources need not be jeopardized; and their influence need not be curtailed. In short, the change can be made with impunity to present VHF operations, and with facility by the industry.

(2) There is hardly an existing UHF operator who would not gladly swap his permit for a VHF license. The revenue realized, ultimately, would far exceed the expenditure outlay for the changeover.

(3) A truly competitive TV system would then exist in America, rather than the unilateral monopoly now scaring the industry.

(4) The TV set industry would realize the most wonderful impact ever experienced. Millions of additional sets could be sold; there would be a consistent, year-round, market for sets, thus eliminating the present seasonal, soft spots, perennially plaguing the TV set industry. Overall, this would have a powerful salutary effect, on the nation's economy.

(5) And again, over all else, the public would be served as it never can be, with the present UHF system.

Respectfully submitted.

THE THAMES BROADCASTING CORP.,
GERALD J. MOREY, *President*.

102 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

THAMES BROADCASTING CORP.,
New London, Conn., May 11, 1954.

Senator CHARLES E. POTTER,
Subcommittee on Communications,
Interstate and Foreign Commerce Committee,
Senate Office Building, Washington, D. C.

DEAR SENATOR POTTER: Your attention is respectfully called to the following passage in our recent letter concerning the ultrahigh frequency situation:

Page 2, No. 4, (c): "* * * 10 stations have now either been sold to avoid business failure, or suspended operation for the same reason. More are expected. Forty-eight additional UHF licenses have been turned back to the FCC."

Since that letter was written, eight additional UHF stations have either turned back their construction permits, or, suspended operations. These include the following:

City	Station	Channel	Action
Battle Creek, Mich.....	WBKZ-TV..	64	Suspended until June 1.
Louisville, Ky.....	WKLO-TV..	21	Suspends operations indefinitely.
Chattanooga, Tenn.....	WOUC-TV..	49	Construction permit turned back.
Lawrence, Mass.....	WGLM-TV..	72	Do.
Flint, Mich.....	WTAC-TV..	16	Suspended operation.
Monroe, La.....	KFAZ-TV..	43	Do.
Indianapolis, Ind.....	WJRE-TV..	26	Construction permit turned back.
Atlantic City, N. J.....	WFPG-TV..	46	Suspended operations.

Your attention is also directed to the detailed causes for the suspension of operations, given by the owners of WTAC-TV, Flint, Mich.; and WFPG-TV, Atlantic City. The reasons outlined coincide, closely, with the UHF problems and difficulties enumerated in our earlier letter to your office. Incidentally, WFPG-TV, Atlantic City, was the first UHF station on the air, and the nearest VHF station is 60 miles away.

Respectfully submitted.

GERALD J. MOREY,
President, The Thames Broadcasting Corp.

LANSING BROADCASTING CO.,
WILS-AM TV,
Lansing, Mich., April 29, 1954.

HON. CHARLES E. POTTER,
United States Senate, Washington, D. C.

DEAR SENATOR POTTER: My company operates UHF television station WILS-TV and Radio Station WILS in Lansing. A prefreeze VHF station is also operating in Lansing on channel 6 in conjunction with another radio station. The VHF station has primary affiliations with NBC, CBS, ABC, and Du Mont television networks. In addition, they telecast exclusively all of the regional sports and special events, such as Detroit baseball, hockey, and boxing. Because of their monopolistic practices, we are unable to obtain any first class network programing and carry only what the VHF station discards from the ABC and Du Mont television networks. We are not allowed to carry any CBS or NBC programs whatsoever.

Furthermore, the VHF operation uses their superpower television station as a wedge to coerce radio advertising for their radio station in favor of our radio station.

To make matters even worse, the Federal Communication Commission recently made a new channel 10 VHF allocation to Parma-Onandaga, Mich., only a few miles from Lansing. These villages are under 1,000 population and receive television service from several stations. There are three applicants for this channel and a grant is eminent. This action will completely squeeze us out of the television business. This channel 10 allocation could be utilized equally well to serve Lansing, but my company is not in a financial position because of the huge investment and losses in UHF to compete for channel 10 in a hearing. If present trends continue, the present Lansing VHF station and the new channel 10 station will share the four networks and we will be left with nothing. On the other hand, if we were allowed to change to channel 10, it would solve

the problem because we would be competitive with the Lansing channel 6 station. We would be financially able to make the switch if no hearing were involved.

The UHF station WBKZ in Battle Creek has closed, UHF station WTAC in Flint is closing and it is my understanding that UHF station WPAG in Ann Arbor is going to close unless some immediate relief is forthcoming. This leaves only two commercial UHF stations in Michigan, WKNX in Saginaw and ourselves. Unless there is some immediate action taken such as mentioned in the preceding paragraph, we will cease operations and that will leave only WKNX. Michigan television will be monopolized by a few VHF operators. This is a bad situation and I trust your committee will take appropriate immediate action.

Respectfully yours,

JOHN C. POMEROY,
President and General Manager.

PLAINVILLE, CONN., *April 30, 1954.*

Senator POTTER,
Washington, D. C.:

Our company is one of the many who has backed UHF with millions of dollars only to find no market for our products due to poor programs by these stations. Government assistance is imperative in allocating network programs with financial assistance until a listening audience can be established and stations become self-sustaining.

ALLEN D. CARDWELL ELECTRONICS PRODUCTION CORP.,
RALPH H. SOBY, *President.*

CITY ISLAND, N. Y., *May 10, 1954.*

Hon. CHARLES E. POTTER,
United States Senate, Washington, D. C.

DEAR SENATOR POTTER: I note, with great interest the various thoughts that are being developed regarding the future of UHF. As you know, in Michigan, one station at Battle Creek has discontinued operation. The other applicant at Battle Creek has delayed construction and, in the city of Flint, a large community without a local VHF signal, operation has also been discontinued. There may be individual factors that govern these decisions that I am not aware of, but it is regrettable that this is taking place; however, I surely want to wish you success in helping develop a plan that will give the public this additional service. While I realize that there are many obstacles in developing any plan, I will outline the thought that I discussed with you and briefly state the reasons:

(1) I believe we all agree the only reason for adding a convertor, or purchasing an all channel receiver in a mixed VHF and UHF market, would be to get an additional choice of programs.

(2) However good the quality, a new station with programs that are not known to the viewers in the area, would find it difficult to have a rapid conversion to UHF.

(3) Television manufacturers should be vitally interested in the success of UHF.

(4) I believe that the television manufacturers have programs on the air today that are familiar to all in television areas.

(5) Should it be possible to transfer these programs to a new UHF station for 6 months or more and then revert to the station of their choice, I believe sufficient momentum would have been instigated to place this first UHF station, and the others that might open later, in a position to make it possible to continue in business.

(6) The addition of 8 or 10 of these "Name" shows to a weekly schedule would do a great deal to encourage others to place programs on this station.

(7) It would be essential to discontinue these programs on other stations that now place a good signal in the UHF area.

It might be advisable to also check into the following:

(8) Purchasers of almost all TV sets sold in the past 3 years were told they could put tuning strips so as to add UHF stations at about \$10 each.

104 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

(9) Purchasers of these sets are now being told that these strips are not satisfactory.

(10) I believe your committee could determine which make of sets provide a good signal with the addition of these strips.

Respectfully,

GRAND RAPIDS, MICH.

VERSLUIS RADIO & TELEVISION,
LEONARD A. VERSLUIS.

WEDEMEYER ELECTRONIC SUPPLY CO., INC.,
Ann Arbor, Mich., May 8, 1954.

HON. CHARLES E. POTTER,
United States Senator from Michigan,
Washington, D. C.

DEAR SENATOR POTTER: I have been in the radio, electronics, and television business since their respective beginnings and am very much concerned with the present confused state of the UHF television frequency allocations.

As matters now stand, the public cannot hope to get the local television service and coverage they want and deserve unless the situation is cleared up immediately.

I urge an immediate freeze on TV applications and power until a satisfactory plan can be evolved to clear up the present bad situation.

The Senate hearings scheduled for the 19th, 20th, and 21st of this month should produce ample evidence, along with the recommendations of qualified engineers, as to what needs to be done.

Your careful consideration of all the factors involved in this important situation will be greatly appreciated.

Sincerely,

GEORGE WEDEMEYER, *President.*

ANN ARBOR, MICH., May 7, 1954.

HON. CHARLES E. POTTER,
United States Senator, Washington, D. C.:

Consider freeze of all TV applications imperative until just solution of television channels and power is effected.

WEDEMEYER ELECTRONIC SUPPLY CO.,
GEORGE WEDEMEYER, *President.*

WLAP,
Lexington, Ky., April 29, 1954.

Senator CHARLES E. POTTER,
Chairman, Subcommittee on Communications,
Interstate and Foreign Commerce Committee,
Senate Office Building, Washington, D. C.

DEAR SENATOR POTTER: In the absence of Mr. Gilmore Nunn, president of station WLAP (American Broadcasting Corp.) your good letter of April 22 has been referred to me for reply.

First, in the interest of accuracy, may I respectfully point out that we have not returned our construction permit for a television station on UHF channel 27 to the FCC. Although we have suspended all construction work on WLAP-TV at this time, we retain our construction permit in the hope that by some unlikely miracle, the many inadequacies of UHF television, as compared to VHF, may be overcome.

In the meantime, in a continuing effort to provide this important central and eastern Kentucky area with the real television service it needs and deserves, we have petitioned the FCC to allocate VHF channel 4 to this area. This can be accomplished simply by placing this area within zone 1 where, in our opinion, it rightfully belongs, instead of in zone 2 as at present. Our petition to the FCC sets forth in detail the facts to substantiate our petition. Should the FCC act favorably assigning VHF channel 4 to this area, we will immediately file application for a construction permit for channel 4. Other applicants would, of course, be privileged to do likewise.

In response to your query regarding our reasons for the indefinite suspension of our construction of WLAP-TV on UHF channel 27, we are attaching hereto a

small pamphlet published in February 1954 and distributed by WLAP and which spells out those reasons in detail. We also enclose a tearsheet of a full-page newspaper advertisement which appeared in the Lexington newspapers on February 19 and 20 which contains identical copy.

We hope the information supplied herein will be helpful to you and your committee. If we can be of further service, please command us.

Respectfully submitted.

J. E. WILLIS,

Vice President and General Manager.

[From the Lexington (Ky.) Leader, February 19, 1954]

SO THE PEOPLE MAY KNOW

It is with mixed emotions, and a confidence of public understanding, that we announce an indefinite postponement of the construction of the WLAP-TV channel 27 UHF television operation.

After having spent 7 years of work and over \$100,000 on our television efforts to date, it is hardly necessary to say that our decision was made with great reluctance, and in what we believe to be the best interests of the public. The necessity of such a decision was indicated some 2 weeks ago at which time we stopped construction on our new studios on the Belt Line. In the meantime, while preparing this statement, we have been conferring with the Federal Communications Commission, the television networks with which we had already become affiliated, tower and equipment manufacturers, suppliers and other facets of the industry. On the brighter side, we are renewing our efforts and hope to obtain for this area one of the standard, well-established VHF channels through which this entire area may receive the proven, acceptable type of television service it demands and deserves. We, who have served you over WLAP since the first days of radio, had confidently expected to bring to central Kentucky the best in television, and in our mutual interests feel we can accept no compromise.

In 1948 we were filing for the VHF channel (4), originally assigned to this area, when the Federal Communications Commission's "television freeze" prevented further consideration. The Commission then, in its best judgment, and in its attempt to assure nationwide television service, which the too few VHF channels could not render, created a new nationwide allocations plan making use of new channels in the ultra-high-frequency band. Under this proposal, which would permit 1463 UHF stations and 617 VHF stations, the FCC took away from this area its VHF channels and assigned to it only UHF channels. When the freeze was lifted in 1952, we filed for maximum power on UHF channel 27, having been assured that WLAP-TV, on UHF channel 27, could furnish to both the viewers and the advertisers throughout our area the best in television service. The day the WLAP-TV grant was made, nearly 2 years later, in December 1953, we started with full speed and confidence in the UHF representations which had been made to us, on behalf of the community, and planned to go on the air late this spring.

We immediately started construction of our new, ultra-modern radio and television building (which is already nearing completion on the Belt Line). The bases and anchors were installed for our 500 foot tower (already fabricated and ready for erection). We signed a contract for a primary, full service CBS television network affiliation, as well as contracts with other networks for additional service. The American Telephone & Telegraph Co. finalized its plans to install the extensive microwave facilities for the transmission of these network services. Notwithstanding the completion of these favorable arrangements and our extensive expenditures in time, effort and money, the difficulties with and general unacceptability of an areawide UHF system, both to the advertisers and the viewing public, suddenly became extravagantly apparent. Some day the UHF system may be able to serve an area and a market as large and populous as is this major market, but we don't believe it is possible on today's UHF standards, particularly as far as many receivers, new or converted, are concerned. Until consistent and acceptable reception throughout central Kentucky is assured, we are not going to encourage the investment of millions of dollars in UHF receivers and installations by either the viewing public or by the television set dealers. At the moment, television in central Kentucky today is simply one of the many victims of the rising tide of UHF tragedy which has suddenly engulfed the country.

Forty-five UHF grantees have turned back their television licenses to the FCC within the past few weeks. Others are unhappily on the air and are literally losing hundreds of thousands of dollars each year in operations. Still other UHF licensees have either suspended operations or have been sold at a fraction of their original investment costs. In Kansas City, one of the largest markets in the country, the UHF licensee which had been on the air only 6 months, after having invested \$750,000 in equipment, property, and operating losses, last month sold its properties to the Du Mont television manufacturing and network people for the nominal sum of \$1. This month, less than 30 days later, Du Mont announced that they felt it necessary and advisable to take their loss, suspend operations, and turn in their UHF license in Kansas City. Du Mont took this action even though they operate their own television network and are one of the country's largest manufacturers of UHF transmitters and receivers. In another major market, Roanoke, Va., the UHF licensee was forced to suspend operations after being in business less than 5 months, having sustained staggering losses during each month's telecasting. Many more will undoubtedly suffer similar fates. Truthfully, we would rather be a live casualty than a dead hero. Furthermore, pride and disappointment notwithstanding, we are not going to be a party to making central Kentucky a guinea pig.

At this time, even with the fine cooperation and wishful thinking of the many interested parties, we believe an acceptable areawide UHF television service from Lexington would be an economic imposition on everyone concerned. In addition to the tremendous investment required initially, we were prepared to sustain sizable operating losses before beginning to realize any return on the investment. We know the viewing public was prepared to collectively spend millions to convert and/or purchase sets for UHF reception. If we were convinced of the permanent, long-term value of areawide telecasting, in light of possible high-powered, high-towered VHF developments, both we and the public would be making sound investments. As it is, we prefer to take our loss and save your money. When and if, in the next few months, the UHF picture improves, or this area is granted a VHF channel, we will reactivate our plans and proceed in confidence.

The history of our efforts, to say nothing of the money we have already invested to date in trying to make an acceptable UHF service a reality, is ample testimony, we hope, to our sincerity of purpose and unflinching determination to someday bring you the kind of television this area deserves.

We would be remiss if we did not gratefully acknowledge and openly thank, both personally and on behalf of the viewing public, our many friends both within and without the broadcast industry who have given so freely of their time and advice in counseling with us on these matters. We are confident the facts and information they furnished will save all concerned even greater disappointment than we now suffer, and that the final result will be an adequate, acceptable television service of which we may all be proud. The cooperation and understanding of the Federal Communications Commission certainly deserve the public's appreciation. WLAP-TV has had the pleasure of working with more than 200 television-set dealers and distributors throughout the area in an effort to plan and effectuate the best in UHF television installation and service. This decision to await developments, until television viewers in this area can be certain of their reception and investment, will be equally as disappointing to them, but we know they will be the first to recognize and support the fairness and advisability of such a decision. We appreciate their understanding in the matter. Last but not least, we are grateful to the thousands of our friends who have written, called, and talked to us, always expressing interest and encouragement in connection with our efforts.

It is said that hard work helps a person to forget disappointments. While awaiting developments, our extra effort and hard work will be directed toward building and bringing to our many friends and loyal audience throughout central and eastern Kentucky even a better broadcast service through the facilities of WLAP, Kentucky's oldest radio station.

Respectfully submitted,

THE MANAGEMENT AND STAFF OF
AMERICAN BROADCASTING CORP.,
GILMORE N. NUNN, *President*.

Licensee of WLAP AM and FM, WLAP-TV.

SUPPLEMENT A

STATEMENT OF RAYMOND M. WILMOTTE ON POLYCASTING—SERVICE FOR LARGE RURAL AREAS AND FOR LARGE CITIES

I. SUMMARY

Polycasting may be used for serving large rural areas in a manner that may make such a service economically attractive. It may also be designed to serve large cities. In the statement filed with the Federal Communications Commission on August 26, 1949, an example of estimated service with polycasting was given. In this supplementary statement four other examples are given. Two of them cover large rural areas and two highly built-up areas. For completeness the example given in the original statement for suburban type of area is also included. The engineering basis of the estimates of service is given below.

The arrangement here proposed for serving large rural areas is to locate the component stations of the polycasting system at suitable towns in the area.

Serving large rural areas in this way appears to be the only way by which the economic problem of such a service can be met. It does not appear possible to meet the costs of maintaining a television service with a station in a small town, particularly if facilities for programs of local interest are contemplated, nor does it seem likely that such a town can provide an adequate variety of interesting programs. But if it is permissible to serve a number of such towns by stations located in them, and selected so that their rural services overlap, the system can be designed so that good service can be rendered in all the several towns where the stations are located, and in all the rural areas between these towns, and for a substantial distance beyond. Two of the examples given of polycasting operation with four and twelve 2-kilowatt stations at 300 feet show grade C service to areas of 5,500 square miles and 19,000 square miles, respectively. A single station at 500 feet would require powers of 300 kilowatts and 200,000,000 kilowatts, respectively, to provide service over the same areas and would still not be able to serve the individual towns as well. The fading would be greater with a single station than with the polycasting system. The example for the smaller of the two areas is depicted in figures 1, 2, and 3, and for the larger in figure 4.

It is believed that a polycasting service as outlined here may be capable of giving a sufficiently large and good rural service to provide adequate economic incentive to the operator.

Three examples are given for city service: two applying to heavily built up areas, and one to suburban or not so heavily built-up areas. Illustrating these examples are figures 5, 6, 7, 8, and 9. The estimates of service are of course dependent on the assumptions made on wave propagation and interference conditions, but even if it develops that these assumptions are not correct the relative powers required from a polycasting service and from a single station service given in table I, which is attached, are likely to be of the right order, although even in this, errors in the simple process of reading the curves may cause errors in estimating power of the order of as much as 1 decibel.

The great difference in the power required for polycasting compared to a single station operation indicated by table I is due in part to the fact that the signal falls off rapidly with distance so that with a single station most of the energy is spent in producing an extremely high level of energy immediately around the station. This great peak of energy is much greater than is necessary and may do more harm than good. With the several stations in polycasting the field intensity is spread out more uniformly because the radiation comes from several points and can do no harm because of the very low powers used at each station.

Another and very important reason is that since at any one location the signal comes from one of several stations, the chances are good that the signal from at least one of the stations will be strong and it is only seldom that all the signals are weak. Polycasting, therefore, produces an effective boost of signal over and above that of a single signal of the same total power. Another way of expressing this factor is to state that the shadows are filled up. Mathematically this can be expressed in the slope of the distribution curve. An example is shown in figure 10 of the effect of combining four equal signals, each having a probability distribution corresponding to that used for heavily built-up areas. Figure 11 shows the effect of combining four equal signals when each has the probability

distribution found in rural areas. With four signals the slope of the new distribution is less steep than for a single station. It will be seen that for a good service condition such as that corresponding to 90 percent of the locations, the signal with 4 stations in a heavily built-up area is 26 decibels greater than with one, although the increase in total power is only 6 decibels, thus providing a gain of 20 decibels or 100 times the power.

These estimates make no allowance for the fact that when a polycasting system is designed special effort will be made to take advantage of terrain irregularities to reduce shadows to a minimum.

Engineering design will involve care in locating stations to insure that there will be few shadows. This result corresponds to an even greater power gain.

The gain of 20 decibels represents the largest gain for the examples given in this supplement. Gains for other conditions are given in table II, which is attached. When four stations are used in a polycasting system at the corners of a square, the worst point within the square for service and interference is its very center. At this point the median values of all four signals are equal. The power gain at this point, compared with the signal that would exist there if the total power of all four stations were concentrated in a single station located at one of the corners of the square, is shown in table II.

The point of greatest interference from ghosts occurs in a polycasting system at the intersection of the perpendicular bisectors of the lines between the co-channel stations assuming approximately similar conditions around each station. The amount of interference decreases rapidly away from this point so that the area of most interference is small. In designing a polycasting system, care will naturally be taken to have this area fall where there is little population or even outside of the service area. An example of the service obtained when this point falls outside the service area is shown in figure 9 where the stations lie in a straight line.

At the higher frequencies in the UHF band the location distribution curve is likely to be steeper than at the low frequencies, particularly in built up areas so that the power gain by polycasting should be greater than estimated above.

The estimated power gain for various percentages of locations is given in figures 10 and 11.

II. SHAPE OF POLYCASTING SERVICE AREA

By locating the component stations of a system suitably almost any shape of area may be served. An example referred to as example V is given in figure 9. In this example the stations are located in a straight line. The area is therefore long and narrow. No single station could effectively approximate this kind of service. In table I the power required for a single station is the estimated power to provide service over the whole of the major axis of each grade of service contour.

The example shows grade A service rendered over an elliptical area with major axes of 46 and 30 miles and an area of 1,100 square miles. A single station capable of providing grade A service over the whole of the major axis would require a radiated power of 4,700 kilowatts at 300 feet and of 1,200 kilowatts at 500 feet.

III. SEPARATION OF POLYCASTING SYSTEMS

The mileage separation between polycasting systems depends to some extent on the arrangement of the stations within each system.

Examples of the separation needed to protect cochannel operation of different services by 46 decibels and adjacent channel by 12 decibels for grade B, and by 40 decibels for cochannel and 6 decibels for adjacent channel for grade C service are given in figure 12 for the case of grade B service, and in figure 13 in the case of grade C service.

The minimum separations of polycasting systems were arrived at in accordance with the following specifications:

(a) Permissible cochannel and adjacent channel interference ratios as are given in the Federal Communications Commission proposed standards.

(b) There are 4 groups of 3 systems each in figures 12 and 13, labeled A, B, C, and D. The limitation in figures 12 A and C, and 13 A and C, is cochannel interference and in figures 12 B and D, and 13 B and D, is adjacent channel interference. Station pairs in a polycasting system are shown either in line with a cochannel or adjacent channel station pair of another system with which interference is to be avoided, or else broadside to the cochannel or adjacent channel station pair of the other system. These two cases represent the extremes of the minimum possible and maximum necessary separation of systems.

(c) If polycasting systems are placed other than corner to corner, as they are shown in figures 12 and 13, the required separation of systems is intermediate between the extremes shown at the left and right of each of the four groups of systems, A, B, C, D.

(d) In making up figure 12, showing protection of grade C service, the slope of the terrain distribution curve was taken to be 27, and for figure 13, showing protection of grade B service, the 2 terrain distribution slopes of 27 and 42 decibels were used in the case of urban to rural service. Propagation from the urban stations to the limit of grade B service was assumed to require a terrain distribution slope of 42 decibels, and for the rest of the area a slope of 27 was assumed to apply. The required separations are, however, found to be substantially independent of the slope of the terrain distribution curve.

Examples of the minimum separations required between single stations providing the same service as the polycasting systems illustrated in figures 12 and 13 are shown in figures 21 and 22, respectively. Groups A and B show minimum separations of a rural and a city service for cochannel and adjacent channel stations, and groups C and D show minimum separations of two rural services for cochannel and adjacent channel stations. This corresponds to the presentation in figures 12 and 13.

Protection of grade B service is illustrated in figure 21, and protection of grade C service in figure 22. As in figures 12 and 13, a terrain distribution slope of 42 decibels is assumed in establishing the service contour of the heavily built up urban area. For estimating interference and in establishing rural service contours a slope of 27 decibel is assumed. All single station powers are those listed in table 1 of this supplement, and the permissible cochannel and adjacent channel interference ratios are those proposed by the Federal Communications Commission.

IV. PROPOSED OPERATION

In the proposed operation of a polycasting system the studio and principal source of programs will be located at one of the transmitting points and will be referred to as the master unit. From there the program is relayed to the other slave units of the system by highly directional transmitting antennas operating in a band in the thousands of megacycles. This would be carried out by converting the fully modulated UHF to a lower frequency by beating with a carrier of suitable frequency, and using this completely modulated signal to modulate the relay carrier. At the receiving end another directional antenna would be used. The signal would then be demodulated to obtain the lower frequency and would be brought back to UHF by beating with a carrier of suitable frequency. The resulting UHF can be made identical with the original UHF or at a UHF corresponding to another channel as required. To obtain the exact frequency it may be convenient to transmit it as a pilot or a submultiple of it as a modulation on the relay carrier.

The operation of all units except the master unit from which the programs are originally transmitted should be automatic. A monitoring transmission back to the master station to indicate that the slave units are operating properly would be desirable.

The slave units would also be used to transmit remote programs back to the master unit by installing suitable relay equipment.

This type of operation could be developed in the course of time to provide continuous relay links throughout the country.

V. DATA USED FOR ESTIMATING SERVICE

(a) *Terrain factor*

In the statement filed by me with the Federal Communications Commission on August 16, 1949, an estimate was given for the terrain factor at 600 megacycles to use in making an estimate of service with polycasting. Since then additional data has been analyzed and additional information has been published.

Figure 16 shows the log normal distribution with location for different terrain conditions. The circles indicate measurements of the median fields as published in the article by G. H. Brown on the UHF survey made in Washington, D. C., by the Radio Corp. of America on a frequency of 505 megacycles. The sources of this data are figures 8 through 15, inclusive, on pages 574 through 577 of the December 1948 RCA Review. It will be seen that the data are in close agreement with the distribution curve proposed by the Federal Communications Commission. This curve is the same as $r(L)$ of figure 2 of the Ad Hoc report.

The crosses on figure 16 are taken from the recently published data of the Philco survey of the same operation (Joseph Fisher, Field Test of UHF Television—Electronics, September 1949, p. 106) and represent the terrain distribution factor of the same operation with one exception. In the case of the Philco data the information is limited to the points lying only within a 4-mile radius of the transmitter location. These points were taken from figure 4, pag 109 of the article. It will be seen that the distribution of these points does not fit the previously suggested terrain factor. It is believed, therefore, that the dashed line on figure 16 represents more closely the terrain distribution factor for heavily built up areas than the factor $r(L)$ of figure 2 of the Ad Hoc report.

In the two examples of rural service and the city example for "suburban" type of area, the $r(L)$ curve entitled "Rural and Suburban" was used. In the example for the "heavily built up" type of city area, the dashed curve was used entitled "Heavily Built Up." Theoretically different log normal distribution should be used at different distances. To reduce the work involved, however, the same log normal distribution was used.

The slope of a log normal distribution is $E(99)-E(50)$, as defined in the Ad Hoc Committee report.

(b) Propagation curves

In the estimate of a 600-megacycle propagation curve previously made, an estimate of the correction from the theoretical field intensity versus distance curve was assumed. The analysis of the operation on UHF in Washington indicates that this assumption was probably optimistic, and almost certainly so for heavily built-up areas. Figure 17 shows the previously estimated correction factor corresponding to the function $M(df)$ of the Ad Hoc report.

Three other curves for obtaining the correction from the inverse distance value out to line of sight for 500 megacycles are shown and were obtained in the following manner:

Curve A, labeled N. Y. 510 megacycles.—The source of the information contained in this curve is the article in the June 1948 RCA Review, Comparative Propagation Measurements, by G. H. Brown, J. Epstein, and D. W. Peterson. The southwest radial shown on figure 16, page 188, was analyzed for distribution of signals. This radial was selected because it covered the smoothest terrain. It was found to have a slope close to the factor $r(L)$, figure 2 of the Ad Hoc report with a median deviation of approximately 8 decibels below inverse distance field. The signal was reduced 2 decibels at 24 miles to correct for the fact that the measurements were made from a 1,000-foot high antenna in order to bring them to the equivalent field that would be expected from a 300-foot antenna. The distance 24 miles is "do" for a 300-foot antenna on 600 megacycles, the frequency being considered in the polycasting examples. The correction factor from the inverse distance curve thus obtained corresponds to as smooth a terrain as may be found anywhere so that curve A probably represents a maximum of field intensity.

Curve B, labeled RCA 505 megacycles Washington.—The source of this curve is the RCA Review, December 1948 article entitled "Field Test of UHF TV in Washington Area," by G. H. Brown, which was also referred to above in connection with the terrain factors. The information on figures 8 through 15, inclusive, of this article, was analyzed (pp. 574 through 577). The median deviation as shown on figure 16, attached, is 21 decibels. This point was plotted at 24 miles on figure 17 and forms the basis of the curve. This point should probably have been plotted at a closer distance. (If this had been done the indicated saving of power by polycasting would have been considerably greater.) The antenna height of the Washington installation was 357 feet above ground with various elevations over the 2- to 10-mile average terrain in the 8 directions.

Curve C, labeled Philco 505 megacycles Washington.—The source of this curve is the September 1949 Electronics article Field Test of UHF TV, by Joseph Fisher, of the Philco Corp. Figure 4 on page 109 was analyzed in respect to all plotted points at less than 4 miles. The limitation was imposed in order that the result would be representative of built-up areas in heavily populated metropolitan areas. The distribution of points formed the basis of the dashed line on figure 16, attached. The points are shown as crosses. The inference was drawn that the attenuation below inverse distance for the first few miles was greater than the value shown for the Radio Corp. of America measurements. The "C" curve was extended by blending into the "B" curve at a distance of 12 miles.

The point at 37.5 miles of —8 decibels was obtained from the recordings described in the August 1949 Electronics article UHF Propagation Characteristics, by Edward W. Allen, Jr., of the Federal Communications Commission. On figure 6, page 89, a value of —8 decibels is shown for the ratio of the measured 50-per-

cent field intensity to the theoretical value at the Princeton recording site on a frequency site on a frequency of 700 megacycles. The location was approximately 45 miles from the transmitter. The Ad Hoc report indicates that the same correction would apply at a distance of 37.5 miles. This value has therefore been used.

The signal at any one point in a polycasting system is taken as the strongest signal from any of the stations of the system. The "A" curves for 300 feet and 500 feet were used in estimating the service in the two rural examples and for the city not heavily built up. That is in examples I, II, and IV. The "C" curves for 300 feet and 500 feet were used in estimating the service in examples III and V for a city heavily built up.

In estimating the power necessary to produce service areas equivalent to the polycasting examples it was necessary to estimate the field intensity at distances up to 80 miles. The curves from approximately 55 miles to 100 miles were obtained by interpolating from figures 3, 4, 5, and 6 of the Ad Hoc report. It was felt these represented the best guide since there is no published information for UHF propagation at these mileage ranges. Figure 18 shows the field at the distances of 80, 90, 100, and 200 miles plotted versus frequency. The circles are points obtained for the frequencies of 63, 82, 98, and 195 megacycles as given in the Ad Hoc report. Lines were drawn through these points to extrapolate to 600 megacycles.

(c) *Fading*

The estimates of fading are based on figure 19. This figure was obtained from data for 195 megacycles shown on figure 27 of reference D to the report of the Ad Hoc Committee for distances up to 60 miles. It is certain that fluctuations in the field will be as great at 600 megacycles at short distances as are experienced at 195 megacycles. At a large distance these fluctuations will be greater at 600 megacycles as indicated by the scant published information. The fading at large distances was obtained by comparing the estimated $F(50.50)$ fields with the $F(50.1)$ fields of the Ad Hoc report. The published information leads to the assumption that the $F(50.1)$ values of field are substantially independent of frequency at large distances. Log normal distribution of fading was assumed and the values for E_{500}/E_{50} were interpolated from the E_{500}/E_{50} fading range. It will be seen that the fading is greater than that suggested in the standards proposed by the Federal Communications Commission, but at distances less than 30 miles the differences are quite small.

(d) *Grades of service*

The definitions of grades A, B and C service are substantially those proposed; that is:

Grade A, 65 decibel at 90 percent locations, 90 percent time; grade B, 65 decibels at 70 percent locations, 90 percent time; grade C, 60 decibels at 50 percent locations, 90 percent time.

(e) *Interference*

In calculating the separation required between polycasting systems to give adequate protection to the service contours, a desired to undesired ratio of 40 decibels has been assumed between cochannel stations and of 6 decibels between adjacent channel stations. These are the standards proposed by the Federal Communications Commission.

In calculating the interference within a polycasting system by one unit on another on the same frequency it has been assumed that with a directional antenna, or other means, it is possible to separate signals 10 decibels apart. A signal has been considered to be free from interference when its value for 90 percent of the time is greater by 10 decibels than the arithmetic sum of the median values of the interfering signals.

This figure of 10 decibels is based on the concept that the directional antenna will provide 10 decibels separation between the desired and undesired signal and that the receiver alone can receive satisfactorily two signals operating with offset carrier if the ratio of their intensity is 20 decibels. With a directional antenna it should be possible, therefore, to obtain acceptable service with a signal ratio of 10 decibels at the antenna.

The question may reasonably be raised at this point as to why it has been assumed that an amplitude separation of 10 decibels is satisfactory for cochannel stations within a polycasting system and a separation of 20 or 40 decibels between polycasting systems. The figure of 10 decibels is, as explained, a guess. It is, I believe, a realistic guess, but there is no field experience to prove it. It is reasonable to expect that an owner of a polycasting system will endeavor to engineer

the location of his station with special consideration to providing the best service so that shadows will be eliminated as much as possible. No such planning can be expected from the owner of a neighboring polycasting system. For the same reason, the accuracy and maintenance of offset carrier or synchronous carrier, or of the synch pulse, may be expected to be more accurate inside a single polycasting system than between polycasting systems. Generally speaking, it is easier to correct defects in one's own back yard than nuisances from one's neighbors. It is inherently appropriate, therefore, to specify a greater amplitude separation between polycasting systems than between stations within a polycasting system. In addition, to provide such increased protection between Polycasting systems frees each receiver to direct his attention more exclusively to reducing ghosts whether they be due to reflections or from a polycasting station.

If some figure other than 10 decibels is used as the acceptable rejection ratio within a polycasting system for cochannel interference, the size of the service areas given in figures 1 to 9 will not be materially affected for they depend principally on signal strength. What will be affected is the percentages of locations free from the ghost type of interference in the area within the polycasting stations. These percentages are marked on the figures and indicated by dashed lines. The manner in which these percentages would change can be approximately estimated from figure 14 for a polycasting system with stations at the corners of a square and from figure 15 for a system with stations in a straight line.

The separation between polycasting systems can and should be reduced to about 20 decibels by requiring synchronous operation of all cochannel stations, or by the method that I feel is preferable: namely, by operating with FM.

TABLE I.—Power required by single station to provide same service area as polycasting system

Service	Area served	Power of single station	
		300 feet	500 feet
EXAMPLE I			
Rural service, small; polycasting: 4 stations, 2 kilowatts, 300 feet (figs. 1, 2, and 3):			
Grade C.....	5,500 square miles ...	1,000 kilowatts.....	300 kilowatts.
Fading at extreme of service ¹	7 decibels (polycasting).	20 decibels.....	15 decibels.
EXAMPLE II			
Rural service, large; polycasting: 12 stations, 2 kilowatts, 300 feet (fig. 4):			
Grade C.....	19,000 square miles...	300,000,000 kilowatts.	200,000,000 kilowatts.
Fading at extreme of service ¹	7 decibels (polycasting).	72 decibels.....	68 decibels.
EXAMPLE III			
City service heavily built-up; polycasting: 4 stations, 2 kilowatts, 300 feet (figs. 5 and 6):			
Grade A.....	1,100 square miles ...	1,100 kilowatts.....	340 kilowatts.
Grade B.....	1,600 square miles ...	180 kilowatts.....	50 kilowatts.
Grade C.....	3,500 square miles ...	190 kilowatts.....	40 kilowatts.
Fading at extreme of service ¹	10 decibels (polycasting).	13 decibels.....	10 decibels.
EXAMPLE IV			
City service not heavily builtup; polycasting: 4 stations, 2 kilowatts, 300 feet (figs. 7 and 8):			
Grade A.....	1,400 square miles ...	55 kilowatts.....	30 kilowatts.
Grade B.....	2,500 square miles ...	80 kilowatts.....	30 kilowatts.
Grade C.....	4,100 square miles ...	120 kilowatts.....	40 kilowatts.
Fading at extreme of service ¹	9 decibels (polycasting).	15 decibels.....	12 decibels.
EXAMPLE V			
City service heavilybuilt up, elliptical area; polycasting: 4 stations in line (fig. 9):			
Grade A.....	46 by 30.....	4,700 kilowatts.....	1,200 kilowatts.
Grade B.....	60 by 41.....	1,800 kilowatts.....	400 kilowatts.
Grade C.....	76 by 58.....	850 kilowatts.....	150 kilowatts.
Fading at extreme of service ¹	7 decibels (polycasting).	17 decibels.....	13 decibels.

¹ Fading is defined as ratio of signal for 1 percent and 99 percent of the time (E_1/E_{99}).

TABLE II.—Effective power gain of field at center of a polycasting system consisting of 4 equal stations at the corners of a square over single station of equal total power concentrated at 1 of the corners

Percent of locations	Power gain—Slope of probability curve	
	For city, 42	For sub-urban and rural, 27
90 percent.....	20 decibels..	10 decibels.
70 percent.....	15 decibels..	7 decibels.
50 percent.....	12 decibels..	5 decibels.

STATEMENT OF RAYMOND M. WILMOTTE BEFORE THE FEDERAL COMMUNICATIONS COMMISSION, NOVEMBER 10, 1949, CORRECTION TO SUPPLEMENT A

With the presentation made by me before the Federal Communications Commission on November 10, 1949, I submitted in exhibit No. 289 estimates of service for a number of examples of the application of polycasting. I also explained the assumption on the propagation of waves at UHF used in arriving at these estimates. By some mischance the explanation of the assumptions was taken from some work sheets that were not used in the calculations. The curves actually used are given below.

Attached figures 1 and 2 show the propagation curves used for 600 megacycles. The M(d.f) curve used which corresponds to figure 1 of the Ad Hoc report and figure 17A of my supplement A is shown in attached figure 3. This correction is applied to the theoretical propagation curve for a smooth sphere of 1/3 the earth's radius to obtain the curves in figures 1 and 2 up to 40 miles from the transmitter. For distances beyond 80 miles the propagation characteristics were obtained by extrapolating the Ad Hoc Committee curves to 600 megacycles as shown in figure 18A of supplement A, exhibit No. 289. The propagation curves were completed by connecting these 2 sections with a smooth curve over the distance from 40 to 80 miles. Receiving antenna heights are assumed to be 30 feet for all estimates.

The dotted curves in figures 1 and 2 represent the theoretical field intensity versus distance curve referred to as S in the Ad Hoc report. The distance d, beyond which S is always less than the free space field is 10.5 miles for a transmitter height of 300 feet and 16.5 miles for a transmitter height of 500 feet.

For comparison, the propagation curve of the Ad Hoc Committee for 195 megacycles for a transmitter height of 500 feet and a receiver height of 30 feet is shown in figure 4. (Charts are in official files of committee).

SUPPLEMENT B

STATEMENT OF RAYMOND M. WILMOTTE ON ALLOCATION OF POLYCASTING SYSTEMS

A polycasting system is not limited to serving a circular area, nor is the area limited in size as it is with a single station operation. A polycasting system can be designed, therefore, to fit substantially with the great variety of social, cultural, economic, and political areas that make up the country. In any allocation that takes these basic factors into account, the polycasting systems used should vary greatly from one area to the next. However, to simplify the study of an estimated allocation pattern, a simple polycasting system, consisting of 2 channels with 2 stations having 2 kilowatts of radiated power at a height of 300 feet on each channel, has been taken as the basic polycasting unit.

Two examples of possible allocations are shown in figures 1B and 2B. One is designed for a typical midwestern area and the other for a congested eastern area.

For the first example the section of the country taken includes the cities of St. Louis, Kansas City, and Wichita. Each city in the area which has a population of more than 100,000 has been assigned as many UHF polycasting services as are provided for it in the proposed allocation of the Federal Communications Commission, including those provided in both the VHF and UHF bands. After an adequate number of channels was provided for these cities, the rest of the area was studied with the view of serving the whole area with grade C service or better.

There are innumerable ways of providing this service. The arrangement shown in figure 1B is one such arrangement. It is seen that the whole of the rural area can be served with the use of only nine channels.

The purpose of providing UHF services in the large cities to the same number as is provided in the VHF band in the proposal of the Federal Communications Commission was to indicate that the UHF band was large enough to carry all the services required in a truly complete national television service in the area studied.

Table 1B shows the channels allocated to cities of more than 100,000 in the example, and indicates also the estimated possible number of services that might be provided for cities and rural areas if all channels from 14 through 55 were used. The numbers in parentheses, for instance (14-36) refer to every other channel; that is, 14, 16, 18, etc., through 36.

In making up the proposed allocation for a typical midwestern area, the required separation of polycasting systems shown in figure 12A of the preceding supplement was used.

In making this study the minimum separation of polycasting systems shown in figure 12A of supplement A was maintained with only a few minor exceptions. Also in accordance with the concept explained previously, the individual stations of a polycasting system were located as far as possible in small towns. In some of the larger towns, such as St. Joseph, Mo., and Lincoln, Nebr., it was arranged to have two stations belonging to different polycasting systems designed to serve areas lying in different directions from these towns.

The population within each polycasting system is given approximately in table 11B. It is seen that a substantial population is served by each system.

The service area of the systems in the large cities is not shown because they can be designed with greater latitude in view of the density of population.

For the second example the congested area lying between New York City and Baltimore was selected. The allocation in this area as shown in figure 2B was designed to provide grade B service over the whole area. Here again all cities of over 100,000 population of which there are 16, were provided with as many services as was proposed by the Federal Communications Commission for the VHF and UHF bands combined. An exception was made for New York which was provided with 10 channels, 4 more than were proposed by the Federal Communications Commission. For the rest of the area, polycasting stations were located whenever possible at the more important population centers.

A deviation from the simple basic polycasting system of locating the station at approximately the corners of a square was used in one case on Long Island where the service from a number of stations in a line is shown as an ellipse. To serve the Scranton-Wilkes Barre area, a similar arrangement would probably be used.

The service area in the large cities of more than 100,000 is not shown: What is shown is their approximate metropolitan areas. In some cases it will be desirable for some of the services in these cities to include the city proper plus an area extending in one direction, while other services will include areas in another direction. Such an arrangement will make it possible to bring adjacent polycasting systems closer to the city. For instance, in the case of New York City, if a polycasting system were established in New Jersey starting at Asbury Park and going south along the coast, a New York City system could be established on adjacent channels but designed to spread its service toward Long Island or Westchester County and deliberately restrict its service in New Jersey. For similar reasons, some New York services would spread into New Jersey to allow adjacent channel systems to serve Long Island or Westchester County.

In figure 2B not all the channels between No. 14 and No. 55 have been used. Some 4 additional services could be provided to the Del Mar Peninsula, and along the coastline 1 additional service could be added.

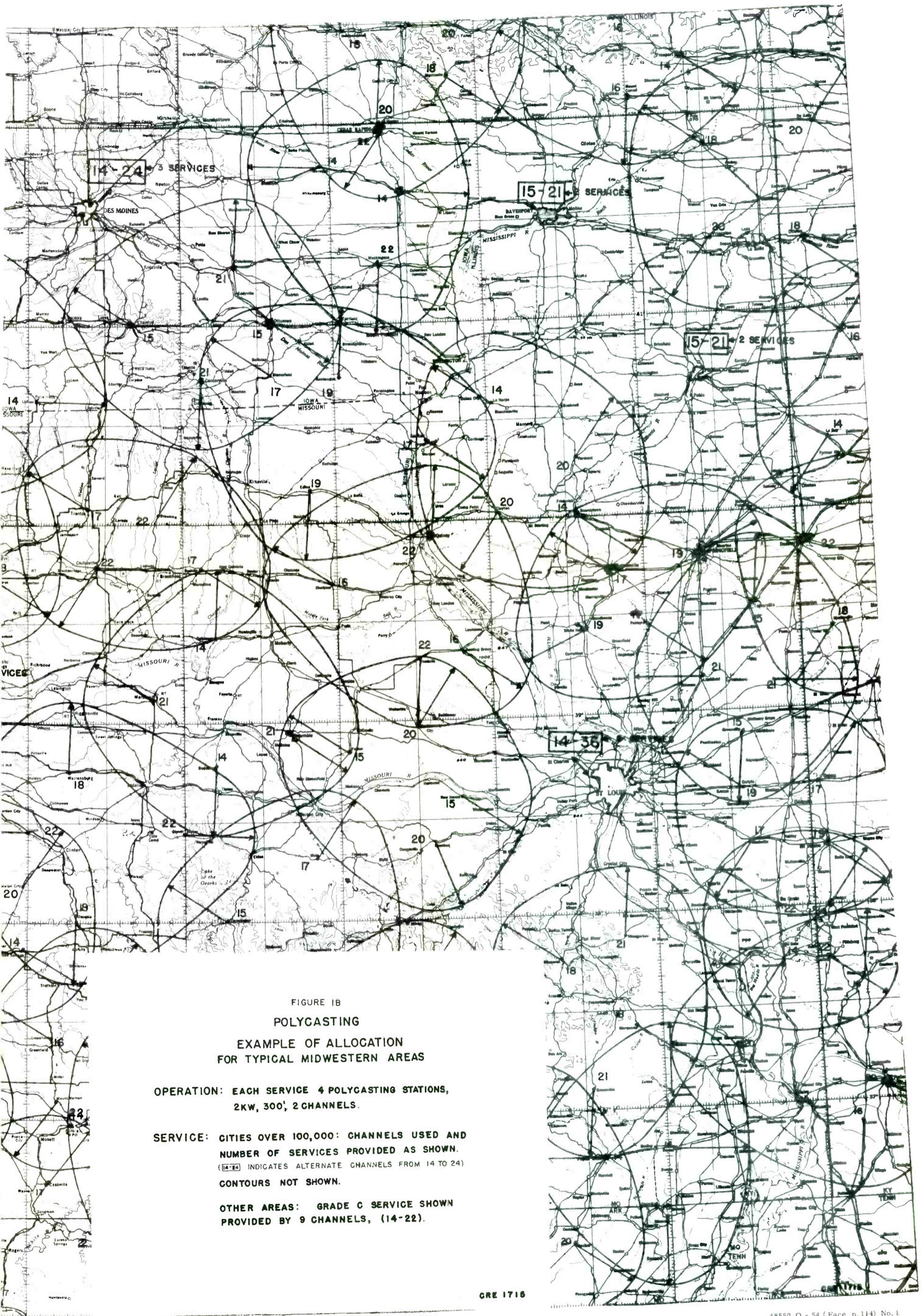
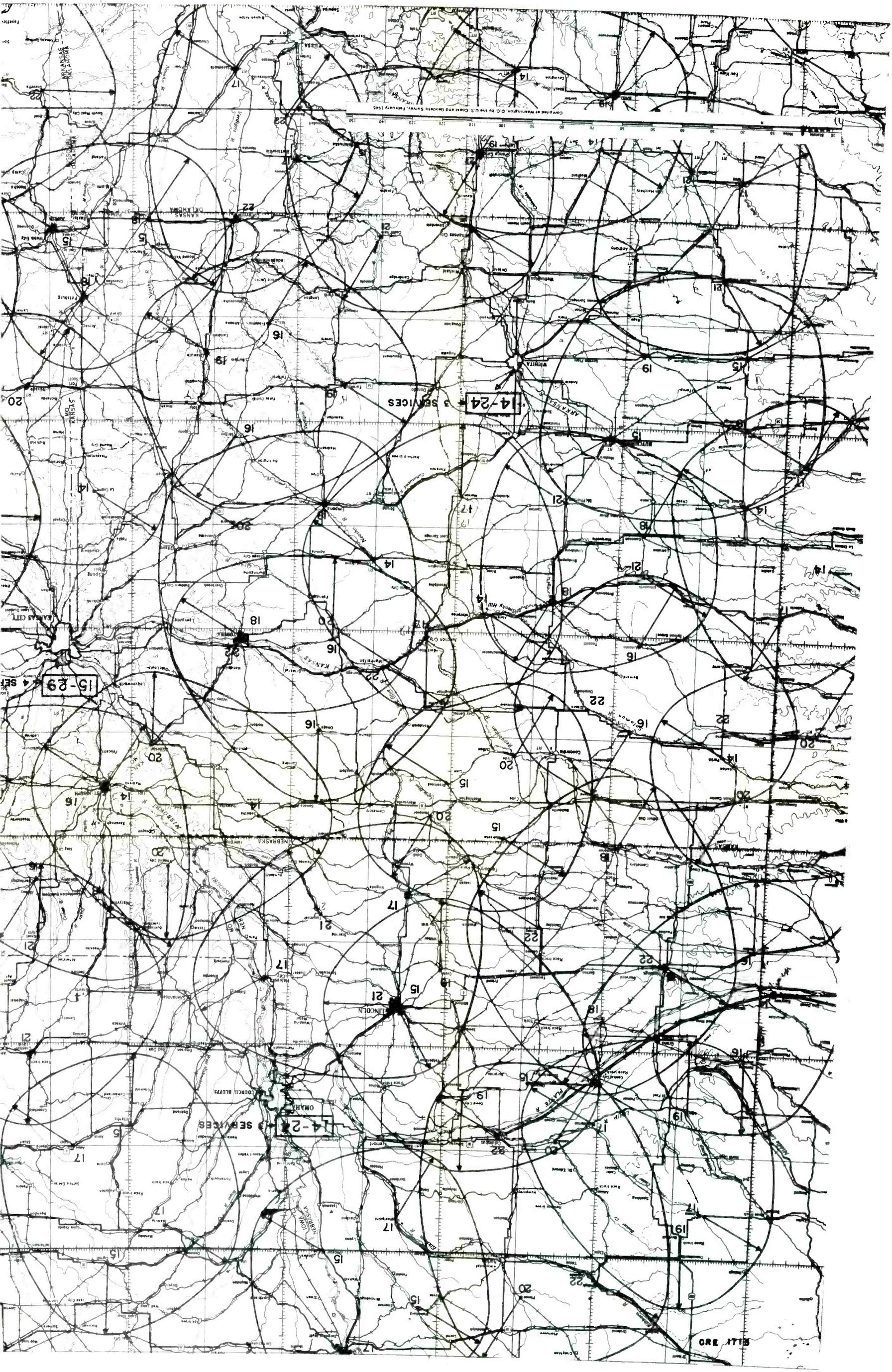


FIGURE 1B
 POLYCASTING
 EXAMPLE OF ALLOCATION
 FOR TYPICAL MIDWESTERN AREAS

OPERATION: EACH SERVICE 4 POLYCASTING STATIONS,
 2KW, 300', 2 CHANNELS.

SERVICE: CITIES OVER 100,000: CHANNELS USED AND
 NUMBER OF SERVICES PROVIDED AS SHOWN.
 (14-24) INDICATES ALTERNATE CHANNELS FROM 14 TO 24
 CONTOURS NOT SHOWN.

OTHER AREAS: GRADE C SERVICE SHOWN
 PROVIDED BY 9 CHANNELS, (14-22).



14-24 SERVICES

15-29 SERVICES

14-21 SERVICES

CRE 1715

Computed at Washington, D. C. by the U. S. Coast and Geodetic Survey, February 1945

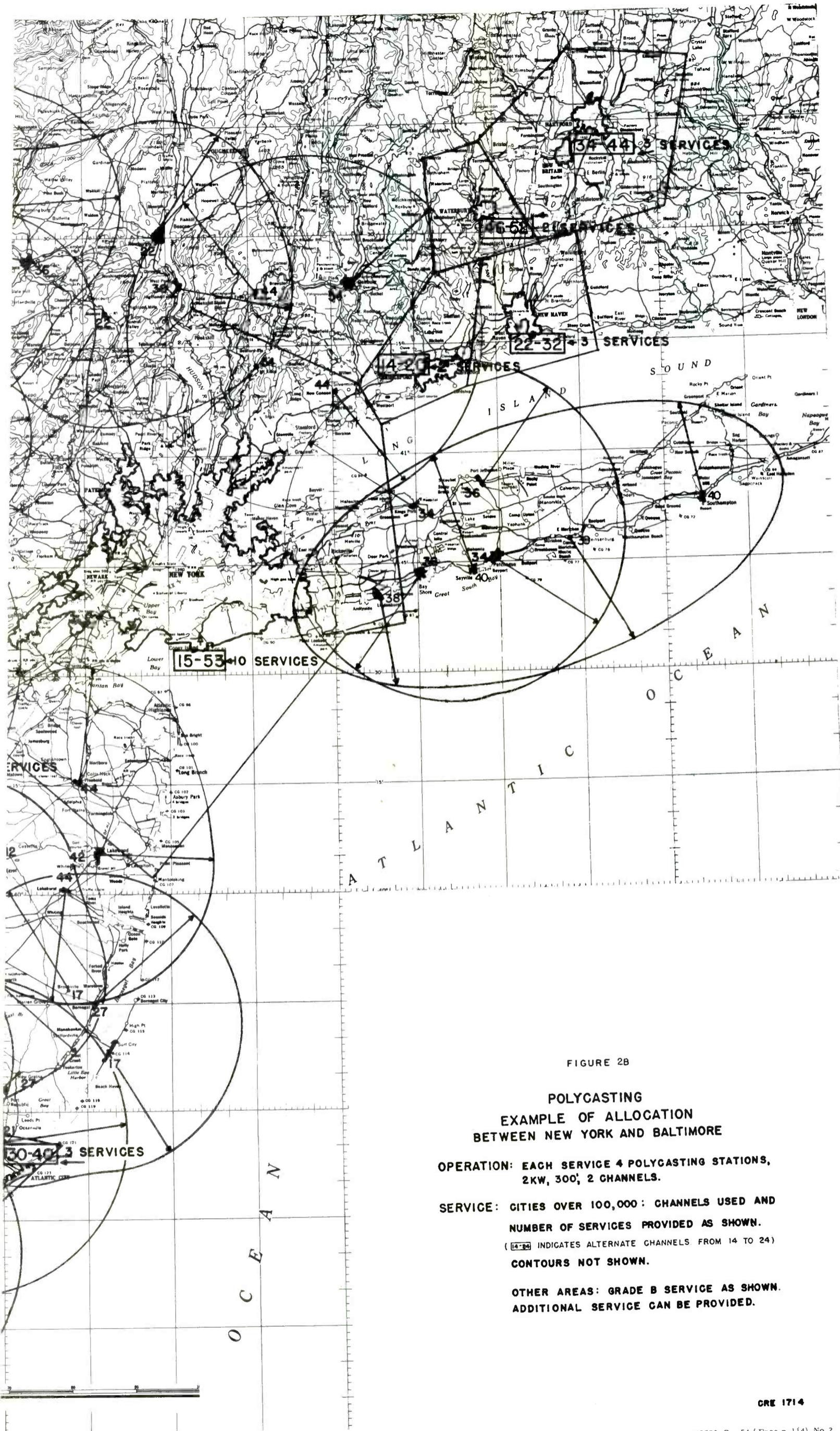


FIGURE 2B

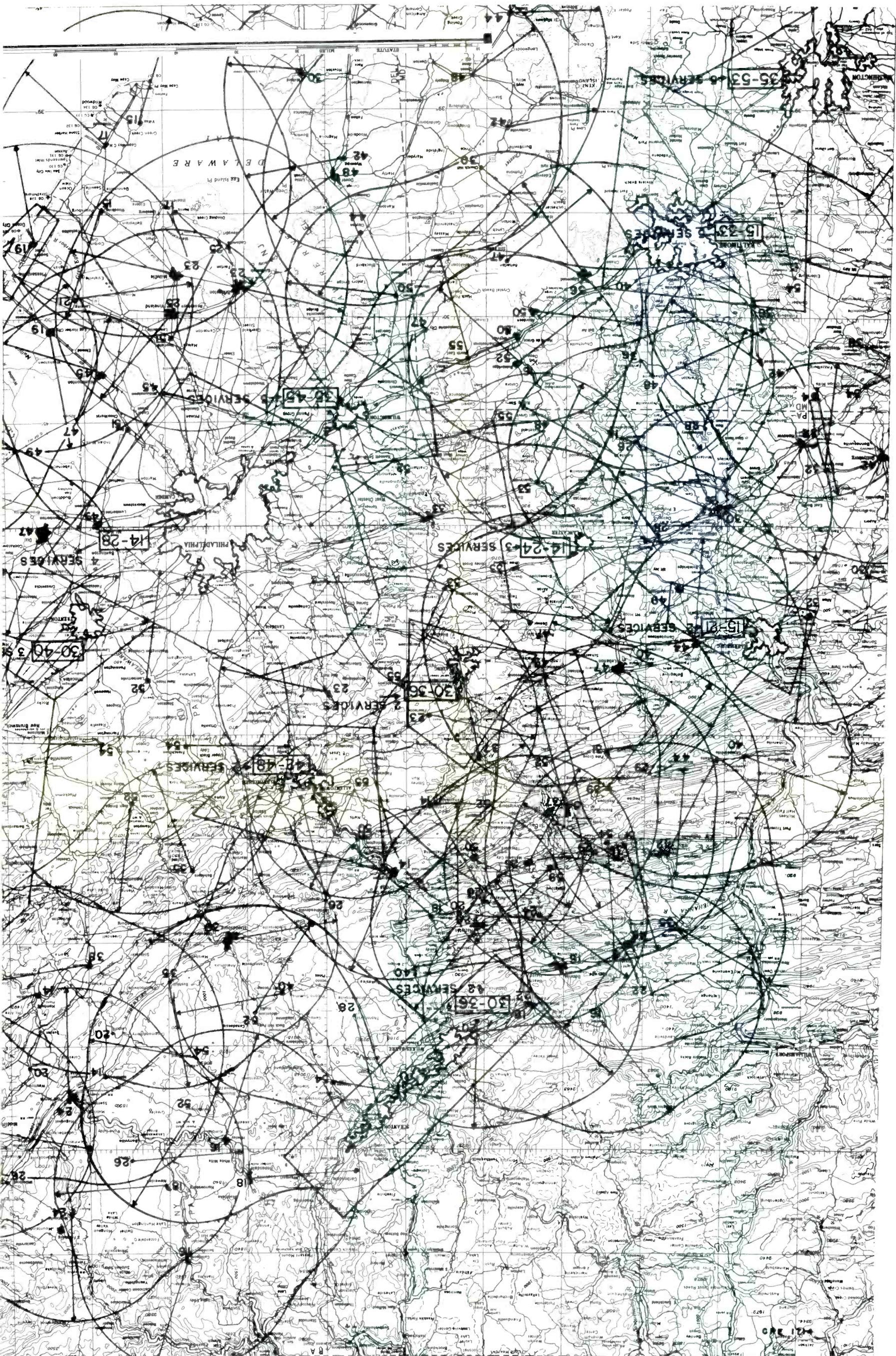
**POLYCASTING
EXAMPLE OF ALLOCATION
BETWEEN NEW YORK AND BALTIMORE**

**OPERATION: EACH SERVICE 4 POLYCASTING STATIONS,
2KW, 300', 2 CHANNELS.**

**SERVICE: CITIES OVER 100,000; CHANNELS USED AND
NUMBER OF SERVICES PROVIDED AS SHOWN.**

(14-20) INDICATES ALTERNATE CHANNELS FROM 14 TO 24)
CONTOURS NOT SHOWN.

**OTHER AREAS: GRADE B SERVICE AS SHOWN.
ADDITIONAL SERVICE CAN BE PROVIDED.**



DELAWARE

PHILADELPHIA

SERVICES

SERVICES

SERVICES

35-53 SERVICES

15-23 SERVICES

14-24 SERVICES

15-21 SERVICES

30-36 SERVICES

18-48 SERVICES

30-36 SERVICES

41-21 SERVICES

TABLE I-B.—*Example of polycasting allocation, midwestern area*

Operation: Each service 4 polycasting stations, 2 kilowatt radiated, 300 feet, 2 channels.

Area served	Shown on figure I-B		Estimated total possible	
	Number of services	Channels	Number of services	Channels
Cities over 100,000:				
St. Louis.....	6	14-36	10	14-52
Kansas City.....	4	15-29	10	15-53
Omaha.....	3	14-24	6	14-36
Des Moines.....	3	14-24	6	14-36
Wichita.....	3	14-24	6	14-36
Davenport.....	2	15-21	4	15-29
Peoria.....	2	15-21	4	15-29
Other areas.....	1-2	14-22	4-6	-----

TABLE II-B.—*Approximate population served by 1 polycasting system, rural service*

State:	Population
Illinois.....	200, 000
Iowa.....	200, 000
Kansas.....	105, 000
Missouri.....	150, 000
Nebraska.....	66, 000

SUPPLEMENT C

STATEMENT OF RAYMOND M. WILMOTTE ON TELEVISION POLYCASTING AND FREQUENCY MODULATION AT UHF

I. POLYCASTING

Polycasting is a method of providing radio broadcasting service over an area my using several small stations located inside one city if the city is large, or in several small towns relatively close together, if a rural area is to be served. The operation of several stations by one operator is not monopolistic, it is simply a more efficient manner of serving an area, and permits the laying down of a stronger signal over the area than is possible with a single station of the same total power. In fact, polycasting should increase competition for it will put UHF stations on a competitive footing with VHF.

There is no opposition from engineers to this concept except from the point of view that the picture received may be deteriorated by "ghosts." I have made an estimate of the effect of ghosts and that estimate shows that if two channels are used, this ghost problem, while it exists, is not serious.

The great advantage of polycasting is that since signals at any one point come from several directions, it is unlikely that all these signals will be shadowed by obstructions, so that one may reasonably expect that at all points at least one signal will be strong, or in other words that shadows will be substantially eliminated. It is the effort to provide a good signal in these shadows that requires such tremendous powers at UHF from a single station. It is for this reason that it is generally recognized that good service cannot be rendered at UHF over large areas or in areas having large structures or hills, except with unreasonable amounts of power.

Polycasting seems to be the only alternative. Estimates that I have made show that in a heavily built up area, a polycasting system consisting of four 2-kilowatt stations at a height of 300 feet will give grade A service over the same area as a single 1,000-kilowatt station. For a small suburban type of area, a similar polycasting service will provide the same area of grade B service as a single station of 110 kilowatts. For rural service of 5,500 square miles a 4-station

polycasting system (a total power of 8 kilowatts) would provide better service than a single 1,250-kilowatt station; and over 19,000 square miles; 12 polycasting stations (a total power of 24 kilowatts) would provide better service than a single station of 400,000,000 kilowatts.

As to cost, it is difficult to compare a polycasting with a single station, operation because high powered transmitters are not yet available. It is clear, however, that when dealing with radiated powers as low as 2 kilowatts which would require transmitters of only a few hundred watts, these would be made in sufficient quantities that their price would become quite low. The total equipment cost of a slave station including tower and antenna would be about \$25,000. The slave stations could be automatic and would need no attendance, so that the cost of installation and operation would probably be substantially less than the corresponding cost of a high powered single station operation.

A question may be raised that polycasting has not been field tested. That, of course, should be done to obtain quantitative answers on a number of factors still unknown. But it should be borne in mind that single station high power operation has not been tested either at UHF and there are many questions still unanswered. In fact, what tests have been made indicate that such service would not be very satisfactory.

II. FREQUENCY MODULATION

In comparing AM with FM for television, early tests decided in favor of AM. It has been brought out, however, that the FM tests were carried out with AM receivers! The Federal Communications Commission laboratories have recently shown the fallacy of such tests. Indeed they have shown that without any special design techniques FM appears in many ways superior to AM. The laws of nature give FM a number of inherent advantages. For instance, FM makes much more complete use of the channel than AM; it also gives freedom to the engineer to produce a much greater variety of results. These characteristics will undoubtedly be developed to the full by engineers if they are given the opportunity to do so. These advantages will be reflected in practical operation in the reducing of the disturbing effect of ghosts, of interference and of noise. Such improvements when developed fully are of the greatest importance for without them it may be difficult for television service to reach the quality and general use that sound broadcasting has reached.

These improvements could be expected to solve almost all problems of allocation and competition. They would also improve the operation of polycasting. In fact, by combining FM with polycasting there would be good likelihood that in due course every operator could serve his whole service area with strong signals, thereby largely eliminating the need for outside directional receiving antennas and permitting stations to be located so close together that every area could be served by many operators.

The only disadvantage of FM in the UHF band is that it will require different standards than those now existing in the VHF band. Receiving set manufacturers are naturally unfavorable to using different standards for they fear damage to the immediate market, even though UHF adapters for VHF sets could readily be made to comprise means for operating with FM without changing the circuits of the VHF sets. But since the standards decided now will undoubtedly last many decades the question arises whether we should standardize on an inferior system merely to alleviate the fears that the present market might be slightly decreased.

As to time of making the UHF band available, I believe that the adoption of FM and polycasting would bring the UHF band more rapidly into general operation. There is no particular difficulty in manufacturers designing FM receivers. In fact the Federal Communications Commission engineers have already used circuits that are very satisfactory. A certain amount of study should be given to the exact standards that should be applied to FM; however if work were carried out along this line, in a matter of 6 months adequate information should be available for this purpose. The greatest delay in providing television broadcasting service at UHF on the presently proposed standards appears to be due to our present inability to build high powered AM transmitters. With FM, and more particularly with FM and polycasting, the power required would be so small that transmitters should be available in a matter of months, so that making FM the standard of operation is likely to open the UHF band more rapidly than forcing the VHF standards on the UHF band. Moreover, it will make UHF operation competitively as good as, and probably eventually better than, operation in the VHF band.

Probably more important is what we can expect of the long distant future. Technical progress in the past has been great, but we can expect even greater progress in the future. The degree of progress will depend however on the flexibility that the standards permit. FM inherently provides greater flexibility than AM. With an eye on the future, that reason alone should make FM by far the more desirable. To standardize on AM now will prevent engineers from translating the inherent potential advantages of FM into improved service to the public.

III. A DESIRABLE PROCEDURE

Ideally, the whole of television should be operated in the UHF band, leaving the VHF band for other services that are in much need of it and simplifying the design of receivers. Practically, that cannot be achieved because of the present substantial operation and investment in the VHF band and because UHF equipment is not yet ready. It would therefore be desirable to make the UHF standards as perfect as possible so that there might be expected a trend from VHF to UHF purely for performance and economic reasons. Rather than tie down UHF to the VHF standards it would be better to find the best standards for color, service and freedom from ghosts and interference; and make these the standards for the UHF band, leaving the VHF standards unchanged. If that is done, American engineering ingenuity will find ways of handling any intermediate condition while both VHF and UHF are in demand by the public.

Our American economy and technical growth is largely based on our faith that the best progress is made by freedom and evolution as against a growing thinking in some other parts of the world (which is bound to be temporary if we are right) that progress is best achieved by detailed regulations and decrees. In television today there is a unique opportunity, unusual in radio regulation, in that a frequency band is ready to be used and is still not used. There is more engineering freedom in FM than in AM, more freedom also in polycasting than in single station operation. This, I feel, is a very real and basic argument in favor of both these types of operation, for if we apply our national faith here, we should seek for the standards in this UHF frontier, which is about to open up, the maximum freedom for technical evolution.

SUPPLEMENT D

STATEMENT OF RAYMOND M. WILMOTTE BEFORE THE FEDERAL COMMUNICATIONS COMMISSION, NOVEMBER 10, 1949

Polycasting estimate of city service

In supplement A which was presented on November 10, 1949, and given in some detail in exhibit No. 289, examples of the estimated service rendered by polycasting were given. Most of the information referred to comparisons with a single station type of operation for a whole service area. In this supplement are given estimates of the signal strength that may be expected in a limited area where good service is required as in the case of a city.

The polycasting system assumed is an arrangement of four 2-kilowatt stations 300-feet high located at the corners of a square having diagonals 10 miles in length. Two examples are given: Where the slope of the distribution curve for location is 42, as appears to be the figure for heavily built up areas; and where it is 27, as in the case of suburban or rural areas. In other respects, the assumptions made in the estimate are the same as those described in supplement A, as corrected, of exhibit No. 289.

The curves in attached figures 1D and 4D refer to the estimated field intensity for grade A service (namely, for 90 percent of the locations and 90 percent of the time) along a diagonal of the square of the polycasting system.

Figures 1D and 2D refer to the example with a slope of 42 for the distribution curve for locations. In figure 1D is also shown the field intensity for a single station of the same total radiated power; namely, 8 kilowatts at the same height of 300 feet. Figure 2D is similar to figure 1D except that the single station has a power of 1100 kilowatts.

Figures 3D and 4D are similar to figures 1D and 2D except for the slope of the distribution curve for locations which is taken as 27 instead of 42. In figure 3D the single station radiates 8 kilowatts while in figure 4D it radiates 200 kilowatts.

These four figures show the great advantage of polycasting as against single station operation that appears to be possible as regards field intensity over a densely populated area. (Charts are in official files of committee.)

WNAM-TV,
April 22, 1954.

Re communications hearing.

Senator CHARLES E. POTTER,

United States Senate, Senate Building, Washington, D. C.

DEAR SENATOR POTTER: The Neenah-Menasha Broadcasting Co., owners and operators of television station WNAM-TV at Neenah, Wis., desire to have this letter represent our statement to your committee on the subject of Senate bill S. 3095 hearings.

WNAM-TV at Neenah, Wis., is a UHF station operating on channel 42 since January 26, 1954. Our construction permit was granted in December of 1952.

Shortly after our FCC construction permit was granted, WNAM-TV filed an application with the National Broadcasting Co. television network and the Du Mont television network. At that time, the nearest NBC-TV affiliate was Milwaukee, Wis. Channel 2 at Green Bay, Wis., was not on the air, but contracts had been announced with ABC-TV, CBS-TV, and Du Mont.

In New York, early in 1953, we were told that NBC-TV would not be able to give us an opinion on affiliation until after Milwaukee moved from channel 3 to channel 4 with 100 kilowatts. When the move was made and it was clear that Milwaukee and NBC-TV did not have primary coverage in this market, we again asked for an affiliation. On our second request we offered to carry NBC-TV programs as a bonus station, even paying the costs of network lines. As late as December 1953 we were informed that NBC-TV could not affiliate with us. We quote from a letter signed by Tom Knode of NBC-TV: "Obviously this conclusion has been reached on the basis of drawing-board information, and our final position with respect to Neenah-Menasha can't be determined until the Marinette-Green Bay facility is in operation. We feel, however, that the best interests of all parties involved will be served by not affiliating with WNAM-TV at the present time."

This then brings up the first statement we should like your committee to consider. Allocation plan of the FCC sixth report. This plan allocated 2 VHF channel to Green Bay, Wis., and 1 VHF to Marinette, Wis. The FCC has recently seen fit to grant the Marinette facility a transmitter location at Pensauckee, Wis., which is 23 miles north of Green Bay. The proposed site is closer to Green Bay than to Marinette.

It is our humble opinion that the grant of this location actually places three VHF stations in the Green Bay area; such action prohibits WNAM-TV from receiving an affiliation with NBC-TV, since the Marinette station is classified by NBC as their "Marinette-Green Bay facility," and that such action does not make the best use of the facility because an area north of Marinette, Wis., will not receive primary television service as a result.

We believe, therefore, that a 10-mile limit should be placed on VHF transmitter sites from the principal community to be served, rather than signal strength to the principal community.

Our second statement is in regard to the FCC's proposal to revise section 3.658 (b) on Chain Broadcasting Rules.

The Neenah-Menasha Broadcasting Co. favors this proposal on the basis that WNAM-TV would benefit to the extent of having some national network programs available to us where the advertiser wishes to place it. The Neenah-Menasha-Appleton, Wis., area has been classified as one market by Sales Management, Standard Rate and Data, and the Audit Bureau of Circulations. As such, this market becomes the fourth largest market in Wisconsin with a 1950 census population of over 55,000 persons, a large enough market to warrant national advertisers to place network time.

In summation, it is our opinion that UHF can best be served and it in turn provide a competitive television system if (1) VHF stations are limited to transmitter locations not more than 10 air-line miles from the principal community to be served, and (2) the FCC revises section 3.658 (b) of the Chain Broadcasting Rules to preclude network affiliates from contracting with its network to prevent stations located in another community from carrying programs of the networks.

Respectfully submitted.

DON C. WIRTH,
Vice President.

Senator POTTER. I want to insert in the record at this point a constructive editorial that appeared in TV Guide April 30, 1954, concerning "all channel tuners in color sets."

The editorial states:

It is evident that color sets gradually will replace monotone receivers over the next few years. If, during the replacement period, provision can also be made for reception of UHF stations, viewers will benefit twofold.

I am hopeful that the manufacturers will do this. This editorial will be inserted at this point in the record.

(TV Guide editorial is as follows:)

[From TV Guide, week of April 30-May 6, 1954]

ALL CHANNEL TUNERS AND COLOR SETS

Now, as we enter the new era of color TV, is the time to establish ultra high frequency television as a major factor in the medium. It can be done, simply and easily, by installing at the factory a combination VHF-UHF tuner in every color set produced.

There is room in the frequency spectrum for only about 300 VHF stations, while the spectrum can accommodate about 1700 UHF stations. The public would be served best by the greatest number of stations. More outlets in each area would mean a wider choice of shows for viewers.

As things stand now, it is difficult for a UHF station to make its way in a region served by a couple of VHF stations. In order to receive new UHF stations, the viewer must install a converter in his set, and that entails expense. So far, UHF outlets have been successful chiefly in areas that have no VHF competition.

The Federal Communications Commission has done almost everything in its power to push UHF. It has yet, however, to urge that manufacturers install tuners capable of receiving both VHF and UHF telecasts in all color sets.

A check of major manufacturers shows that only one specifies VHF-UHF tuners for all its color sets. The others either have made no decision yet or are installing them only as ordered by customers.

This is a golden opportunity, perhaps the only opportunity that ever will arise, to put over UHF television. It is evident that color sets gradually will replace monotone receivers over the next few years. If, during the replacement period, provision can also be made for reception of UHF stations, viewers will benefit twofold.

Senator POTTER. We have as our first witness today the Chairman of the Federal Communications Commission, Mr. Rosel Hyde. It is a pleasure to have you here. I know that there are busy times for you, but this is a problem which the Commission has given much attention, and studied too, so we will be pleased to have your testimony on this vital subject at this time, Mr. Hyde.

STATEMENT OF ROSEL H. HYDE, ACTING CHAIRMAN, FEDERAL COMMUNICATIONS COMMISSION

Mr. HYDE. Senator Potter and members of the committee, the Commission is pleased to cooperate and supply for that purpose all the information and assistance it can. The statement which I am able to present is longer than I would wish to offer. However, we thought that at the outset it would be desirable to have a full statement of the TV allocation plan and the considerations that went into it. I should like to explain that this statement has been approved by a majority of the Commission. However, it may be expected that some members will have additional views or views somewhat different in

some respects to this statement which I am presenting, and Commissioner Hennock has a statement of separate views which she wishes to present to the committee.

Senator POTTER. We will hear Miss Hennock after you have completed your statement, Mr. Chairman.

Mr. HYDE. Mr. Chairman and members of the committee, my name is Rosel H. Hyde. I am Chairman of the Federal Communications Commission.

I appreciate this opportunity to join you in a discussion of the status and development of UHF channels: For the fate of the UHF channels is a matter of great import in the development of our Nation's communications system.

The problem which confronts us today stems basically from the fact that the television service began in one part of the frequency band—the VHF. Now, that service has been expanded into another and substantially higher portion of the spectrum—the UHF, or ultra high frequencies. The Commission envisages television service as one service not a scheme with classifications of UHF and VHF, but rather as a single service, all TV and all giving service with the same standards and with the same benefits to the public. We have endeavored at all times to prevent a breakdown which would divide the service or the licensees into separate groups.

The stations in operation prior to June of 1952 all operated in the VHF. And all of the television equipment—transmitting and receiving—was geared to VHF operation. The UHF stations require new types of transmitting equipment, and in order for the stations to be received, the public must either purchase new receivers, or make extensive changes in existing receivers. In short, UHF operation requires substantial changes by manufacturers and by the public, and therefore has a significant impact on advertisers, networks, and all other elements in the industry.

I think it necessary to an understanding of the problems that are presented that we review and keep before us the principal events and considerations which have brought this situation about. I shall, therefore, set forth briefly the factors which led to the utilization of the UHF band and the manner in which it was to be used. I shall indicate specifically why we could not place all television in the VHF, why we intermixed VHF and UHF channels in the same community, and why we provided for wide-coverage areas for all stations. I shall also analyze the growth of television stations since the lifting of the "freeze" and the current financial reports of new VHF and UHF stations. Finally, I shall touch on the measures the Commission has under consideration affecting UHF.

Senator POTTER. Has the Commission ever considered placing all television in the UHF band?

Mr. HYDE. Yes; the Commission did consider that in connection with its allocation and I shall have a rather full discussion on that in my presentation.

Television is a newcomer in the art and industry of communications. You will recall that commercial television began in 1941 but was blocked from normal development as a result of the wartime freeze, which lasted until October of 1945. The utilization of the UHF band is an even more recent development. In the sixth report and order, adopted April 11, 1952, after 3 years of extensive hearings in which

hundreds of experts were heard and thousands of exhibits were carefully studied, the Commission promulgated a nationwide table of television assignments and rules and standards to govern the television-broadcast service. For the first time commercial television stations were authorized to operate in the frequency band 470-890 megacycles, commonly known as the UHF band. This table of assignments provided for assignments of both VHF and UHF channels in the same community. In addition, the rules and standards governing the television broadcast service adopted by the Commission at that time specified the powers and antenna heights that stations operating on VHF and PHF channels might employ.

It was apparent that the 12 VHF channels allocated for commercial television would not be adequate for a competitive nationwide system of television broadcasting. And it was equally apparent that realistically there was little prospect for allocating to television more channels in the VHF portion of the spectrum. To do so would have required that other highly important radio services would have to be deprived of frequencies vital to their operations. These other services include the use of radio frequencies for FM as well as for police, fire, aeronautical, petroleum, utility, railroad, and other non-broadcast services. Accordingly, the plan adopted by the Commission in its sixth report and order provided for use of the 12 VHF channels and, in addition, for the use of 70 UHF channels. I repeat again there are 12 VHF channels and it is planned that there will be 70 UHF channels in that part of the spectrum.

Senator PORTER. What about the area between 4 and 5? Wouldn't the Government have a little piece of the spectrum?

Mr. HYDE. Yes; as a matter of fact, there are 2 breaks in the VHF part of the spectrum, and I should like to tell you what the reasons are which accounts for that break in what otherwise might be a solid allocation to 1 service.

I have some specific notes on that if you will bear with me just a moment.

When the television allocation was made the whole allocation was influenced to a considerable extent by various developments of the wartime period. That had to be taken into consideration in the general allocation which included an extensive aeronautical radionavigation system in worldwide use by the United States and its allies which used the frequency 75 megacycles for aeronautical marker beacons, the band 108-112 megacycles for aeronautical localizers and the band 328-336 megacycles for aeronautical glide path. (These were the three essential elements of an instrument landing system for blind landing.)

An extensive aeronautical communications system in worldwide use in the band 112-132 megacycles.

An essential requirement for Government communications in the band 225-400 megacycles.

A need for frequency allocation for a variety of non-Government land mobile services in the UHF spectrum for which no communications equipment was yet available above 225 megacycles.

Senator POTTER. With reference to the 112-132 megacycles, where would that be on your dial, as we say?

Mr. HYDE. I have a chart that will indicate that, Senator. The blue is channels 2 through 6 television.

Incidentally, I would like to introduce Mr. Curtis Plummer, the Chief of the Broadcast Bureau of the Federal Communications Commission. He might explain this chart further.

Mr. PLUMMER. The yellow is the FM band. In the band between 108 and 174 is the area that the Commissioner is talking about. It includes aeronautical services.

Senator POTTER. Is that above the 12 line?

Mr. PLUMMER. No; the other 7 television stations are here [indicating] but VHF is between 104 and 216 megacycles.

Mr. HYDE. The area in blue are the three divisions. The reasons for those separations were developments and investments in equipment and usages which had to be recognized when the Commission set up a plan. I can supply more detail on that if you wish.

Senator POTTER. Is that being used?

Mr. HYDE. Yes; it is. As a matter of fact, the suggestion has been made that the radiobeacons should be eliminated and there have been long-range plans looking toward that. But that is something that could not possibly have been effected in the time of the television application and indeed it would not be practicable to undertake it at this time.

Senator POTTER. There have been some suggestions to put in a channel 4½ or something like that.

Mr. HYDE. I believe that those suggestions had in mind the possible use of the FM part of the spectrum, that part now dedicated or allocated for FM operations.

There are in the neighborhood of 600 FM stations operating including about 100 operating in the noncommercial educational service and the Commission envisages a more effective use of these FM channels for what you might call auxiliary services related to it.

We have a rulemaking out on it. Any proposal to limit broadcast service would have a very large impact on the public. That may not be realized because of the amount of attention that television gets. But there is a continuing interest in FM. We still get applications for new stations. The interest is greater in some areas than in others, but it is real, not something that you can brush aside as an outmoded service or one in any sense abandoned.

If I may summarize my answer to your question, it is that the Federal Communications Commission had to find places for other services based largely on developments over the wartime period and it was not possible, there was not other VHF space available for television.

Senator POTTER. Do you agree with the statement made by Commissioner Sterling in the speech given in Washington, D. C., on May 10, 1954, and I wish to read a portion of his speech, a couple of paragraphs, and see if that is the Commission's position? I quote now from Commissioner Sterling's remarks:

Suggestions and petitions have been filed with the Commission from time to time suggesting that an additional VHF frequency be allocated to the TV broadcasting service by utilizing the 72-76 megacycle band which has some limited use because of the need of protecting the 75-megacycle nautical aeronautical marker beacon system. The proponents suggest that some real-locations of adjacent space would yield a 6-megacycle TV channel which might be identified as channel 4½. I can scotch any hopes of those desiring to obtain this space for TV broadcasting service by announcing that on April 5 of this year CAA, in response to an inquiry, advised the Commission that the decommissioning of L/MF four-course radiorange will not be complete until 1958 and

that the ILS program calls for continued use of the 75 megacycles beacon. They suggest that the aeronautical requirements be reviewed at some date after 1963.

I assume 1963 is when their allocation time runs out, is that correct?

Mr. HYDE. I think that there is no firm limitation on the allocation, but I think that is their amortization program and the ILS means instrument landing system. I consider that Commissioner Sterling's statement is a fair appraisal of the situation, yes, sir.

Senator POTTER. Then he goes on with another paragraph which I will read:

Others have suggested utilizing the lower half or all of the FM band for TV broadcasting. Such a proposal would, of course, be vigorously opposed by the FM licensees as well as their loyal listeners as well as fixed and mobile services who are seeking additional spectrum space. A hearing of some proportions would necessarily be required if the Commission were to entertain such petitions. The situation in this regard is aggravated by the Commission's proposed rulemaking to authorize multiplexing of FM channels for storecasting and other similar services, and if finally adopted might pave the way for the survival of an excellent broadcasting service as well as the possibility of stereophonic aural broadcasting coupled with the high fidelity interference-free broadcasting service now available from stations operating in this band.

Do you concur with that?

Mr. HYDE. I agree with that. I think the Commissioner showed a proper concern about a final elimination of FM service which still holds great promise.

We have a chart dealing with that. If you wish, Mr. Curtis Plummer could give you a very brief outline of the situation with the help of the chart.

Senator SCHOEPEL. Will we have breakdowns in small ways for our files?

Mr. HYDE. We will supply them, Senator.

(Small size copies of charts to be supplied for official files of committee.)

Mr. PLUMMER. This is a section of the radio spectrum between 50 megacycles and 108 megacycles which is almost the top end of the FM band. You will notice that channels 2, 3, and 4 are in a block.

Then there is this gap between 72 and 76 megacycles that you have mentioned as a possibility for channel 4½. Then channels 5 and 6 and then the FM band. Now 72 to 76 contains these aeronautical markers at 75 megacycles on the top half of this band, as the chairman has already mentioned. They are a sort of a keystone that you have to move some way but it costs money and the problem of amortization. That was true in 1945 when we made this allocation. So the best thing to do at that time was to merely put the channels around there.

Senator POTTER. Would that provide another channel, Mr. Plummer?

Mr. PLUMMER. Not alone because there are only 4 megacycles there and it takes 6 megacycles for a television channel.

The proposal has been made to use that plus 2 megacycles of the FM band and so move channels 5 and 6 up. Those two megacycles happen to be the noncommercial educational megacycles.

Mr. HYDE. May I ask Mr. Plummer to give a further explanation? Would it be necessary to make changes in the transmitters of all those stations operating on channel 5 and channel 6, and of course the receiver receiving programs on that?

Mr. PLUMMER. Yes, sir. Let us assume that there are 40 stations on each channel 5 or 6 which were operating. All those transmitters would have to be retuned. There are millions of receivers. I would guess that a considerable number of receivers would need work by servicemen to be returned to those two channels. Some of the manufacturers could give you more detail on that.

Mr. HYDE. I think there are other special problems that might come up such as assuming that we were able to salvage one more VHF channel and thus patch up the VHF situation. Wouldn't that be a worse position than we are in now?

I had stated that the Commission set up an allocation plan of using 12 VHF channels and 70 UHF channels.

In reaching this decision the Commission rejected another proposal which had been made—that all television be moved to the UHF band. For at that time there were one or more VHF stations in operation in 63 of the most populous centers of the United States. There were 108 stations authorized. At the end of 1951, close to 15 million families, located principally in and around these 63 areas, had VHF sets. In many of these cities set saturation was more than 50 percent. The assignment of all television stations in the UHF would have had staggering consequences not only to the industry but to the public as well. The investment of consumers in VHF at that time amounted to billions of dollars. Similarly, the industry—including broadcasters, manufacturers, service and repair people—had invested untold millions in the VHF. May I mention that if you take an average cost of \$200 for a VHF television receiver and multiply it by 13 million you will come out with \$3 billion, and that is only the cost of the consumer, the cost applicable to receiving sets.

Another thing, any time any change is made in an allocation which causes inconvenience to the public, which I am sure has come to your attention, it causes great public concern. A new station coming on the air causing even a fringe limitation on an existing operation gets communities very excited.

Senator PORTER. And the communities get their Congressman very excited.

Mr. HYDE. That is right, and the Congress asks us what is the matter. In many instances the adjustments are made in connection with the advent of a new station and things work out, but it is sometimes a painful experience. You must recall a Michigan situation in that connection?

Senator PORTER. I do recall it.

Mr. HYDE. To put the matter simply, if we were to provide an adequate number of television facilities, if we were to meet the need for multiple and local sources of expression, if we were to meet the need for adequate service, then we had no other choice. We were obliged to use not only the 12 channels available in the VHF portion of the spectrum but also the 70 channels in the UHF band. We must not lose sight of the fact that the assignment plan must serve not only for the present but for the future. It must serve as the basis for the long-range development of our national television service.

Senator PASTORE. How do you get so many channels in some places and so few in others?

Mr. HYDE. We made an appraisal of the relative needs and tried to adjust the allocation to those needs as best we could gage them.

I should like to say that when we had made this allocation which does have the purpose of serving our long-range needs, we were aware of the fact it would be subject to adjustments as a more exact examination might be made of particular areas and our rules setting up this allocation like all other rules of the Commission are subject to change, and we have made some changes in the allocation plan but not in its basic concept.

I would like to add further to my answer. One of the considerations that we examined first was the development of AM broadcasting. It gave an indication of the public interest and the public support for broadcasting and in determining the number of channels that might be reasonably allocated to cities. We took into consideration the number of stations broadcasting in those cities.

Senator PASTORE. I appreciate the explanation you have given me, but I am not satisfied with it, to be real honest about it. When you say to meet the needs, whose needs are you trying to meet, the viewing public or the people running the stations?

Mr. HYDE. The paramount need is the overall need of the viewing public, but we have to take into consideration the factors that will contribute to the service of the overall public.

Senator PASTORE. What is the standard? How do you justify 7 stations in New York City and 1 in Providence? Aren't they entitled to see the same shows? Do you get it down to persons or to area?

Mr. HYDE. We would hope in an ideal situation, that every citizen should have the same number of programs and if there were some Government rule that could bring it about—you know that we have to take into consideration the economic realities, the distribution of population, and we have to take into consideration the economic possibilities of the stations.

Senator POTTER. Along that line, isn't it the Commission's policy to establish a nationwide competitive system?

Mr. HYDE. Yes.

Senator POTTER. I know from my experience and to answer the Senator's question of what do you mean by a nationwide competitive system, there is no competition if there is just one station; is there?

Mr. HYDE. That is right, sir. My attention is called to the fact that in Providence there is a provision for 4 stations as against the 7 authorized in New York. I think there is provision for additional UHF stations in New York, as a matter of fact. We endeavored to make the distribution as fair and realistic as possible, having in mind the size of the markets. We took into consideration the comments of all interested parties. This was done as a result of rulemaking. The allocation was announced on a tentative basis. We received the comment and assistance of the interested parties, all of which was examined in detail.

Senator PASTORE. The trouble with getting the view of all interested parties is that it boils down to several potential interests in television. How do we tell the American public that you can go to 1 place and look at 7 channels and if you go to another place you can look at only 1 or 2 or 3 or 4, how do we justify that? Why do we talk so much about competition?

They are falling all over each other to get these licenses. I understand once you get a license it is worth \$1 million. That may sound

funny to some people, but the way they are scrambling for them, I understand that is so.

Oh, is that figure of \$1 million too low? Did somebody say \$5 million?

Miss HENNOCK. That is right; \$5 million.

Mr. HYDE. It is too high in some places, and much too low in others. It depends on the market and the economic factors involved also to a large extent.

Senator PASTORE. But no one has actually answered my question of the ability of the people of New York to get 7 stations and what power have the people, say, in Providence got to get only 1?

Mr. HYDE. The difference isn't 7 to 1. It is true that there are not four VHF assignments there.

One reason is the early development of television in New York. The other is raised when you go to remove stations that were constructed early. Another is the relative short spacing between cities in the northeast section of the United States and the large number of cities, making it still more difficult to divide the scarce number of channels.

But if you examine the allocation scheme I think you will find the Commission made an allocation of channels per city on a pretty equitable basis. It was not done to meet the interests of only certain interests; it was done to satisfy the listening pleasure and interest of the overall public. It would have been faulty if the Commission would disregard the economic picture. Cities have tried to get four channels in a place where they could not exist and we have attempted to hold out the service, at the same time denying multiple service to cities which could support them.

Senator PORTER. Of the seven stations in New York, how many are making money?

Mr. HYDE. I am told the nonnetwork stations are finding it somewhat difficult. If we could examine this thing from the beginning we think some of those persons who were very much interested in having seven stations in New York would probably have a different viewpoint about it today.

Senator PASTORE. On that viewpoint, I have been told that the reason why you cannot get the proper equitable distribution of these stations is because you start out with 7 concentrated in 1 area and there is the technical aspect that is involved that makes it rather hard without interference to get into an adjoining area when you start out with 7 in New York. Am I right or wrong?

Mr. HYDE. It is true when you put 7 stations in 1 community, you limit the channels in other areas immediately around there.

Senator PASTORE. Can you answer my question? Am I right or wrong?

Mr. HYDE. Haven't I answered it, Senator? I admitted that.

Senator PASTORE. I am not trying to confuse you. I am just trying to get the fact. I have been told that unless you take some of the seven stations away from New York, you will never get the proper, equitable distribution within the area surrounding New York City, as an example. If these people are losing money, why can't the Federal Government condemn some of these stations so that you can

start out and make the proper distribution? If you build an inequity upon an inequity the situation will get worse and worse.

Your starting point is that at the beginning certain large cities, because that is where television experimenting started, have come in on the ground floor and gotten themselves a lot of stations. That happened in Los Angeles and in New York.

Mr. HYDE. There are 2 cities that have 7 channels. The other cities have four, usually. I think you would find that a pretty reasonable distribution has been made, taking into consideration the situation from which we had to work.

Senator PASTORE. Would you be better off in carrying out your equity if you had let them have less stations in New York City and less in Los Angeles?

Mr. HYDE. You could make a better distribution that way; yes.

Senator PASTORE. If these people were losing money, wouldn't it be better for the Government to condemn some of these stations so that you might do this job right?

Mr. HYDE. That is a question that would require some study. I would not want to say "yes" to that.

Senator PASTORE. Fundamentally, isn't that where your real trouble is?

Mr. HYDE. No.

Senator PASTORE. All right then, you explain it to me.

Senator POTTER. Providence has one, is that right?

Mr. HYDE. Yes.

Senator POTTER. There is an application for how many more?

Mr. HYDE. Four more channels available.

Senator POTTER. Is there another VHF channel to go in there?

Mr. HYDE. I am sorry. Two VHF assignments in Providence. The delay in television there is incident to determinations on the case.

Senator PASTORE. I am using Providence only as an example.

Mr. HYDE. And I was using it on that basis, too. The New York situation and the Los Angeles situation are the 2 instances where there were as many as 7 in 1 city.

The Commission was faced with the necessity of making a judgment as to whether it was in the public interest to undertake revocation of licenses or rule making to convert them to UHF or move them out to take into consideration the investments that had been made and the listening habits of the public, and on the basis or the representations made to the Commission, it made the judgment that it would be better to work the allocation the way it was done.

Senator POTTER. Under the Commission's plan of allocation, how many were allocated four or more TV stations?

Mr. HYDE. Seven all told.

Senator POTTER. How many had three or more?

Mr. HYDE. Seven communities have assigned to them four or more commercial VHF stations. A total of 37 communities have assigned to them three or more commercial VHF stations.

Senator POTTER. I think one answer we will have to get along the line that Senator Pastore has been speaking of is, what does the Commission mean by a nationwide competitive market?

Mr. HYDE. We mean by a nationwide competitive service operating assignments available in every community in sufficient number to that there can be more than one choice of service, both from the listener standpoint and those interested in broadcasting service.

Senator SCHOEPEL. I would like to ask this; do you take into consideration geographical approach to it or an economic approach?

Mr. HYDE. Certainly we do take into consideration geographical approach.

Senator SCHOEPEL. You started primarily with geographical, didn't you?

Mr. HYDE. Yes, Senator, but actually you have to take into consideration both elements.

Senator SCHOEPEL. I would think so.

Mr. HYDE. The Commission had to take into consideration the size of the markets and the number of stations which it would be prudent to contemplate and you also had to take into consideration the geographical element in order to get some distribution of service.

As is set out in the sixth report, which I hope the Senators will give further consideration to, you will find that the Commission undertook to provide as many services as supply of channels would permit, having due regard for the market potential. Our problem was to meet the needs of the public and the operating realities in a way that would conduce to the overall pleasure and benefit of the public.

Senator POTTER. How far are you from having a nationwide competitive system?

Mr. HYDE. Very far. This map I have here indicates the degree to which the television freeze has been lifted. The area in red indicated operating stations. You can see from that that the Commission has provided for the expansion of television service on a broad front to an enormous area. The yellow circles indicate stations authorized.

Senator POTTER. This is on VHF?

Mr. HYDE. VHF only. The overlay indicates the UHF stations that have been authorized.

Those in blue are operating today. Those in orange are authorized, but not operating.

Senator POTTER. Do you consider that as nationwide?

Mr. HYDE. That takes it in pretty much, it takes in by far the greater part of the population of the United States and it is not as complete as we hope to make it.

However, the number of stations operating now is 377 total which are operating.

The total number authorized is of the order of 570.

The total number of stations which we will have when all stations applied for have been authorized will be 673. That is the potential of the total file of applications.

Senator POTTER. It is the Commission's contention to really reach the goal as far as nationwide coverage is concerned, is it?

Mr. HYDE. We have gone a long way toward that goal, but I think the picture can be improved substantially.

Senator POTTER. That is my second question. What about the competitive nature of the coverage?

Mr. HYDE. On this plan here, this map, we have in red those areas which will have three or more stations operating in the VHF. In the area in yellow, we only have all the stations provided for in the plan; you will have at least 1 or 2 stations in VHF only.

Senator POTTER. How can one station be competitive?

Mr. HYDE. One station can be competitive in many instances where there is service received from other communities in that sense.

We would like to have competition in every community, but we would not want or desire to have multiple stations or none prevent another community that can only support one station from having a single station.

Senator PASTORE. How do you determine that? How does anybody determine when a community can support something?

Mr. HYDE. We do not determine that.

Senator PASTORE. Every time you have an available channel it is like a stampede and then you say that a community cannot afford it. Why cannot it afford it?

Mr. HYDE. It is a little more complicated than the question suggests. We provided for more than 1,800 commercial station assignments. When the total of stations contemplated in the applications were authorized, they were in the order of 673. There are many assignments in the plan which simply have not been applied for.

Senator PASTORE. VHF?

Mr. HYDE. Yes, sir; for the reason that they are in markets which are not attractive to applicants.

Senator PASTORE. And about how many places does that happen in?

Mr. HYDE. The overall percentage figure is 25 percent have not been applied for.

Senator PASTORE. Of the VHF?

Mr. HYDE. That is right. But that would be in smaller markets. The thing that makes a television assignment attractive is its location. One of the leading markets of the United States is up in the northeast, of course.

Senator PASTORE. You say you have 377 operating stations?

Mr. HYDE. Yes, sir.

Senator PASTORE. How many individuals or corporations own the 377?

Mr. HYDE. There are 431 separate ownership interests in TV. I can tell you this, that no more than 5 stations are under the control of 1 interest. You can see that there are no large concentrations in the area because there is a fixed limit of five.

Senator PASTORE. Do many own five, or is that the exception or the rule?

Mr. HYDE. There are not many that own five. There are just a handful. Approximately 487 different companies or individuals own the 570 TV stations authorized as of May 1, 1954. A total of 51 companies or individuals had either majority or substantial minority own-

130 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

ership interests in more than 1 TV station. A breakdown of these ownership interests is as follows:

	Number of companies or individuals holding such interest	Number of stations involved
Number of stations in which a majority or substantial minority interest is held:		
5.....	4	20
4.....	5	20
3.....	10	30
2.....	32	64
Subtotal:		
2 or more.....	51	134
1.....	436	436
Total.....	487	570

Of the 377 stations on the air as of May 1, 1954, there were approximately 304 separate companies of individuals owning such stations.

Senator PASTORE. Is any one interest allowed to own more than one station in the same city?

Mr. HYDE. Not more than one television station; no, sir.

Senator POTTER. That refers only to VHF, does it not?

Mr. HYDE. Yes, Senator.

Senator POTTER. If UHF is allowed to die, what will it do to your competitive market?

Mr. HYDE. If UHF is allowed to die, there will be a number of communities where there will be only one service and in some instances none.

I think there are 70 communities with UHF only. The figure of 70 comes from the fact that there are 70 UHF stations in communities where there are no other television stations. That does not mean that there is no television coming into the communities from stations in other communities.

Senator SCHOEPEL. Some of it on a very unsatisfactory reception standpoint.

Mr. HYDE. Some at very great distances. It varies, of course.

Senator POTTER. Has the Commission considered putting booster stations?

Mr. HYDE. Yes, we have.

Senator POTTER. And the other term was, I think, satellites?

Mr. HYDE. Yes.

Senator POTTER. Will you please tell me the difference between a booster and a satellite station?

Mr. HYDE. A booster station—and booster seems to be the preferred name—is the name for the station which simply boosts the signal of a given station at a given frequency.

A satellite would operate usually on a different frequency, but would rebroadcast the program of the originating station.

Senator SCHOEPEL. A booster would be comparable to a relay?

Mr. HYDE. Yes, sir, that is the best way to describe it.

Senator POTTER. In some of remote areas, isn't that the best way to expand television coverage?

Mr. HYDE. It probably will be. The Commission has had a real challenge in lifting the freeze for the primary stations. It has

seemed good judgment to try to get the main allocations established before filling in the chinks which cannot receive service from an independent station. However, the Commission is currently studying these various suggestions that we use satellite or booster stations to improve the coverage over these areas, the UHF coverage to help them in their efforts to satisfy the public and meet the challenge of competitions of other stations.

Senator POTTER. It would seem to me that it might be desirable where you have land masses that would interfere with the coverage, that would enhance the coverage.

Mr. HYDE. We have been liberal in the granting of channels for true research in that respect. There are areas, where, because of the nature of the terrain, it seems that such measures would be necessary to reach the public which, as I have mentioned, is our primary interest.

A reference to the pattern of development of AM emphasizes the importance of this long-range viewpoint. Twenty years after the institution of the aural broadcast service there were less than 900 stations: From time to time the view had been expressed that this country could not support more than that number of stations. The fact is, however, that since 1945, the number of operating AM stations has increased almost threefold so that today there are approximately 2,600 radio broadcast stations. An assignment plan that limited AM to 900 stations obviously would not have been in the public interest. If anyone had made a plan based on the indicated usage just a short time ago, that would have put a severe restriction on the potential.

With the increased demand for television service following the end of World War II it was perfectly clear that 12 channels were not enough to do the job needed to be done.

Senator POTTER. If that is so, why didn't it meet this problem before you allocated more of these VHF channels?

Mr. HYDE. At one time the Commission did propose allocating 18 in the VHF spectrum. A television channel represents an enormous demand on a spectrum. It represents six megacycles of space, an enormous block of spectrum space, and the VHF part of the spectrum is vitally needed for other services than broadcasting and television. If I showed you a diagram giving the relative amounts of space needed for the AM broadcasting and some other services, it would illustrate this point very well.

Over to the extreme left on this chart there are very fine divisions of space which can be hardly seen without glasses, which represents the spaces dedicated to AM broadcasting, which we have 2,600 stations. AM broadcasting, as you know, operates on the frequency from 540 to 1,600. If you subtract your 540 from 1,600 you get roughly 1 megacycle of space. It takes 6 times that amount of space for 1 TV channel. That indicates the kind of demand on spectrum space represented in television.

It is because of the band width required on the one hand and the shortage of this very valuable part of the spectrum space that made it impossible for the Commission to set up a vast area for broadcasting alone.

Senator POTTER. If you knew in 1945 that you needed more channels and you knew that you would have to go into the UHF band—

Mr. HYDE. Actually, the Commission—and I was not a party to that judgment, did look ahead in somewhat the way you suggest or

indicate they should have and they envisaged that TV when fully developed would probably have to be in the UHF part of the spectrum and it was only for that reason that this UHF space was available when the allocation was made in 1952.

Actually, it probably would have been squeezed down except that in 1945, the Commission thought that for color broadcasting, it would take channels of wider band width than the 6 megacycles. They were thinking in terms of 13 to 17 megacycles and the only place where space of that order could be found was in the UHF. It was this thinking that you might need channels of these great widths and it was desirable to have a competitive system which resulted in the reservation of a large block of space in the UHF for experimental television, where the Commission thought television generally would find its lodging.

There was a very rapid development of TV in the VHF with upwards of 5 million sets and representing service relied upon by the public to an amazing degree.

Senator POTTER. As I understand your testimony, the Commission recognizes the fact that you needed to have, in order to have a nationwide competitive system, you had to develop the VHF band, of course, but you particularly needed to develop the UHF band; is that correct?

Mr. HYDE. That is right, sir.

Senator POTTER. If you recognized that fact after the war, why didn't you meet this problem at the time of the freeze, rather than to loosen up on the VHF channels and put them in competition?

Mr. HYDE. At the time of the freeze, it was already too late. Also, and here are some of the reasons why I say it was too late, we still did not have the equipment that would give the public the service they were demanding and for which they had a taste by reason of the operation of the limited number of stations in VHF. If the Commission at that time had undertaken to move all television into UHF, they would have had a public reaction that would have compelled us to give up the planning and all you would have accomplished would have been a tremendous disruption in the TV service. Objections to go to UHF were made, but the weight of the evidence indicated it would not be in the public interest to do it, taking into consideration the matters which I have mentioned and others which are set out in the allocation report. It was not feasible to make the big shift in 1952, in the judgment of the Commission.

Now we are looking at it with the benefit of hindsight.

Senator POTTER. I realize that it is easier to be a Monday morning quarterback than a Saturday afternoon quarterback.

Mr. HYDE. Yes, sir.

It was necessary therefore to use both VHF and UHF channels. And, for reasons which I shall discuss in some detail, it was necessary also to make both VHF and UHF assignments in the same community in order to avoid serious limitation on the number of services that might be provided. Indeed, of the 100 most populous markets, the Commission felt that the assignment of UHF channels in addition to VHF was needed in 70 of these top markets. Thus UHF was needed to provide the fourth commercial local station in 24 of these communities, the third commercial station in 29 communities, and the second commercial local station in 17 communities. I will paraphrase that by saying that the UHF was needed to provide for com-

petitive service of at least a multiple service. In another 17 of these top 100 markets only UHF assignments were made. Some examples may help to illustrate the problem: The Boston metropolitan area is able to support 17 radio stations. Are three commercial VHF stations adequate to meet the needs of that community? The Baltimore metropolitan area supports 11 radio stations. Are 3 VHF stations adequate to meet its needs? The Chicago metropolitan area supports approximately 30 radio stations. Are 4 commercial VHF stations adequate to meet its needs? The same question may be asked of many, many other leading markets. To ask the question is to answer it—for the answer is indeed obvious.

But there is a further consideration which impels the intermixture of UHF and VHF assignments. Technically it is the most efficient way of allocating the scarce and precious television frequency space to maximize the number of assignments. As we have pointed out:

* * * VHF stations are capable of providing a greater coverage than UHF stations. Hence a more extensive television service is made available where some VHF assignments are made in as many communities as possible than where only VHF assignments are made in some communities and only UHF assignments are made in the other communities.

Stated otherwise, if we do not arbitrarily limit the assignment of VHF stations, we achieve a greater flexibility in the utilization of these assignments and as a result are enabled to use them more often and where needed the most.

I think I can clarify that by an added sentence. If we had a rule which said that we will not put a VHF assignment where there are UHF assignments there will be situations where a channel would work but would be left out simply in order to avoid having channels in two different parts of the spectrum. It would be denying service and cutting down the stations in order to keep them from intermixture.

Senator PASTORE. Would all UHF stations have the same acceptance to the same program as VHF?

Mr. HYDE. All UHF stations have that acceptance subject to the economic considerations and the choices of the operators, the choices of the advertisers. Those are matters controlled by factors out of our jurisdiction and control, of course.

Senator PASTORE. The reason I asked that is if you confine a location solely to UHF wouldn't the people be put at a tremendous disadvantage?

Mr. HYDE. We thought so. We did not think we should deny the use of a channel simply to avoid intermixture.

Senator PASTORE. Isn't there some feeling on the part of the operators of UHF now that they are being denied equality of access to the same quality of programs coming over?

Mr. HYDE. I am sure there is that. They have felt the reluctance of sponsors and networks to buy the time of a UHF station if it was available in the competitive area of a VHF station.

Senator PASTORE. Have you any opinion as to what extent that feeling prevails that that field is monopolized at the present time?

Mr. HYDE. We have some information on that in an annex to my statement. Based on the Commission's study of network programming during the week of March 14-20, 1954, the average UHF station in cities of 250,000 and over population carried 19 hours of network pro-

grams during that week; the average postfreeze VHF station in cities of the same size carried 37 hours of network programs. In cities under 250,000 population, the average UHF station carried 14 hours of network programs during that week while the average postfreeze VHF in that city size carried 15 hours.

In the 34 cities where both VHF and UHF stations were in operation during that week, the average VHF station in those cities carried 44 hours of network programs and the average UHF station carried 14 hours. Of the 11 hours of network programs listed among the Top Ten programs (by 3 different research organizations) the average VHF station in the VHF-UHF cities carried 5 of these 11 hours while the average UHF station carried 1 hour.

Senator PASTORE. You will come to it?

Mr. HYDE. It was only completed last evening.

Senator PASTORE. It will be in the record?

Mr. HYDE. It will be in the record.

Senator HUNT. Isn't that a matter entirely under the control of networks in the last analysis?

Mr. HYDE. I would say that the control is still farther back in the hands of advertisers who must pay for the time.

Senator HUNT. And it has to do with what programs certain networks make available.

Mr. HYDE. And this matter of programing that we are now discussing is emphasized by the fact that television, more than other broadcast services, have found it necessary to depend to a very large degree on network programing.

Senator PASTORE. We start out with the philosophy that the Government supervises this field because of the public interest involved. This is a predicate for the question I will ask you about who should control the accessibility to equality of programs. If this is regulated as a field in the public interest, and we are raising the point because the field of VHF is already well taken up and you have got to go to UHF, why shouldn't it be the concern of Government to see that there is equality of opportunity between UHF and VHF? Why should it be controlled exclusively by business?

Mr. HYDE. You have raised a question.

Senator PASTORE. Isn't that the crux?

Mr. HYDE. That is a very complicated question.

Senator PASTORE. Let me simplify the question.

Mr. HYDE. The question has a premise that there is a certain amount of programing which everyone should have. I think that we should not indulge in that limitation on sources of programing. I think there should be opportunity for programing from many sources and I think that it is unfortunate that as of now too many stations are depending on a limited number of program resources.

Senator PASTORE. Don't you think that unless we make it our concern from the standpoint of protecting the public interest, you raise the power of certain interests in this country to choke off the UHF and if the rest of it is monopolized you will find yourself in a position that no matter how much UHF you allocated no one will see it because it will not be of any importance?

Mr. HYDE. I am hopeful that there can be some provision for the expansion of this industry without anything that even suggests supervision of programing or its distribution. As of now, the policy of

the act is to keep these matters of programing, and so forth, on a free-enterprise, competitive basis.

Senator PASTORE. I am all for that until we get to the point of getting into monopoly.

Mr. HYDE. The Commission is vitally concerned about the development of UHF because for reasons which you pointed out, it is in the use of those channels that we have the opportunity for establishment of television on a broad basis with many stations with adequate competition which I think is more important in the field of ideas, distribution of news, development of public opinion, and any other line.

Senator SCHOEPEL. Along the line of Senator Pastore's question with respect to the new developments coming up, do you feel that the development of color TV would go ahead if color TV was confined to UHF?

Mr. HYDE. I doubt if it would. The development of color is not coming about automatically by any means. The Commission, as you know, approved signal specifications for broadcasting color on December 17 last year, but the amount of broadcasting in color and the distribution of such is still quite limited. That, of course, was to be expected because there was no opportunity for setting up on production lines and the laying of the plans until the standards would be established. But even now we do not have in the immediate offing volume production of color sets such as to give low retail price, and I believe that the interest of the UHF will have to have more immediate attention than the color. I believe, too, although I should think color would help and color should help in this respect, that many people will buy sets in order to get color reception as it becomes available.

Senator POTTER. Don't they manufacture the sets to receive color by just VHF?

Mr. HYDE. In some instances. I am told one manufacturer has indicated its color sets will receive all channels, on all channels. The Commission, of course, would hope that all color sets would be manufactured to receive in UHF so that the public, as they find it appropriate or they wish to replace their sets, could get color and would automatically get access to the UHF channels. It would be a constructive thing for the development of the industry if set manufacturers would incorporate provisions for reception in the UHF channels in their color sets. It would make it possible for the exploitation of the UHF.

Senator POTTER. What is the purpose of the Commission's exclusivity?

Mr. HYDE. You have reference, I am sure, to the network regulations. In connection with our study of the UHF situation, we have proposed in a rulemaking notice to change the network rules so that a station affiliated with a network could not limit the network or the sponsor of a program from making that program available to another station, providing that station is located in another city.

Under the present rules, a station affiliated with a network can enter into a contract which would preclude the network from supplying that program to another station serving the same area.

Senator POTTER. Even though the station did not use the program themselves?

Mr. HYDE. No. If the station were using the program they could have a contract which would prevent any other station reaching that same area from having it, but under the proposal the network could affiliate with another station serving the same area or a part of it, provided the other station were located in a different city. The importance of that arises from the fact in many situations that a station in one city will have service extending into another community which will have its own television station. We have thought it might be helpful to the second station if the first station could not, by contract, limit its ability to get that program.

Senator POTTER. Do you think that will help the UHF station any?

Mr. HYDE. I would not suggest that would afford any general relief to them. We hope that it will give some measure of assistance. We hoped that that will give some indication of our views that there is a need for a wider distribution of service to stations.

Senator PASTORE. I am not going to ask your opinion on the legislation because I think it would be unfair at this time, but merely to ask you whether you are familiar with it. On May 13, Senator Bricker, the chairman of the full committee, introduced a bill to give to the Commission authority to establish rules and regulations and make orders with regard to networks and such other activities as affect licensed broadcast stations that operate in the public interest. Are you familiar with that?

Mr. HYDE. I am familiar with the fact that he has introduced such a bill, but I have no recommendations to make on that at the moment. It is a subject on which one would want to make a very careful examination before making any recommendation.

Senator HUNT. Mr. Hyde, why is it that television broadcasting equipment for UHF has not been available?

Mr. HYDE. This is a new part of the spectrum insofar as use for television is concerned. There had been no operation in it beyond experimental as far as television is concerned prior to 1952 and, as is always the case, it takes time to work out the problems which invariably develop when you move into a new part of the spectrum. I think very substantial progress has been made, although frankly we are disappointed in the time it has taken to achieve the amount of power for operation of the stations.

Senator HUNT. I assume that has been simply an attitude of the business situation. The great demand for the VHF equipment with so many more stations merely slowed up the production of UHF?

Mr. HYDE. There are technical considerations and it does take time to develop new equipment for distribution to the public. You can make a preliminary prototype for purposes of experimentation, but it takes time to develop a receiver or transmitter for general use under operating conditions. I believe the question you have asked me will probably set some attention from manufacturers who have had experience of developing this equipment.

Senator POTTER. And they will testify?

Mr. HYDE. I am glad you mentioned that.

Senator POTTER. When the Commission made their sixth report, didn't the Commission state at that time that there was evidence that it will be possible to operate stations in the UHF band with 400-kilowatt radiated power by the time the authorizations are issued.

Mr. HYDE. We did indicate that there was rapid development. You may be quoting from our report.

Senator POTTER. I understand it is a quotation from the report, but I would like to know how many kilowatts are now available.

Mr. HYDE. The highest now in use is 12 kilowatts. That has a higher effective radiated power. The highest power for the transmitter is 12 kilowatts, but that has made an effective radiated power of 200 kilowatts.

Senator POTTER. It is about half the power that is needed.

Mr. HYDE. Half the power that is needed to approach the service areas that we hoped would approach those of the VHF.

Senator POTTER. Do you think that some people have been dragging their feet on this? Why haven't they had the high-power transmitters that are necessary?

Mr. HYDE. I have no evidence that there is any dragging of feet on it. I do believe that if the UHF stations would begin to prosper a bit and if the interest in that field could be stimulated that work on the material could be possibly expedited, but the Commission has no evidence of dragging of feet or of any refusal to go ahead.

Senator POTTER. It seems to me that if you expect the UHF operators to be competitive, that there is a need for high-power transmitters that are necessary, and also adequate receivers.

Mr. HYDE. That is right.

Senator PASTORE. And good programing.

Senator POTTER. And competitive programing.

Mr. HYDE. It takes the programs to get the distribution of sets, and apparently it takes the distribution of sets to get the programs because the sponsor of the program wishes to buy time where he has the largest circulation. It is one of those circulation things.

Senator POTTER. Probably you will discuss that in your statement, but do you have any suggestion as to how we can overcome this?

Mr. HYDE. I do have some suggestions here in my statement. Of course, we are going to be following this whole examination for all of the help and assistance that may come from an examination of the subject here. We have undertaken some measures which I will mention in my statement.

Senator SCHOEPEL. I would like to ask this by way of suggestion. I know nothing about the technical side of this thing, but I do know when you introduce color television the folks who have the ordinary sets will not be so happy. It has an appeal and it more clearly reflects things that we have not been able to view before, as we all know. As color television becomes popular, it makes possible the production that brings prices down, and surely the Commission of which you are a member realizes that if they can go to those higher areas that you are discussing here, don't you think that there would be a tremendous shift then to UHF?

Mr. HYDE. If color were restricted to UHF?

Senator SCHOEPEL. Yes.

Mr. HYDE. There would be this difficulty about it in that some cities would not have color, and so I believe that we may need the impetus of television viewers generally to get a satisfactory development of color and mass production of sets.

Senator SCHOEPEL. I wouldn't want to see an order go in of a commission empowered to make that kind of an economic decision,

but I would think as a matter of development that it would encourage going to UHF as color television comes in and utilizes greater coverage.

Mr. HYDE. I am sure it is the attitude of the Commission to encourage everyone concerned to provide for reception in color. Commissioner Sterling, in a public speech, and others of us, whenever the opportunity has presented itself, have expressed the hope that manufacturers will improve their color sets so as to provide reception on the ultrahigh channel, that is, equip their sets manufactured to receive color to give reception in ultrahigh frequencies so that people replacing their black and white sets in the manner you have mentioned would become potential viewers of the ultrahigh frequencies.

Senator POTTER. You may proceed.

Mr. HYDE. The Commission concluded, therefore, that intermixture was necessary. However, even had we been willing to limit arbitrarily the number of channels in communities—even had we been willing to utilize a less efficient method of assigning the VHF portion of the spectrum—even so, we would not have eliminated the effects of intermixture. For eliminating the intermixture of VHF and UHF assignments in the same cities would not have eliminated the overlap of VHF and UHF service areas. And there is the rub. For one of the principal difficulties facing most UHF stations is that they are within the service areas of large VHF stations.

But the difficulties in the long-run development of UHF would, in my opinion, have been greater than they are today if we had failed to intermix.

Senator POTTER. Do you think an ultra-high-frequency operator can compete in a VHF market?

Mr. HYDE. I would have to answer that with some "ifs." Based upon our experience, those that have gotten started before the VHF came along, and therefore had the advantage of getting UHF set distribution, have been able to compete.

Those who have started out with UHF in communities where they already had a VHF set saturation found it very difficult.

I would not want to conclude yet as to what the final results would be. I trust that some of the UHF stations that have been able to meet this challenge will give you the benefit of their experience. I know there are some who have had difficulty that have already been to see you, as you mentioned earlier in the hearing.

At the time of the lifting of the freeze, there were 108 television stations operating throughout the United States. These were all VHF stations, and they were located in 63 of the top markets in the United States—markets which contain over 60 percent of the Nation's population and which account for approximately 60 percent of the Nation's retail sales. If we had not assigned additional UHF stations to these very important population and economic centers, then for a certainty the UHF would have been permanently relegated to an inferior position in the television service. For if we had assigned the UHF service to the smaller communities only, then such incentive as presently exists for equipment manufacturers to produce reliable low-cost, all-channel tuners or converters, or to produce UHF high-powered transmitting equipment, would have been very substantially lessened.

If I may go back to the question as to whether or not UHF can compete with a VHF station—

Senator PORTER. I have been informed—if you will allow me to break into your statement, Mr. Chairman, but I understand that there are some people in the hall who would like to hear. We have a room in here where some can stand in here at least.

We will have a 5-minute recess at this point for the purpose of moving the public around.

(Whereupon, a short recess was had.)

Senator PORTER. The committee will resume its session. The people who are in the back of the room, there is still room in the side room, if you care to take it.

Proceed, Mr. Hyde.

Mr. HYDE. A further statement on your question as to whether or not a UHF station can compete with VHF might be helpful. In AM broadcasting we have local 250 watt stations, regional stations of 5-kilowatt power competing successfully with 50-kilowatt stations. We have independent, locally programed stations competing with network stations, very successfully, but there is this difference, when the AM came in all receiving sets, practically all of them, would receive on all channels from 540 to 1600, so that a newcomer starting business in this field has access to the receivers in the homes.

Now, in this field you have a situation where the newcomer must promote the distribution of UHF sets and in those instances where he comes to the market developed already by the VHF, he has the uphill task of persuading the owner to convert or buy new sets. If we could get a wider distribution of all-wave receiving sets, then you would have an opportunity to make a comparison.

Senator PORTER. What has been the technical development of receivers for UHF? Are they adequate as compared with the VHF reception?

Mr. HYDE. I expect that you will get expert views on that from the designers of these sets. I have observed reception on UHF, which is very good indeed. I am sure that in that field, as in others, further improvements can be made and that is likewise true of the VHF.

Senator PASTORE. Have you any knowledge of the cost of conversion from the conventional set to UHF?

Mr. HYDE. Yes, the costs range from just a few dollars to put in a strip to \$20 to \$75, or even \$100. Sometimes it will be necessary to put in an additional antenna. Sometimes the person converting the set will want one that is converted to receive on several UHF channels, which will cost more than if the conversion is only to one. There are many variables in it, but as I have indicated, the cost can be quite substantial.

Senator HUNT. Is there any variation in the distance of good reception from UHF to VHF?

Mr. HYDE. There are substantial differences and even with UHF operating with the maximum power, they cannot reach the same distance that a VHF station does. However, they are able to reach their community very satisfactorily, which is something that many AM stations cannot do.

I think it is the effect on set distribution more than the difference in coverage that is critical here. In most instances, the UHF station can reach its logical market. He runs into difficulty if stations in other

markets invade the same area and if sponsors of programs getting access to it on other stations are reluctant to buy his.

Senator PORTER. Isn't it a fact that it costs more for the UHF operator to put his signal in the air? In other words, his transmission costs as compared with VHF operator costs would then, on the receiving end, would cost more money to bring him to the home than it does for a receiver to receive VHF?

Mr. HYDE. I guess I would have to say "Yes" and "No" to that and explain, if I may.

Based on data reported by postfreeze licensees, the average construction cost of the 109 VHF stations was \$376,000 compared to \$300,000 for the average cost of 100 UHF stations.

It costs more for the same amount of power for UHF, but actually our figures as to the investment in UHF indicate that the cost of installing stations has been on an average less to the operator, by and large, with less power, but for anything approaching equivalent coverage, more, and as I have indicated, in order to get UHF reception it usually means conversion or when you buy a new set in the dealer's store, there is a differential right away.

Senator PORTER. What is the differential for an all-purpose set?

Mr. HYDE. Thirty-five dollars, usually. We have always hoped and expected that on the basis of the manufacture of sets for all channels, with mass-production techniques, that that cost could be reduced, as I believe it could be.

In recent weeks some currency has been given to proposals for the reallocation of the spectrum assigned for television broadcast stations. Sometimes it is suggested that we reallocate the VHF portion of the spectrum so as to provide one or more additional VHF channels and then assign all stations in the VHF. On the other hand, it has also been suggested that we move all stations into the UHF. Both proposals have an obvious appeal. For, in one fell swoop, they would eliminate the disparity between stations; put all stations on an equal competitive basis; and thus remove the UHF problem.

But the very factors that made such moves impracticable 2 years ago, when the Sixth Report and Order was adopted, still exist, and perhaps in even more intensified form at this time. The needs of other services in the VHF portion of the spectrum are at least as great now as they were several years ago. You will recall that these include other broadcasting services, such as FM. They also include many other services such as police, fire, aeronautical, petroleum, utility, and railroads which are not only important to the national economy, but also to public safety. In these services many thousands of stations are operating. New lodgings in the spectrum would have to be found to house these services, with a resulting chain reaction of dislocation. And even the most drastic action would secure only a few additional VHF channels, hardly enough to supplant the 70 UHF channels. In view of the cost, the widespread disruption and confusion that would result from any effort to move these stations elsewhere in the spectrum, it must be concluded that a proposal to obtain more VHF channels for television to replace UHF channels is infeasible and impracticable.

I would like to add to that, any suggestion for reexamination of the spectrum to make a redivision would necessarily include the examination of the needs of these other services, and I can tell you that

they all feel crowded. They all feel that their needs are not adequately taken care of.

We would again come to one of those situations where we would have to balance needs and there is no one who can guarantee or promise in advance of a hearing that reexamination of the spectrum or suggested new use of some parts of it, such as FM, would automatically provide additional space for television.

Senator POTTER. The fact that you have 70 channels in UHF, under the most optimistic development can you envision how many of those channels will be actually used?

Mr. HYDE. Actually, when we were working with the allocation plan, we had expected to use 54 channels at one stage in the UHF, reserving some for possible unanticipated uses, but as we got into the problem of providing an opportunity for a competitive, nationwide system, we found ourselves obliged to make use of a whole block of 70.

Why we have not worked out a nationwide allocation based on UHF alone, which would be the only way you could tell how good your coverage is, we have done enough work on it to know that limiting television to the UHF would give us some pretty tight situations, particularly in the Northeast where you have many large and important cities. You would find it very difficult to find enough assignments.

Senator POTTER. It seems to me it would be difficult to sell the public to tune in to channel 54 or channel 38. When you have the small number, it means a lot more, but when you go into 70 channels, in addition to your VHF, it would be difficult to educate the public that channel 54 or channel 68 is my channel.

Senator SCHOEPEL. It would depend on what was on channel 54.

Mr. HYDE. And then there is this, too, the number of channels in one city would be limited to eight or less. If they would become known by their call letters rather than the No. 58, it wouldn't make much difference. Yet I recognize that you are calling attention to some psychological factors of the mass listening habits, and people do acquire listening or viewing habits and they tend to come back to the same place where they were before.

And the impact upon the public and the industry of a move of all stations to the UHF would be far greater now than it was 2 years ago, for since the lifting of the freeze, the number of VHF receivers in the hands of the public has increased from approximately 15 million to 30 million. And the number of stations operating on VHF channels has increased from 108 to 250. Similarly, the investment of the industry, including broadcasters, manufacturers, service and repair people, has increased severalfold. Here, too, the disruption and dislocation, the uncertainty and confusion, make this proposal infeasible and impracticable.

I have dealt at some length with the salient considerations involved in the assignment of channels because of the importance of these matters to the national television structure. A second and equally important problem arises from the nature and extent of the service area that should be provided for television stations authorized to operate on the assigned channels.

It was our objective to provide the whole of the American public—including people who reside in cities, farms and rural areas—in all parts of this country, with at least one television service. In addition,

it was our objective—wherever practicable—to make it possible for the American people to be provided with a choice of two or more television services. Further, it was our objective to make a nationwide service available at the earliest practicable date. We assumed that in the immediate future, at least, television service would originate from the larger cities where there was a substantial economic base for their operation, in terms of population and purchasing power. Consequently, if persons outside these cities were to obtain television service in the near future, it would have to come from stations in the large centers.

In the light of these objectives and considerations, it was the Commission's decision that all stations should have the potentiality of relatively wide coverage. Further, we concluded that the high power which was necessary for wide coverage was further desirable since it made possible a better grade of service to the viewer within the service area. We, therefore, authorized the use of high power.

I think you can see that in terms of the public interest there is substantial justification for providing television stations with side coverage. However, the fact is that the transmitters necessary to provide such high powers for the UHF have not yet been developed. The result is that the approximation to comparable coverage that we hoped would be possible between VHF and UHF stations has not yet been attained.

Now, I should like to review briefly the growth of television stations since the lifting of the "freeze" and the current financial status of these new stations. I do not propose to burden the committee with the detailed data, but rather I shall set out the highlights of our analysis. The summary figures are available in these tabulations which I have had prepared for this proceeding. In addition, I would like to make available copies of a previous report which the Commission released on the UHF situation.

As you know, there has been a very rapid expansion in television during the past 2 years. There are well over 3 times as many stations in operation now as compared with April 1952. Of the 377 commercial stations on the air as of May 1, 1954, 127 were UHF.

On the basis of applications already received, there could be a total of 673 commercial stations. Of these, 404 would be VHF and 269 UHF. By comparison, in our allocation plan, we provided for approximately 550 commercial VHF and 1,300 commercial UHF stations.

Now, how extensive is intermixture of VHF and UHF stations in the same community? The great majority of UHF stations on the air—68 percent—do not operate in the same community with a local VHF station. Another 26 percent of UHF stations have only 1 VHF station in their same community. Only a handful—6 percent of the UHF stations—are in communities with 2 or more VHF stations. I want to emphasize that I am now talking about intermixture in the same community. However, intermixture on an area basis—that is, VHF signals coming in from outside communities—is very general.

I said a moment ago there could be 673 commercial stations on the basis of stations authorized and applications pending. This, however, presumes two things: (1) That all stations on the air will continue in operation; and (2) that all permit holders will eventually build stations.

Let me indicate what has been our experience thus far with both of these factors. Thus far, a total of 77 permittees have canceled out their authorizations before going on the air or have ceased operation after going on the air. These 77 include 13 VHF and 64 UHF.

Senator SCHOEPEL. I should like to ask a question at that point. Those stations that have gone off the air have done so because they could not get the program. I believe that that will probably be the answer indicated by the responses. I note that Senator Potter has asked that very question of the licensees, and I have not the time to suggest a survey on the basis of information coming directly to me.

Mr. HYDE. The usual explanation is, inability to get programs and sponsors, because of inability to get set distributions, and inability to get set distributions because they do not have the programs or the sponsor.

Senator SCHOEPEL. Assume that they could get the set saturation, now; then, should we not give consideration, at some place down the line, to the possibility of control of programs. The control of programs is going to be the responsibility of somebody, some place down the line.

Mr. HYDE. Senator, my view is that we should try to solve this problem without anything that tends to place either the responsibility or the control of programs on a Government agency.

Senator SCHOEPEL. I grant all of that; and that would be the last thing I would want. But if we find that, by reason of the programing, contractualwise or agreementwise, or otherwise, that we run into an impasse, I say somebody is going to have to wrestle with it, either the industry, itself, or—

Mr. HYDE. Yes. I think, Senator, that what we have here is a challenge to industry as well as to ourselves; and I would think that all elements of the industry would recognize that the thing to do, the thing to avoid regulation, is to find some way to get a better distribution of programs and sets, so that there will not be any need for further regulation.

Senator SCHOEPEL. That is the very reason I am raising this question, because it seemingly is pointing in the direction of the type of programs that are controlled; and you cannot blame them, because they have already taken terrific losses, to start with, in developing it; and, therefore, they ought to be protected. But, at some place down the line, if we find that that is getting into a channeled area to the exclusion of other areas, all over the country, I am afraid we are going to be confronted—somebody is going to be confronted—with finding the solution to it.

Mr. HYDE. Senator, I would not want now to conclude that it is necessary for the stations to have access to certain program sources which now seem to be uppermost in the minds of many of these stations. Very often, the complaint is, "I cannot get the programs of a certain network." Up to now, network programs have seemed to be the lifeblood of television. In the aural field, as you know, there has been a high development of the independent type of operation, in one network—one whose type of operation lends itself to that.

In television, it is very difficult because, while the network shows the big variety shows, it is the public that pays their bill. They exploit—perhaps "exploit" is not a nice word, there—they present big names known to the public, names that are familiar to them, in pro-

grams which attract the public as against local producers. However, we should not give up and conclude now that a certain limited number of program sources are to provide the whole fare of program material for the American public. The film technique is still being developed.

Now, I am "reaching out in the yonder blue," as they say—the magnetic-tape type of recorded program material, used extensively in AM for sound reproduction, is not yet available for video reproduction. But we should not assume that this is not going to be available. It is well advanced. I would not want a base allocation of principles or licensing policies, nor would I urge this committee to adopt legislation geared to a present situation which may be only temporary. Nevertheless, we are concerned about this temporary situation, for this reason, and that is, for the development of ultrahigh companies to suffer a setback at this time; and there are no sets in the hands of the public. It is going to make it still more difficult later on for any development of the additional stations which we believe are necessary for a country as big as ours, and for the type of competitive effort that we think there should be.

Senator PORTER. I contacted the 60 UHF operators who turned back licenses, and received a reply, I think, from 47; and of the 47, a vast majority stated that inability to secure or to "network" an affiliation, or an acute network affiliation, was one of their reasons for turning their licenses back.

Mr. HYDE. That is what I expected you would probably get from such a questionnaire.

To continue: Thus, the number of UHF cancellations is half as large as the total number of the UHF stations in operation. However, it should be noted that few of the dropouts had actually gone on the air—2 in VHF and 10 in UHF.

Senator HUNT. May I ask, Mr. Hyde, what percentage of these permits were exchanged, bought, and sold, prior to the canceling out? Do you happen to know that?

Mr. HYDE. Two UHF stations were transferred from their original owners to new owners prior to the cancellation of the stations' authorizations. These were KRTV, Little Rock, Ark., and KCTY, Kansas City, Mo. In addition, 1 UHF authorization and 1 VHF authorization were transferred from their original owners to new owners after the stations had gone on the air. Subsequently, the new owners of these stations shut down the stations' operations with a request that the CP's be retained pending future developments and reorganization.

Senator HUNT. What about VHF?

Mr. HYDE. In VHF there was one station, in Lincoln, Nebr., I recall, which canceled out under these conditions. The HF's apparently find it difficult for both of them to live under the competition, after the stations over at Omaha have merged. As a result of that merger, one of them planned to drop out. I understand that there is some plan, now, to convert it into an educational station, but that was an instance of a transfer in the sense that they merged their interests in one licensee, and one station stopped.

There is one in Honolulu, where a station got in distress and then passed into other hands. I believe it was temporarily off the air, and is now back on. That was a VHF.

In the great majority of cases where UHF permittees have cancelled, they faced substantial VHF-only set saturation in their markets. This was true not only in communities in which a VHF station was in operation in their community, but also in communities which had no local VHF station. It is also true that in a number of these communities VHF-set saturation was relatively low in May 1952, when the Commission had just lifted the "freeze." Such VHF-set saturation developed between then and the end of 1953 as the result of two factors: new VHF stations going on the air; and increased coverage of existing VHF stations.

There are now 120 UHF permits outstanding, in addition to the 127 UHF stations on the air. Over 60 percent of the 120 UHF permits outstanding are now at least 8 months old. We do not know when these 120 UHF permit holders will go on the air. We do know that they face the task of overcoming considerable VHF-only set saturation. This is particularly true of the 49 UHF permittees scheduled to go into 33 prefreeze markets. To a somewhat lesser degree, it is also true of 40 UHF permittees authorized for operation in 40 UHF-only markets where there are no UHF stations now in operation and no UHF-set circulation, but where there is considerable VHF-set ownership under study.

On the other hand, those affecting communications can be of very, very important interest, because people have a very great interest in television. They put in these high antennas, which are sticking all over the rooftops, and, in the absence of any other standard facilities, they will accept a very low grade of signal quality. They can have a lot of "snow", but if the action is there, they are still interested; and consequently there is a widespread distribution of VHF sets in areas where one would be surprised to find television.

Previously, I have indicated that if UHF is to achieve comparable coverage with maximum-power VHF stations, it must have higher power. In fact, it would require radiated power of 1,000 kilowatts. This calls for a transmitter with rated power of 50 kilowatts or more. RCA, GE, and DuMont have advised that such transmitters are currently under development, but they are not likely to be available commercially until late 1955 or by mid-1956.

The bulk of UHF transmitters now in operation are relatively low powered. They have a rated power of 1 kilowatt and with high-gain antennas they operate at approximately 20 kilowatts. The highest rated UHF transmitter currently in operation is 12 kilowatts; with high-gain antennas these operate at approximately 200 to 240 kilowatts radiated power.

With the transmitters now available to UHF operators, they generally cover their local community, but they cannot reach out as far as VHF stations nor can they overcome poor viewing conditions as well as VHF stations.

We do not know precisely how many UHF sets are presently in the hands of the public, but the best information available indicates that the figure is somewhere between two and three million. A survey made in November 1953 by a commercial organization indicated that as of that date there were 27.5 million families with a television receiver, including 1.8 million families who were equipped for UHF reception. In this connection, it is important to note that factory

production and factory sales of combination VHF-UHF receivers have both gone down rather substantially between October or November 1953 and March 1954.

Senator POTTER. That is very significant.

Mr. HYDE. It apparently reflects the demand of the buying public. Apparently the rate of manufacture was higher at the time the ultrahigh stations were opening up markets. You will note that my testimony shows a number of them located in cities where there were no other stations; and, of course, ultrahigh did get on the air before any other service in some fairly large markets—Portland, Oreg., for instance. It is this dropoff in the number of sets equipped to receive on ultrahigh that causes more concern, perhaps, than anything else, because if that is a continuing trend it will accentuate the difficulty now present, now being encountered by the ultrahigh operators.

The financial statements of the stations taken as a whole should reflect broadly the various factors operating in the industry. However, because there has been a sudden expansion of stations and because most of the postfreeze stations have had a relatively short operating experience—their average age is only 9 months—the financial pattern at this point is still somewhat confused. However, the financial reports of the industry for 1953 and the first quarter of 1954, which we have collected and analyzed, do reveal some broad trends, and are of considerable importance for the light they shed on the UHF problem.

First I should like to report on the overall 1953 financial experience of the television industry. The industry as a whole had a prosperous year. Total revenues were \$430.8 million. Income before Federal income tax was \$68.4 million. The average prefreeze station had revenues of \$1.9 million, and income before Federal income tax of \$658,000. The 4 networks and their owned and operated stations as a group had revenue of \$231.7 million and income of \$18 million.

With respect to the postfreeze stations, let me first give you an overall view of their investment. As of the end of 1953, the postfreeze VHF stations reported a total investment in tangible broadcast property (transmitters, studios, land and buildings, and so forth) of \$41 million, or an average of \$376,000 per station. The UHF stations reported an investment of \$30 million, an average of \$300,000 per station. That was the difference to which I had reference.

To measure the experience of postfreeze stations in terms of profit and loss, we are using as our benchmark the reports of the stations detailing their operations during the 3 months, January, February, and March, 1954. This is necessary because of the varying periods that these new stations have been in operation and their very limited experience overall. The information pertains to 175 of the 192 postfreeze stations that were in operation by November 1, 1953.

About 37 percent (33 stations) of the postfreeze VHF group reported profitable operation during the first quarter of 1954. By contrast, only 15 percent (13 stations) of the UHF group were profitable during the same period.

The average monthly profit of the profitable VHF and UHF stations was about the same—between \$10,000 and \$11,000. However, the monthly losses experienced by the losing UHF stations were substantially higher than for the losing VHF stations—between \$10,000 and \$11,000 for the UHF's, and \$7,000 for the VHF's.

Senator POTTER. Is this monthly?

Mr. HYDE. Monthly—right.

Thus far, I have discussed the economic condition of postfreeze stations in terms of profitability. I think it important that we view these data in another light, to determine the number of these stations which suffer continuing substantial monthly losses. We find that 25 percent of the postfreeze VHF stations, as contrasted with 60 percent of the UHF stations, reported substantial monthly losses.

I have described in very broad terms the growth, development, and present status of UHF television. When examined in detail, the problem is exceedingly complex: in some degree it varies from market to market, and it changes from month to month. Some of the facts are readily measurable, others are not. The applicability of some of the factors is not limited to the UHF only. Such factors as size of the market, the number of stations already in existence, the resources and experience of station operators, will influence the success of any station, VHF or UHF. Thus, any generalization which is drawn may have only limited applicability in understanding the present status of any individual UHF operation.

With these caveats and qualifications in mind, I believe we can draw at least the general outlines of the problems and difficulties that confront the UHF broadcaster. I have pointed out that 68 percent of all operating UHF stations are in markets with no competing VHF station. But intermixture of service areas is far more general, and I would say that the typical UHF broadcaster finds himself in competition for the viewing audience with one or more VHF stations.

In this competition the disadvantage of the UHF station in coverage is two-pronged: In most cases, he finds that his own service area is already effectively covered by high-powered VHF stations located in large urban markets; UHF stations frequently are in the position of providing duplicate coverage. And it is well known that national advertisers seek as far as possible to avoid duplicate coverage. The second disadvantage stemming from inequality of coverage is that where VHF and UHF stations are in the same market, the national advertiser can reach many more people by buying time on the VHF rather than the UHF station.

But most important, in my view, is the receiver difficulty with which UHF stations must contend. This difficulty arises from the fact that VHF receivers in the hands of the public cannot receive transmissions from the UHF station without conversion. This, I believe, is the most critical disability facing the UHF.

There are relatively few large-sized markets in which UHF stations can be located, which do not already have 25 percent or more VHF only set saturation. Thus, the new VHF operator will often find a readymade substantial market in the sense that the public will receive his signal merely by a twist of the dial. The UHF operator, however, must actively sell and promote the distribution of UHF converters which may cost \$50 to \$75, and which may not operate altogether successfully. Or, he must persuade the public that in the purchase of new sets they ought to buy receivers which will tune all channels, including the UHF channels; and such combination receivers may cost the consumer substantially more than a VHF only receiver.

To accomplish this task of building audiences, the UHF operator must make his service sufficiently attractive so that the listener will voluntarily incur the added expense involved in the conversion of his VHF receiver, or in the purchase of a new all-channel receiver. In a community which is not reached by VHF service, the UHF station can expect gradually to build up a UHF audience. At best, the process is slow and costly to the station.

At the other end, where there are two or more local VHF stations or signals from outside stations serving the same community, and especially where these VHF stations are bringing in popular network programs, the incentive to convert or to buy UHF equipment, which is higher priced, is substantially weakened. And, where UHF set circulation is low, obviously advertisers and networks are reluctant to place their programs on the UHF station. And so, to the extent that these factors apply to individual cases, the circle is complete. The audiences of UHF stations are limited. They can be increased by obtaining network programs. The UHF stations do not get sufficient network programs because they do not have an audience. The problem is to break into that circle.

This set-conversion problem also has serious long-run implications. While UHF stations are on the air, they are in active force in persuading people in their community to buy UHF equipment. But if the UHF station become discouraged as a result of slow conversion, or if it does not have the financial resources to wait out the period necessary to achieve substantial UHF set circulation, and it goes off the air, then, what are the consequences? The chances are that progress will be halted in building up UHF set circulation, only VHF only sets will be purchased, and it will be even more difficult in the future for new UHF stations to operate in that community. In other words, so long as VHF only receivers are manufactured and retailed and purchased, time alone will not solve the UHF problem in many, many communities. In fact, time would tend to make it realize that, if the trend goes toward VHF only sets.

In brief, then, the UHF problem, generally speaking, stems from three limitations: the limitation of low UHF set ownership, of coverage, and of programing. These limitations are substantial, and I must state my own conviction that there is no one magic solution to the problem. Nevertheless, there are measures which may help overcome some of the present handicaps of UHF. Some, the Commission, itself, has proposed; others have been urged on the Commission by outside parties. I should like to review these proposals with you, although I cannot, of course, state the ultimate decision which the Commission may reach in their consideration of any one of these proposals.

First, the problem of coverage. On March 11, 1954, the Commission issued a notice of proposed rule-making looking toward the upward revision of its requirements with respect to the minimum power which UHF stations might utilize. In the Commission's notice it pointed out that requirements of power by UHF stations were made in the light of the equipment which was then available. At that time, transmitters capable of producing an effective radiated power in the order of 100 kilowatts were not available in the UHF. Since the adoption of the sixth report, it appears such power has become available and can be accomplished with a transmitter with

a rated power of 5 kilowatts. Accordingly, the Commission proposed to require all UHF stations to operate with a transmitter with a minimum rated power of 5 kilowatts. The time afforded interested parties for the submission of views expired on May 17, 1954. Any decision the Commission makes in this will, of course, take into consideration the views which have been submitted in response to the notice.

Another proposal for extending coverage was made in two petitions filed by parties requesting an amendment of the television broadcast rules so as to authorize the use of new techniques for extending the service of television stations. These techniques have been labeled as satellites and boosters. The satellite operation contemplates the operation of a subsidiary station on a different channel than is authorized for the operation of the main station. The booster technique contemplates the operation of a subsidiary station on the same channel authorized for the main station. Both petitions which have been filed and are presently pending before the Commission request the authorization of satellites and boosters on both the VHF and the UHF channels. The Commission has already authorized Sylvania Electric Co. to experiment with satellites and several parties, including RCA, WSM, Adler Communications Laboratories, and Associated Broadcasters to experiment with boosters. The results of these experimental authorizations will undoubtedly help the Commission in its final decision.

The problem of building of UHF set ownership is, as I have pointed out, of major significance in the present situation of UHF stations. This problem need not be one of indefinite duration, however. First, if the manufacturers of receivers were to manufacture only all-channel tuners, obviously this problem would disappear as new sets were purchased. The data I have furnished sets out the extent to which all-channel tuners have been manufactured. Further, the problem would be considerably lessened if set conversions were readily accomplished. The Commission's authority in this area is virtually nonexistent. But to the extent that actions in other fields within our competence and jurisdiction have a bearing on this problem, I think it appropriate to raise it at this time. The committee is aware that, on December 23, 1953, the Commission issued a notice of proposed rule-making, looking toward a revision of its multiple-ownership rules. The rules in effect specify a five-station maximum for television stations, without distinction between UHF and VHF. The revision proposed by the Commission is to increase the maximum permissible ownership of television stations to 7, no more than 5 of which may be in the VHF band. In its notice, the majority of the Commission stated their view that this amendment would help encourage the development of the UHF band. This proposal is designed to encourage large organizations with program production, know-how and resources, to enter into the UHF field, in the ownership and operation of stations. To the extent that this is accomplished and results in the rendition of full network programs over UHF facilities on a regular basis, a direct incentive would be furnished to persons within the service range of such stations to convert to UHF. Moreover, to the extent that a number of major networks have UHF stations with popular programs, the greater the incentive to manufacturers to turn out all-channel receivers only and high-power UHF trans-

mitters. Accordingly, although no action can be taken by the Commission directly with respect to the UHF-receiver problem, it might be that the liberalization of the multiple-ownership rules would help indirectly in some measure to reach the same result.

I have been told by operators of ultrahigh stations, coming to the Commission, that when they call upon sponsors and agencies, they simply say, "Nobody is using ultrahigh, and we are not spending any money there." We think that that situation could be changed if it were made clear to them that important broadcast interests are operating in that field.

Senator POTTER. Is there not a difference in the types of ownership? Under the multiple ownership, you blanket them all in one; is that not correct?

Mr. HYDE. Yes.

Senator POTTER. In other words, a network with 5 stations is in the same position as an individual who has 5 stations spread throughout the country?

Mr. HYDE. No two of them may be in the same city. Sometimes stations in separate markets will present a degree of overlap in an intervening area, and we have tried to keep that to a minimum; but, as to the network stations, they are all at widely separated points—usually at points where they have program facilities, like Los Angeles, Chicago, or New York.

Senator POTTER. It seems to me there would be a difference between a network that furnishes the program that affects many stations, and one where there would be an individual who has to furnish individual programs for a station with respect to having multiple stations.

Mr. HYDE. Well, there is. Of course, our rule would apply across the board. It was not an invitation to give networks any opportunity beyond that which any other citizen or interest might have. The important thing was to get users of radio to use ultrahigh, to stimulate the production of ultrahigh receivers and, generally, to stimulate the use of ultrahigh service.

On March 9, 1954, a Senate bill, S. 3095, which generally looked toward the same objectives as the Commission's proposal, was introduced in the Senate. This bill proposed to add a new section to the Communications Act, which would regulate the multiple ownership of television broadcast stations. The Commission's views on this bill were submitted to the full committee yesterday; and I believe they can be, and should be made available today.

Senator POTTER. Yes. Without objection, the Commission's recommendation on S. 3095 will be made a part of the record.

FEDERAL COMMUNICATIONS COMMISSION,
Washington, D. C., May 18, 1954.

HON. JOHN W. BRICKER.

*Chairman, Committee on Interstate and Foreign Commerce,
United States Senate, Washington, D. C.*

DEAR SENATOR BRICKER: I am enclosing herewith copies of the Commission's comments on S. 3095, a bill introduced by Senator Johnson to regulate the multiple ownership of television broadcast stations.

While these comments were submitted to the Bureau of the Budget for clearance quite awhile ago, we have been informed by the Bureau that they have not yet been able to secure the necessary coordination with other interested agencies. In view of the relationship of this bill to the hearings on UHF matters scheduled to commence before the Potter subcommittee on May 19, 1954, the Bureau has authorized us to submit these comments to you at this time without prior clear-

ance with the understanding that as of this date they represent the views of the Commission only and are not necessarily in accord with the program of the President.

Sincerely yours,

ROSEL H. HYDE, *Chairman.*

[FCC 54-433 3659]

COMMENTS OF THE FEDERAL COMMUNICATIONS COMMISSION ON S. 3095, A BILL TO AMEND THE COMMUNICATIONS ACT OF 1934, AS AMENDED, TO REGULATE MULTIPLE OWNERSHIP OF TELEVISION BROADCAST STATIONS

S. 3095 provides for the amendment of the Communications Act of 1934, as amended, by inserting after section 309, a new section which would regulate the multiple ownership of television broadcast stations. The new section would prohibit the granting of a license for a television broadcast station to any applicant if—

- “(1) such applicant directly or indirectly runs, operates, or controls another television broadcast station which serves substantially the same area; or
- “(2) * * * if the granting of such license would result in a concentration of control of television broadcasting in a manner inconsistent with the public interest, convenience, or necessity.”

The proposed legislation further provides that the Commission shall in no event grant a license which would result in any person having interests in television broadcast stations in excess of—

- (1) 5 VHF and no UHF
- (2) 4 VHF and 2 UHF
- (3) 2 VHF and 4 UHF
- (4) 2 VHF and 6 UHF
- (5) 1 VHF and 8 UHF
- (6) 0 VHF and 10 UHF

Provision is also made that, during the 5-year period following the enactment of the section, any applicant who has been granted a VHF station license will, if he relinquishes same, be “entitled to be granted” for each such VHF station license relinquished, 2 UHF licenses, 1 of which shall serve substantially the same area as the station he relinquishes.

In considering the provisions of S. 3095 it is important to recognize that the Federal Communications Commission has adopted a series of rules dealing with the multiple ownership of broadcast facilities, and relating to radio as well as television stations. These rules, sections 3.35 (AM radio stations), 3.240 (FM radio stations) and 3.636 (television stations), contain a provision similar to that contained in the proposed bill precluding common control by any 1 party of 2 or more stations serving substantially the same area. And, like S. 3095, they also provide that no license will be granted to a party having any interest in other stations in the same service where the result of such a grant will result in an undue concentration of control inconsistent with the public interest, and that, in no event, will the Commission authorize any one person or group to have an interest in more than a specified maximum number of stations. Under the Commission's existing rules this maximum is 7 stations in both the AM and FM radio fields and 5 stations in the television field.

These rules have recently been the subject of extensive consideration by the Commission and their present form represents the culmination of rulemaking proceedings extending back as far as 1948 and concluded on November 25, 1953. In adopting these rules, however, the majority of the Commission did so without prejudice to their subsequent consideration of proposals which had been advanced during the course of the rulemaking proceedings under which, as an impetus to the development of the new UHF portion of the frequency spectrum, the maximum number of television interests any party could have would be increased, on condition interests in stations over and beyond five in number would have to be in the UHF portion of the spectrum. And on December 24, 1953, the Commission, with one Commissioner dissenting and another concurring specially, issued a notice of proposed rulemaking which looked toward the amendment of section 3.636 of the rules to provide for a 7-station maximum on the number of television interests which could be held by any 1 party, provided that at least 2 of the 7 stations are UHF.

It would appear that the provisions of paragraph (c) of the proposed new section 309 (A), which would permit persons to hold more than five interests in television stations providing a specified number thereof are on UHF channels, have, like the Commission's outstanding rulemaking proposal, the primary objective of encouraging the rapid development of UHF stations. But if this is the case, the Commission does not believe that the proposal incorporated in S. 3095 is as likely to achieve its objective as that which has been proposed by the Commission. For S. 3095 would require parties who already have interests in 5 VHF stations to relinquish 1 of such stations for each 2 UHF licenses to be acquired. The Commission has grave doubts that the present status of the broadcasting industry warrants an assumption that such persons would in fact find sufficient incentive to acquire any UHF stations if they were obligated to relinquish a VHF station to do so. Consequently, the Commission believes that the short-range consequence of the adoption of S. 3095 would be likely to be the maintenance of the status quo with respect to ownership of television stations by the networks or the other major interests in the broadcasting field, and that the objective of affording special impetus to UHF operation would be effectively frustrated.

The Commission also questions the advisability of any attempt to cope with what appears to us to be primarily a short-range problem through the enactment of permanent legislation of the type contemplated by S. 3095. While the Commission's proposed rulemaking recognizes the temporary disparity which exists between VHF and UHF television stations, the television allocation plan incorporated into the Commission's rules is based upon the necessary assumption that, after the admitted difficulties of this initial period, both VHF and UHF stations will play an integral role in providing adequate television service to the American people. We believe it might be unfortunate therefore to write into the Communications Act as permanent law any indication of fundamental inequality between VHF and UHF channels. Nor are we convinced that in any event it would be in the public interest for any person to have interests in more than seven television stations, even though a substantial percentage of such stations were operated on UHF channels. In this respect the committee's attention is called to the fact that the Commission has determined, in the AM field, that it would be contrary to the public interest for any person to have interests in more than 7 stations irrespective of whether these stations are 50-kilowatt clear-channel stations or 250-watt local stations.

The Commission therefore cannot support enactment of S. 3095. We should like to point out, however, certain additional questions which are raised by the proposed subsection (d) of the bill, in the event that Congress should feel that enactment of legislation of this type is desirable. This subsection is apparently intended to provide a special inducement for present licensees of VHF stations to go into the UHF spectrum by offering them, for a 5-year period, the absolute right to relinquish a VHF station and secure in return 2 UHF stations, 1 of which is to be in the same area as was served by the VHF station given up. But the provision, insofar as it would give an existing licensee the absolute right to two new stations of his choice, irrespective of other applications which might be on file therefor, would constitute a complete departure from the present law which requires a choice between applicants where more than one has applied for a specified assignment, and might, therefore, require the grant of an application which would less well serve the public interest than would another. And the additional requirement that 1 of the 2 UHF stations to be assigned to such person must substantially serve the same area as the VHF station relinquished might in a number of areas of the country be impossible of fulfillment without deleting existing assignments or substantially revamping the basic allocation plan.

SEPARATE VIEWS OF COMMISSIONER HENNOCK

I agree with the Commission's comments on S. 3095 to the extent that it questions the advisability of any attempt to cope with the UHF problem through the enactment of permanent legislation of the type contemplated by this bill.

I dissented, however, to the Commission's notice of proposed rulemaking proposing to increase the maximum permissible ownership of television stations to 7, not more than 5 of which may be in the VHF band. I do not believe that the weakening of the safeguards against the concentration of control of the media of mass communications is either an appropriate or an effective manner of stimulating the development of the UHF band. Varied factors contributed to the present plight of the UHF service. An effective solution to the UHF problem

may, therefore, be found only by directly attacking each of the causes of the existing disparity between UHF and VHF.

Mr. HYDE. In addition, on May 11, 1954, a proposed amendment of H. R. 8300 was introduced, which would exempt from the 10-percent excise tax all television sets with built-in UHF tuners. Obviously, that is designed to encourage the production of sets.

Senator POTTER. It is to stimulate the production of more sets.

Mr. HYDE. Yes.

Now, let us consider proposals designed to assure UHF stations better programming. Under the present provisions of the Commission's chain-broadcasting rules, a network affiliate which renders coverage to a substantial portion of the service area of a station located in another community may contract with a network organization to preclude the station in that other community from carrying network programs which the affiliate carries. The network affiliate may do so, even though the program's sponsors and the network itself desire that they be broadcast by the latter station also. This is the point we discussed earlier. On April 1 of this year the Commission issued a notice of proposed rulemaking looking toward a revision of this section of its chain-broadcasting rules. The change proposed by the Commission would continue to recognize the right of an affiliate to contract with the network to preclude stations located in the same community as the affiliate from taking programs of the network. The proposed rule would operate to the benefit of UHF stations, where the existing rule, because of the wide latitude afforded the VHF affiliate, has operated to preclude UHF stations from obtaining network programs where the sponsor desires to broadcast over the UHF facilities. The time for the submission of views by interested parties expired on May 10, 1954, and that proposal is presently pending before the Commission for final action.

On April 29 a further proposal seeking a revision of the Commission's network rules was filed. That proposal requests an amendment of the chain-broadcasting rules to provide—in effect—that 1 year from the effective date of the amendment at least one-third of network television affiliates, receiving revenue from the sale of network time, be UHF stations, and that 2 years from the effective date of the amendment at least one-half of network television affiliates receiving revenue from the sale of network time be UHF stations. That petition is presently pending before the Commission.

More recently, on May 13, 1954, a bill was introduced in the Senate (S. 3456) which looks toward a revision of the Communications Act to give the Commission authority to—

establish rules and regulations and make orders with respect to networks and such of the activities as affect licensed broadcast stations to operate in the public interest.

In addition to the foregoing proposals designed to assure UHF stations a high-quality program fare, a number of petitions have been filed with the Commission relating to subscription television. Subscription television takes various forms, but basically it is a technique for coding or scrambling the transmitted signal so as to produce a distorted picture and unintelligible sound at any receiver which is not equipped with appropriate decoding or unscrambling devices. The systems contemplate a regular charge by the operator of the system for the periodic purchase of the code or key to activate the decoding units.

Developmental and experimental research has been carried on for some time and there are presently several different systems in various stages of experimentation and development. From time to time, upon request of interested parties, the Commission has granted special authorizations to permit developers of subscription television systems to use broadcast facilities for such developmental work and experimental operations.

Among other things, the proponents of the system urge that the operation of subscription television by UHF stations will open the way to many new avenues of attractive programming and thus speed up set conversions, and also that it will supplement the revenues of such stations. In addition, it is alleged that subscription television will free stations of their dependency on networks. These petitions are presently pending before the Commission.

Also, there is now pending H. R. 6431, a bill to amend the Communications Act with respect to its application to subscription radio and television. Last week, in reply to a request from the chairman of the House Interstate and Foreign Commerce Committee, the Commission submitted its comments on this bill—and I should like to make a copy of the Commission's comments available.

Senator POTTER. Without objection, it is so ordered.

[FCC 54-601 4926]

COMMENTS OF THE FEDERAL COMMUNICATIONS COMMISSION ON H. R. 6431, A BILL TO AMEND THE COMMUNICATIONS ACT WITH RESPECT TO ITS APPLICATION IN THE CASE OF SUBSCRIPTION RADIO AND TELEVISION

H. R. 6431 is a bill concerned with the application of the Communications Act to subscription operations carried on over either radio or television stations. Specifically, it attempts to clarify the legal status of such operations by amending the definition of "broadcasting" in section 3 (o) of the Communications Act of 1934, as amended, expressly to exclude communications, intended to be received by the public, which involve "the payment of any charge, subscription fee, or other form of direct compensation." At the same time, section 3 (h) of the Communications Act would be amended to provide that persons engaged in subscription operations in interstate or foreign communication by radio shall be deemed to be common carriers.

No subscription service, in the sense that that term is usually used, is presently authorized by the Commission; broadcast-station licensees may not transmit radio or television programs for reception by the public on home receivers under circumstances where such programs can only be received by those members of the public willing to pay a specified fee. There are, however, presently pending before the Commission a number of petitions requesting the authorization of subscription radio or television services by broadcast stations and in the broadcast bands. The entire problem is now being actively studied. Pending the conclusion of its study, the Commission wishes to stress the fact that it has reached no determination relative to the merits of subscription radio and television, and that these comments are in no way based on any policy decision with respect to subscription operations.

There has never been any definitive determination, either by the Commission or the courts, as to whether the transmission of program material intended to be received by those members of the general public willing to pay a fixed charge or subscription fee can properly be classified as broadcasting within the meaning of the present definition of that term in section 3 (o) of the act. It would appear, however, that, were the Commission to decide that such subscription operations were in the public interest, such programs could be classified as broadcasting within the meaning of the present language of section 3 (o). It might be argued that such programs are not "intended to be received by the public" since their intended receipt would be limited to members of the public willing to pay the specified price. But, absence of any charge for the program is not made a prerequisite of broadcasting operations under the present language of section 3 (o). And the reliance of the broadcasting industry upon advertising revenue,

rather than upon direct charges to the public as its principal source of revenue, has not been the result of any action by either Congress or the Commission, but rather the result of the natural development of the industry. It would appear that the primary touchstone of a broadcast service is the intent of the broadcaster to provide radio or television program service without discrimination to as many members of the general public as can be interested in the particular program as distinguished from a point-to-point message service to specified individuals. If this is true, subscription services should properly be characterized as a type of broadcast service. For while particular subscription programs might have a special appeal to some segment of the potential audience, this is equally true of a substantial portion of the programing now transmitted by broadcasting stations.

The legislative history of section 3 (o), while admittedly meager, does not in any way detract from an interpretation of the language of the section under which subscription operations would be held to be broadcasting. At the time of the passage of the Radio Act of 1927, which contained no definition of broadcasting, there was some discussion of subscription radio, and H. R. 16867, a separate bill, upon which no action was ever taken, had been introduced which would have prohibited the broadcast of programs for which a fee was charged. And in the course of the debates on the bill, Senator Dill, who was the manager of the bill in the Senate, stated that in his opinion nothing in the Radio Act would prohibit the institution of a subscription service and that, while he had doubts as to the extent to which the public would be willing to pay for radio programs, he did not believe Congress should preclude such a broadcast service. (See 68 Congressional Record 2880-2881.) The present definition of broadcasting was adopted at the time of the enactment of the Communications Act of 1934, without discussion or explanation in the committee reports or in the public debates. It was apparently derived from the definition of broadcasting which had been adopted at the International Telecommunications Conference held in Madrid in December 1932 and incorporated into the Radio Regulations annexed to the convention signed there. A study of the documents surrounding these negotiations also fails to disclose any consideration of the question of whether a radio program service offered to the public upon the payment of a specified fee would, because of such charge, cease to be a broadcasting service.

The exclusion of subscription services from the classification of broadcast operations, which would be accomplished by the proposed amendment to section 3 (o), would not, in and of itself, preclude the authorization of subscription operations by licensed stations operating in the broadcast bands. The Commission may authorize other services on the broadcast bands if it determines that the public interest will be served thereby.

Adoption of the proposed amendment would, however, have certain significant effects upon any subscription operations which the Commission might authorize. For there are several provisions of the Communications Act which by their terms apply only, or particularly, to broadcasting activities. These include section 303 (i), which gives the Commission authority to make special regulations applicable to stations engaged in chain broadcasting; section 307 (d), which limits the license term of broadcast stations to 3 years, but permits licenses for other classes of radio stations to be for as long as 5 years; section 315, which provides for equal opportunities for legally qualified candidates to use the facilities of broadcast stations; section 317, which provides that, in the case of broadcast stations, matters paid for or otherwise furnished to the station licensee must be properly announced as such; section 325, which provides no broadcast station may rebroadcast a program of another broadcast station without express authority of the originating station; section 506, relating to coercive labor practices affecting broadcasting; and section 605 of the act which expressly exempts "the contents of any radio communication broadcast" from its application.

The Commission believes that it would not be advisable to make these various provisions inapplicable to any stations which might be authorized to provide subscription programs to the general public for home reception. Thus, while it is not presently known to what extent networking of subscription operations would be either technically or economically feasible, there would appear to be no reason why the Commission should not have the same authority over any chain operation in the subscription field as it now does over stations engaged in conventional chain broadcasting. Similarly, to the extent candidates for public office might use subscription services, or the program material of such operations be paid for, or furnished by commercial sponsors, or other groups, it would appear that the provisions of sections 315 and 317 of the act, relating

to the handling of such programs over broadcast stations, might well be applied to the subscription operations.

Section 1 of the proposed bill would amend section 3 (h) of the Communications Act to classify the operations under consideration as common-carrier operations. Although it might be felt to be desirable to subject subscription services to regulations as a public utility, the Commission does not believe that classification of these services as common carriers would be appropriate. Stations engaged in subscription operations would appear to be selling program material to the members of the listening or viewing public, either developed by the station itself, or procured by contract with another originating source, rather than providing them with a communications service for hire. It has been a fundamental concept in the communications field that a person is not a common carrier of communications where he is providing his subscribers primarily with a news or information service, rather than with a communication service enabling subscribers to communicate among themselves. Thus, for example, while the furnishing of leased wires or radio circuits by the telephone or telegraph carriers is part of their common carrier activities, the use of such leased wires by the news services to transmit news to their subscribers, or by the stock exchange to transmit price quotations has been held not to involve common-carrier operation. Similarly, in the case of subscription radio or television program services, the subscribing members of the public would be paying for the programs rather than for the use of communications facilities. Moreover, it obviously is not contemplated that subscription stations would have the common carrier obligation of carrying, without discrimination, all programs offered for carriage. And since the Commission's jurisdiction over common carriers runs only to their interstate operations, a serious question would be raised as to whether particular subscription operations are interstate or intrastate, for purposes of the Commission's common-carrier jurisdiction. The Commission believes, therefore, that subscription program services do not lend themselves to classification as common carriers, pursuant to the provisions of title II of the Communications Act.

The Commission now has authority under title III of the Communications Act to adopt such regulations as might be required with respect to matters such as the number and type of hours during which subscription programs could be broadcast by any station, the number of stations in any community which could engage in subscription operations at any one time, or the approved transmission standards for such operations. Any subscription service which might be authorized will be likely to be faced with the natural forces of competition from other subscription operations (including closed-circuit operations by wire of the type now utilized in theater television), and from conventional broadcasts received by the public without direct charge. In the absence of experience in this field, we cannot now foretell the effect of these natural competitive forces and whether any additional regulatory authority would be required in the future.

Adopted: May 6, 1954.

Mr. HYDE. Thus far, I have described those proposals made by the Commission and by interested private parties which are related to the three principal problems that I have described, i. e., coverage, UHF set ownership, and programing. In addition, there have been filed on April 29 of this year a couple of miscellaneous proposals looking generally toward a relaxation of the Commission's rules with respect to the operation of UHF stations. One request seeks a revision of the Commission's technical standards to authorize what has been described in the request as "binaural third dimensional or stereophonic sound"—designed to provide " * * * tonal perspective with movement and quality and * * * a feeling of realism." A further request for the amendment of the Commission's operating requirements of UHF television stations seeks an amendment of the Commission's rules so as to authorize aural transmission by stations with varied fixed images rather than moving images as the rule presently requires.

In addition to these requests a further request presently pending before the Commission seeks a suspension of the further processing and

grant of construction permits in the television broadcast service until such time—

that the Commission may adequately study, particularly in the light of forthcoming Senate hearings, an adjustment of the inequities presently existing between UHF and VHF television stations.

In conclusion, I should like to state that this meeting between representatives of the Government and the industry can be helpful in adducing all relevant data so that we may explore fully all facets of the problem. The Commission will, of course, cooperate to the fullest extent with this committee.

STATISTICAL APPENDIX

TESTIMONY OF CHAIRMAN ROSEL H. HYDE ON THE STATUS AND DEVELOPMENT OF THE UHF CHANNELS IN THE UNITED STATES

TABLE 1.—Broadcast revenues, expenses, and income of television networks and stations, 1952-53

BROADCAST REVENUES

	1953	1952 ¹	Percent increase
	<i>Millions</i>	<i>Millions</i>	
4 networks and 16 owned stations.....	\$231.7	\$180.2	28.6
92 prefreeze TV stations.....	174.5	143.4	21.6
Subtotal.....	406.2	323.6	25.6
Postfreeze TV stations:			
113 VHF stations.....	15.8	} 0.6	-----
102 UHF stations.....	8.8		
Industry total.....	430.8	324.2	32.8

BROADCAST EXPENSES

	<i>Millions</i>	<i>Millions</i>	
4 networks and 16 owned stations.....	\$213.7	\$170.3	25.5
92 prefreeze TV stations.....	114.0	97.6	16.8
Subtotal.....	327.7	267.9	22.3
Postfreeze TV stations:			
113 VHF stations.....	20.0	} 0.8	-----
102 UHF stations.....	14.7		
Industry total.....	362.4	268.7	34.8

BROADCAST INCOME (BEFORE FEDERAL INCOME TAX)

	<i>Millions</i>	<i>Millions</i>	
4 networks and 16 owned stations.....	\$18.0	\$9.9	81.7
92 prefreeze TV stations.....	60.5	45.8	32.0
Subtotal.....	78.5	55.7	40.8
Postfreeze TV stations:			
113 VHF stations.....	(4.2)	} (0.2)	-----
102 UHF stations.....	(5.9)		
Industry total.....	68.4	55.5	23.2

¹ 1952 data covers 4 networks and 15 owned stations; 93 prefreeze stations; and 14 postfreeze TV stations.

NOTE.—Parentheses denote loss.

158 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

TABLE 2.—108 prefreeze TV stations classified by income groupings

Income (before Federal income tax) of:	1953
\$1,500,000 and over.....	26
\$1,000,000 to \$1,500,000.....	13
\$600,000 to \$1,000,000.....	26
\$400,000 to \$600,000.....	17
\$200,000 to \$400,000.....	16
\$100,000 to \$200,000.....	5
Less than \$100,000.....	7
Total stations.....	97
Median income, \$654,000.	
Loss of—	
Less than \$100,000.....	3
\$100,000 to \$200,000.....	3
\$200,000 to \$400,000.....	1
\$400,000 to \$800,000.....	4
Total stations.....	11
Median loss.....	(1)

¹ Median loss not computed because of small number of stations involved.

TABLE 3.—Average per station broadcast revenues of 92¹ prefreeze television stations—1953

A. Revenues from the sale of time:	
1. To networks.....	\$449, 130
2. To national and regional advertisers.....	847, 859
3. To local advertisers.....	619, 576
Total revenues from time sales.....	\$1, 916, 565
4. Deduct commission to agencies, representatives, etc.....	268, 054
Net revenues from time sales.....	1, 648, 511
B. Revenues from incidental broadcast activities:	
1. Talent.....	\$97, 989
2. Sundry.....	149, 957
Total incidental revenues.....	247, 946
C. Total broadcast revenues.....	1, 896, 457
D. Total broadcast expenses.....	1, 238, 848
E. Broadcast income (before Federal income tax).....	657, 609

¹ Excludes 16 stations owned by networks.

TABLE 4.—Original cost of tangible broadcast property of postfreeze TV stations

	VHF sta- tions	UHF sta- tions
Under \$100,000.....	2	1
\$100,000 to \$200,000.....	18	22
\$200,000 to \$300,000.....	25	35
\$300,000 to \$400,000.....	23	22
\$400,000 to \$500,000.....	20	12
\$500,000 to \$600,000.....	11	5
\$600,000 to \$700,000.....	4	1
\$700,000 to \$800,000.....	3	2
\$800,000 to \$900,000.....	0	0
\$900,000 to \$1,000,000.....	0	0
\$1,000,000 and over.....	3	0
Total stations.....	¹ 109	² 100
Aggregate cost.....	\$40, 997, 674	\$30, 049, 270
Average cost.....	\$376, 125	\$300, 493

¹ Property not reported by 4 stations.

² Property not reported by 2 stations.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 159

TABLE 5.—*Summary of profit and loss status of postfreeze television stations during period, January through March 1954 only*

	VHF	UHF	Total
A. Total postfreeze TV stations (in operation on Nov. 1, 1953).....	94	98	192
B. Total stations reporting usable data.....	88	87	175
C. Number reporting profit for 3-month period, January-March 1954.....	33	13	46
D. Number reporting loss during same period:			
1. But reporting profit in 1 or 2 months of period.....	20	10	30
2. But approaching breakeven point on monthly basis.....	12	11	23
3. With continuing substantial losses in each month:			
Operating as of May 1, 1954.....	22	45	67
Ceased operating by May 1, 1954 ¹	1	8	9

¹ In addition, 1 VHF and 1 UHF station ceased operation prior to Nov. 1, 1953; and 1 UHF station going on the air after Nov. 1, 1953, had ceased operation as of May 1, 1954.

TABLE 6.—Average monthly revenues, expenses and profit or loss of postfreeze television stations during the 3-month period, January through March 1954

Population of city in which station is located	VHF stations					UHF stations					
	Number of stations	Average age in months	Average monthly		Profit or (loss)	Number of stations	Average age in months	Average monthly		Profit or (loss)	
			Revenues	Expenses				Revenues	Expenses		
I. 500,000 and over:											
Profit.....	5	6	\$60,618	\$64,570	\$25,748	3	10	\$67,378	\$53,965	\$13,383	
Loss.....	3	15	60,328	75,555	(15,227)	9	7	19,796	33,201	(13,405)	
Profit.....	5	7	65,608	46,286	19,322	6	10	42,276	29,535	12,741	
Loss.....	2	7	22,900	38,737	(15,837)	19	9	15,206	29,865	(14,659)	
Profit.....	9	12	44,632	35,495	9,137	3	11	28,124	23,106	5,018	
Loss.....	18	10	26,955	34,872	(7,917)	21	10	17,356	25,630	(8,274)	
Profit.....	14	9	28,362	25,028	3,334	1	11	31,211	30,100	1,111	
Loss.....	31	8	16,976	21,719	(4,743)	17	8	12,009	19,517	(7,508)	
V. All population groups:											
Profit.....	33	9	47,875	37,140	10,735	13	10	43,951	33,737	10,214	
Loss.....	54	9	22,330	29,724	(6,794)	66	9	15,693	26,307	(10,614)	
All stations.....	87	9	32,392	32,357	(45)	79	9	20,343	27,530	(7,187)	

Source: FCC Special Survey of Feb. 5, 1954.

TABLE 7.—Postfreeze TV stations classified by (a) number of VHF stations in VHF markets and (b) number of VHF signals received in UHF markets

Population of city in which station is located	VHF stations				UHF stations				
	Number of stations	Number of VHF in market			Number of stations	Number of VHF received by 50 percent or more of TV homes in UHF market ²			
		1	2	3 or more		0	1	2	3 or more
500,000 and over:									
Profit ¹	5	1	1	3	3		2		1
Loss ¹	3			3	9		5	2	2
250,000 to 500,000:									
Profit.....	5	1	4		6	4	1		1
Loss.....	2		1	1	19	3	8	2	6
100,000 to 250,000:									
Profit.....	9	7	2		3	1	2		
Loss.....	18	4	12	2	21	3	8	4	6
Under 100,000:									
Profit.....	14	12	2		1			1	
Loss.....	31	22	9		17	1	6	3	7
All population groups:									
Profit.....	33	21	9	3	13	5	5	1	2
Loss.....	54	26	22	6	66	7	27	11	21

¹ During period January through March 1954.

² A study of UHF-VHF Reception, April 1954, American Research Bureau, Inc.

TABLE 8.—Network hours carried and set saturation for postfreeze television stations

Population of city in which station is located	VHF stations			UHF stations		
	Number of stations	Percent of total homes with VHF sets, average per city ²	Total network hours carried, average per station ³	Number of stations	Percent of total homes with UHF sets, average per city ²	Total network hours carried, average per station ³
I. 500,000 and over:						
Profit ¹	5	64	45	3	33	43
Loss ¹	3	68	11	9	13	20
II. 250,000 to 500,000:						
Profit.....	5	62	42	6	38	26
Loss.....	2	64	19	19	23	16
III. 100,000 to 250,000:						
Profit.....	9	43	36	3	22	27
Loss.....	18	46	19	21	25	17
IV. Under 100,000:						
Profit.....	14	33	22	1	27	17
Loss.....	31	35	10	17	19	8
V. All population groups:						
Profit.....	33	45	32	13	30	30
Loss.....	54	41	13	66	21	15

¹ During the period January through March 1954.

² Based on the station's home county—United States TV Ownership by Counties, Nov. 1, 1953, CBS Television Research Department.

³ During week of Mar. 14-20, 1954.

162 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

TABLE 8-A.—UHF markets classified by number of VHF signals received and showing percent of TV homes with UHF reception

Percent of TV homes with UHF reception ¹	Number of VHF signals received by 50 percent or more of the TV homes in the UHF market ²					Total
	0	1	2	3	4 and over	
1 to 10.....		1		1	2	4
11 to 20.....		3	1	4	1	9
21 to 30.....		4	1	2	2	9
31 to 40.....		5	2	1	3	11
41 to 50.....		1				1
51 to 60.....		2	2	2		6
61 to 70.....		3	1	1		5
71 to 80.....			2		1	4
81 to 90.....	4	5	2			11
91 to 100.....	4	3		1		8
Total UHF markets.....	8	28	11	12	9	68
Median percent.....	90.0	50.0	57.5	25.0	27.5	50.0

¹ Based on the station's home county, United States TV Ownership by Counties, Nov. 1, 1953, CBS TV Research Department.

² A Study of UHF-VHF Reception, American Research Bureau, Inc.

TABLE 9.—UHF stations classified by number of VHF stations received in the UHF market

Number of VHF received by 50 percent or more of the TV homes in UHF market ¹	Number of stations	Percent of total homes with UHF sets ² (average per city)	Average monthly revenues ³ (per station)	Total network hours carried ⁴ (per station)
0.....	12	35	\$32,000	23
1.....	32	25	21,000	17
2.....	12	18	20,000	14
3 or more.....	23	16	13,000	16
Total.....	79	23	20,000	17

¹ A Study of UHF-VHF Reception, April 1954, American Research Bureau, Inc.

² Based on the station's home county, United States TV Ownership by Counties, Nov. 1, 1953, CBS Television Research Department.

³ During the period January through March 1954.

⁴ During the week of Mar. 14-20, 1954.

TABLE 10.—Number of network hours carried by postfreeze TV stations (during week of Mar. 14-20, 1954)

Number of network hours	Population of city			
	Over 250,000		Under 250,000	
	VHF	UHF	VHF	UHF
None.....				
1 to 10.....	1	1	2	2
11 to 20.....	2	6	21	12
21 to 30.....	2	13	26	19
31 to 40.....	2	9	14	7
41 to 50.....	1	5	7	1
51 to 60.....	1	3	1	1
61 to 70.....	6			
Total stations.....	15	37	71	42
Median number of hours.....	1 37	19	15	14

¹ Actual median.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 163

TABLE 11.—Number of network hours carried by TV stations in VHF-UHF cities

[Based on the week of Mar. 14-20, 1954]

City	Station	NBC	CBS	ABC	Du Mont	Total
Albany-Schenectady-Troy	VHF	37:53	20:30	3:00	3:02	64:25
	UHF		3:15	11:00	2:15	16:30
	UHF		3:45			3:45
Ames (Des Moines)	VHF	4:15	38:30	5:30	6:48	55:03
	UHF		3:00	5:00	1:00	9:00
Bakersfield	VHF	8:00	6:15	1:00		15:15
	UHF				1:00	1:00
Boston	VHF	49:53		2:30	4:47	57:10
	VHF		55:45	6:35	3:00	65:20
	UHF			0:30	3:00	3:30
Buffalo-Niagara	VHF	38:08	27:30	8:05	1:00	74:43
	UHF	0:30	7:45		10:23	18:38
Charlotte, N. C.	VHF	5:30	49:30	3:00	3:01	61:01
	UHF					
Columbia, S. C.	VHF	22:28		0:30		22:58
	UHF			13:30		13:30
	UHF		15:45		1:30	17:15
Columbus, Ga.	VHF		6:45			6:45
	UHF	9:00		2:00	0:30	11:30
Dayton, Ohio	VHF		51:00	5:15	5:46	62:01
	VHF	48:53		0:30		49:23
Duluth, Minn.	UHF			5:30	1:30	7:00
	VHF	2:00				2:00
Greenville, S. C.	VHF		8:15			8:15
	UHF	9:00	0:30	3:00	2:00	14:30
	VHF	21:48		0:30		22:18
Houston	UHF			11:15	5:07	16:22
	VHF	43:15		7:40	0:30	51:25
Jackson, Miss.	UHF				6:45	6:45
	VHF	19:08				19:08
Jacksonville, Fla.	UHF		16:45	1:15	2:15	20:15
	VHF	21:30	53:30	3:00	1:15	79:15
Johnstown, Pa.	UHF	3:30		7:30	1:45	12:45
	VHF	41:38	29:00	1:30		72:08
Knoxville	UHF		4:00	1:00	8:38	13:38
	VHF	15:23		2:15		17:38
Lansing, Mich.	UHF		11:45		2:15	14:00
	VHF	42:53	21:00	2:30	1:00	67:23
Louisville	UHF			10:30	6:06	16:36
	VHF		51:15	1:00		52:15
Macon	VHF	43:53		5:00	1:00	49:53
	UHF			14:20	4:00	18:20
	VHF		19:45	1:00	3:45	24:30
Meridian, Miss.	UHF	11:00		4:10		15:10
	VHF	8:03	10:45	3:30	1:00	23:23
Milwaukee	UHF					
	VHF	46:23		5:00	3:15	54:38
	UHF		47:45			47:45
Mobile, Ala.	UHF			7:50	7:51	15:41
	VHF	14:30	17:25	3:00		34:30
Monroe, La.	UHF		1:45		3:30	5:15
	VHF	11:08	13:45	1:40	2:45	29:18
New Orleans	UHF			3:00		3:00
	VHF	47:23	16:30	5:00	3:00	71:53
Norfolk-Portsmouth-Newport News	UHF		10:30	7:15	2:45	20:30
	VHF		55:00	8:30	2:00	65:30
Oklahoma City	UHF			0:30		49:38
	UHF	49:08		5:05	5:32	10:37
	VHF	43:53		7:25		51:18
Pensacola, Fla.	VHF		44:45	0:30		45:15
	UHF	1:00		3:20		4:20
	UHF				3:30	3:30
Pittsburgh	VHF			1:00		1:00
	UHF		2:15		2:00	4:15
Portland, Maine	VHF	32:00	30:45	3:00	11:00	76:45
	UHF	1:15	9:45	14:20		25:20
Portland, Oreg.	UHF	13:30			5:53	19:23
	VHF	19:18				19:18
Rockford, Ill.	UHF		11:30	2:30	3:47	17:47
	VHF		41:45	8:50		50:35
St. Louis (Including Festus and Belleville)	UHF	35:38		2:00	2:30	40:08
	VHF		18:45	3:50		22:35
Tulsa, Okla.	UHF	17:15			6:15	23:30
	VHF	41:38	51:25	5:30	0:30	99:03
Winston-Salem, N. C.	UHF		1:00	10:20		11:20
	UHF		8:00		13:53	21:53
	VHF	6:45	49:30	6:40	2:00	64:55
Winston-Salem, N. C.	UHF	4:53			2:45	7:38
	VHF	28:28				28:28
	UHF			12:35	4:52	17:27

164 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

TABLE 11-A.—Distribution of the 11 network hours in the "top 10" programs¹ between VHF and UHF stations in the VHF-UHF cities

[Based on the week of Mar. 14-20, 1954]

City	Station	NBC	CBS	Total	City	Station	NBC	CBS	Total
Albany-Schenectady-Troy	VHF	5:30	3:00	8:30	Macon	VHF		2:30	2:30
	UHF					UHF	2:00		2:00
	UHF					VHF	1:30	2:00	3:30
Ames (Des Moines)	VHF	1:00	4:00	5:00	Milwaukee	VHF	5:30		5:30
	UHF					UHF		4:00	4:00
	UHF					UHF			
Bakersfield	VHF	2:00	1:00	3:00	Mobile	VHF	4:30	2:30	7:00
	UHF					UHF		0:30	0:30
	UHF					VHF	3:30	3:30	7:00
Boston	VHF	6:00		6:00	Monroe, La.	UHF			
	VHF		4:30	4:30		VHF	5:30	3:00	8:30
	UHF					UHF			
Buffalo-Niagara, N. Y.	VHF	5:30	2:00	7:30	New Orleans	VHF			
	UHF		1:30	1:30		UHF			
	UHF	1:30	4:30	6:00		VHF			
Charlotte, N. C.	VHF				Norfolk-Portsmouth-Newport News	VHF		4:30	4:30
	UHF					UHF			
	UHF					UHF	5:30		5:30
Columbia, S. C.	VHF	4:00		4:00	Oklahoma City	VHF	5:30		5:30
	UHF		4:00	4:00		VHF		4:00	4:00
	UHF					UHF			
Columbus, Ga.	VHF		1:30	1:30	Pensacola	VHF			
	UHF	2:30		2:30		UHF			
	UHF		4:30	4:30		VHF			
Dayton	VHF	6:00		6:00	Pittsburgh	VHF	1:30	3:30	5:00
	UHF		1:00	1:00		UHF		0:30	0:30
	UHF					UHF	2:30		2:30
Duluth	VHF	2:00		2:00	Portland, Maine	VHF	3:30		3:30
	UHF		1:00	1:00		UHF		2:00	2:00
	UHF					VHF		3:00	3:00
Greenville, S. C.	VHF	1:30		1:30	Portland, Oreg.	UHF			
	VHF	3:30		3:30		VHF	5:00		5:00
	UHF					VHF		2:30	2:30
Houston	VHF	6:00		6:00	Rockford, Ill.	VHF			
	UHF					UHF	4:30		4:30
	UHF					VHF			
Jackson, Miss.	VHF	4:00		4:00	St. Louis (including Festus and Belleville)	VHF	4:30	3:00	7:30
	UHF	3:30		3:30		UHF			
	UHF	3:00	4:30	7:30		UHF		1:00	1:00
Jacksonville, Fla.	VHF				Tulsa	VHF	2:00	4:00	6:00
	UHF					UHF			
	UHF					VHF	5:30		5:30
Johnstown, Pa.	VHF	5:30	4:30	10:00	Winston-Salem, N. C.	VHF			
	UHF					UHF			
	UHF					VHF			
Knoxville	VHF	3:00		3:00					
	UHF		1:00	1:00					
	UHF	5:30	3:30	9:00					
Lansing	VHF								
	UHF								
	UHF								
Louisville	VHF		4:30	4:30					
	VHF	6:00		6:00					
	UHF								

¹ Based on 16 programs (totaling 11 program-hours) listed as among the "top 10" programs by total viewers, by total homes and by program rating according to Nellsen (Feb. 27, 1954); American Research Bureau (Mar. 1, 1954); and Trendex (Mar. 1, 1954). According to these listings, NBC programs totaled 6 hours and CBS programs 5 hours.

TABLE 12.—Actual and potential number of television stations as of May 1, 1954

	VHF	UHF	Total
1. Total commercial stations provided for by table of assignments	556	1,319	1,875
2. Stations now on air:			
A. Prefreeze	108		108
B. Postfreeze	142	127	269
C. Total on air	250	127	377
3. Authorized stations not yet on air (all postfreeze)	73	120	193
4. Total authorized stations	323	247	570
5. Number of potential stations represented by pending applications	81	22	103
6. Total potential stations	404	269	673
7. Ratio of total potential stations to total stations provided for in table of assignments (percent)	73	20	36

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 165

TABLE 13.—Actual and potential number of television communities

Based upon—	Number of communities with—			
	VHF stations only	UHF stations only	VHF and UHF stations	Total communities
1. Stations now on air.....	132	70	35	237
2. Stations authorized.....	143	105	78	326
3. Authorized stations plus pending applications.....	155	95	101	351

TABLE 13-A.—Number of VHF stations in the same community with UHF stations

UHF stations—	Number of VHF stations in UHF city					Total
	0	1	2	3	4 and over	
Now on the air.....	86	33	7	1	-----	127
Percent.....	68	26	5	1	-----	100
Authorized.....	134	63	31	13	6	247
Percent.....	54	26	13	5	2	100
Total potential.....	120	58	46	33	12	269
Percent.....	45	21	17	12	5	100

TABLE 14.—Status of postfreeze TV grants as of May 1, 1954

	VHF	UHF	Total
1. Total postfreeze permits issued.....	226	306	532
2. Cancellations:			
Number.....	11	59	70
Percent.....	4.9	19.3	13.1
3. Postfreeze permits outstanding.....	215	247	462
4. On the air:			
Number.....	142	127	269
Percent.....	62.8	41.5	50.6
5. Not on the air:			
Number.....	73	120	193
Percent.....	32.3	39.2	36.3

SUMMARY OF CANCELLATIONS AND STATIONS GOING OFF THE AIR

6A. Cancellations:			
After going on the air.....	0	5	5
Before going on the air.....	11	54	65
Total cancellations.....	11	59	70
B. Stations going off the air but not requesting cancellation of permit.....	2	5	7
Total.....	13	64	77

166 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

TABLE 14-A.—Number of postfreeze TV stations in operation by months—June 30, 1953, to May 15, 1954

	Number of VHF stations			Number of UHF stations		
	Going on the air	Going off the air	Total on the air (end of month)	Going on the air	Going off the air	Total on the air (end of month)
Prior to June 30, 1953.....	44		4	45		45
July 1953.....	6		56	7	1	51
August.....	15	1	64	22		73
September.....	20		84	10		83
October.....	10		94	15		98
November.....	10		104	15		113
December.....	16		120	9	1	121
January 1954.....	1		121	3		124
February.....	6		127	5	1	128
March.....	8	1	134	2	4	126
April.....	8		142	4	3	127
May (through the 15th).....	1	1	142		3	124
Total.....	145	3	142	137	13	124

TABLE 15.—TV stations as of May 1, 1954

COMMERCIAL			
	VHF	UHF	Total
On the air.....	250	127	377
Authorized.....	323	247	570
Stations represented by pending applications.....	81	22	103
Total authorized or pending.....	404	269	673
NONCOMMERCIAL			
On the air.....	3	2	5
Authorized.....	13	16	29
Stations represented by pending applications.....	11	5	16
Total authorized or pending.....	24	21	44

TABLE 16.—UHF grants not yet on air, as of May 1, 1954

PREFREEZE MARKETS		Number of stations
Age:		
Under 9 months.....		17
9 to 12 months.....		9
12 to 15 months.....		10
15 to 18 months.....		13
Total.....		49
POSTFREEZE MARKETS		
Age:		
Under 9 months.....		26
9 to 12 months.....		14
12 to 15 months.....		12
15 to 18 months.....		8
18 to 21 months.....		5
Over 21 months.....		1
Total.....		66
Total.....		115

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 167

TABLE 17.—UHF grants not yet on air, as of May 1, 1954

Type of community	Number of UHF grants	Number of communities
Prefreeze.....	49	33
Postfreeze:		
(a) VHF on air.....	6	6
(b) VHF assigned but not on air.....	10	9
(c) No VHF assigned.....	50	48
	115	96

TABLE 18.—UHF grants not yet on air by number of VHF stations on the air and assigned to the community

A. NUMBER OF PREFREEZE COMMUNITIES

Number of VHF stations	VHF on the air	VHF assigned but not yet on air
1.....	15	7
2.....	8	10
3.....	7	12
4 or more.....	3	4
Total.....	33	33

B. NUMBER OF POSTFREEZE COMMUNITIES

1.....	2	7
2.....	3	2
3.....	1	
4 or more.....		
Total.....	6	9

TABLE 19.—40 UHF-only markets (with no UHF set circulation) where UHF stations are authorized but not yet on the air

VHF set saturation as of May 1952	VHF set saturation as of November 1953—communities with—				
	Less than 25 percent	25 to 50 percent	50 to 75 percent	75 percent and over	Total
Less than 25 percent.....	10	8	1		19
25 to 50 percent.....		1	8		9
50 to 75 percent.....				10	10
75 to 100 percent.....				2	2
Total.....	10	9	9	12	40

TABLE 20.—Number of channels in Commission's assignment plan as of May 1, 1954

	United States			Territories, as of 6th report	Total
	As of 6th report	Drop-ins	Total May 1		
VHF:					
Commercial.....	498	16	514	42	556
Educational.....	71	3	74	9	83
UHF:					
Commercial.....	1,271	48	1,319		1,319
Educational.....	162	6	168		168
Total.....					2,126

168 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

TABLE 21.—Additional VHF assignments since "sixth report"¹

City and State	Channels previously in market		City and State	Channels previously in market	
	VHF	UHF		VHF	UHF
COMMERCIAL			COMMERCIAL—continued		
Selma, Ala.		1	Irwin, Pa.		
Hatfield, Ind.			Rapid City, S. Dak.	1	1
Lafayette, La.		2	Temple, Tex.		2
Parma-Onondaga, Mich.			Fayetteville, W. Va.		
Bemidji, Minn.		1	Whitefish Bay, Wis.		
Jackson, Miss.	1	2 3	EDUCATIONAL		
Tupelo, Miss.		1	Lexington, Tenn.		
Carthage, N. Y.			Sneedville, Tenn.		
Lake Placid, N. Y.			Weston, W. Va.		1
Wilmington, N. C.	1	2			
Ada, Okla.		1			

¹ This list excludes rearrangements of VHF channels as illustrated by following: Channel deleted from Macon and reassigned to Werner Robbins, Ga.; channel shifted from West Point to Columbus, Miss.; channel deleted from Nashville and reassigned to Old Hickory, Tenn.

² One of number educational reservation.

TABLE 22.—Additional UHF assignments since "sixth report"

COMMERCIAL

City and State	Channels previously in market		City and State	Channels previously in market	
	VHF	UHF		VHF	UHF
Fort Smith, Ark.	1	1 2	Cape Girardeau, Mo.	1	1
El Centro, Calif.		1	Patchogue, N. Y.		
Merced, Calif.		1	Asheville, N. C.	1	1 2
Modesto, Calif.		1	Burnsville, N. C.		
Palm Springs, Calif.			Durham, N. C.	1	1 2
Porterville, Calif.			Fayetteville, N. C.		1
Stockton, Calif.	1	1 2	Goldsboro, N. C.		1
Washington, D. C.	4	1 2	Fremont, Ohio.		
Clearwater, Fla.		1	Zanesville, Ohio.		1
Daytona Beach, Fla.	1		Elk City, Okla.	1	1
Melbourne, Fla.			Klamath Falls, Oreg.	1	
Orlando, Fla.	2	1 2	Salem, Oreg.	1	1 2
Huntington, Ind.			Anderson, S. C.		1
Princeton, Ind.			Charleston, S. C.	1 3	
Terre Haute, Ind.	1	1 2	Florence, S. C.	1	
Ottumwa, Iowa.		1	Spartanburg, S. C.	1	1
Waterloo, Iowa.	1	1 2	Big Spring, Tex.	1	
Lexington, Ky. (2 assignments)		2	Corpus Christi, Tex.	2	1 2
Paducah, Ky.	1	1	Tyler, Tex.	1	1
Alexandria, La.	1	1	Wenatchee, Wash.	1	1 2
Bogalusa, La.		1	Beckley, W. Va.	1	1
Lake Charles, La.	1	1 2	Clarksburg, W. Va.	1	1
Cumberland, Md.		1	Green Bay, Wis.	2	
			La Crosse, Wis.	1	1 2

EDUCATIONAL

University, Ala.			Bowling Green, Ohio.		
Amherst, Mass.			Cookeville, Tenn.		1
North Adams, Mass.		1	Crossville, Tenn.		

¹ One of number educational reservation.

TABLE 23.—100 leading markets by type of assignment

I. UHF COMMERCIAL ASSIGNMENTS ONLY

Youngstown, Ohio	Bridgeport, Conn.
Allentown-Bethlehem, Pa.	Scranton, Pa.
Akron, Ohio	Reading, Pa.
Springfield-Holyoke, Mass.	Trenton, N. J.
Wilkes-Barre-Hazleton, Pa.	South Bend, Ind.
Harrisburg, Pa.	York, Pa.
Canton, Ohio	Stamford-Norwalk, Conn.
San Bernardino, Calif.	Fort Wayne, Ind.
Worcester, Mass.	

II. ONE COMMERCIAL VHF ASSIGNMENT AND ONE OR MORE COMMERCIAL UHF ASSIGNMENTS

Albany-Schenectady-Troy, N. Y.	Wilmington, Del.
Hartford, Conn.	New Haven, Conn.
Charleston, W. Va.	Peoria, Ill.
Johnstown, Pa.	Lancaster, Pa.
San Jose, Calif.	Erie, Pa.
Grand Rapids, Mich.	Stockton, Calif.
Utica-Rome, N. Y.	Greensboro-High Point, N. C.
Fresno, Calif.	Binghamton, N. Y.
Flint, Mich.	Lansing, Mich.

III. TWO COMMERCIAL VHF ASSIGNMENTS AND NO COMMERCIAL UHF ASSIGNMENTS

Toledo, Ohio	Shreveport, La.
Syracuse, N. Y.	

IV. TWO COMMERCIAL VHF ASSIGNMENTS AND ONE OR MORE COMMERCIAL UHF ASSIGNMENTS

Houston, Tex.	Oklahoma City, Okla.
Providence, R. I.	Jacksonville, Fla.
New Orleans, La.	Sacramento, Calif.
Dallas, Tex.	Tacoma, Wash.
Louisville, Ky.	Duluth, Minn.-Superior, Wis.
Birmingham, Ala.	Tulsa, Okla.
San Diego, Calif.	Chattanooga, Tenn.
Rochester, N. Y.	Huntington, W. Va.-Ashland, Ky.
Dayton, Ohio	Davenport-Rock Island-Moline, Ill.
Norfolk-Portsmouth, Va.	Mobile, Ala.
Tampa-St. Petersburg, Fla.	Wichita, Kans.
Fort Worth, Tex.	Charlotte, N. C.
Wheeling, W. Va.-Steubenville, Ohio	Little Rock-North Little Rock, Ark.
Knoxville, Tenn.	Beaumont-Port Arthur, Tex.
Richmond, Va.	

170 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

V. THREE COMMERCIAL VHF ASSIGNMENTS AND NO COMMERCIAL UHF ASSIGNMENTS

Phoenix, Ariz.

Spokane, Wash.

VI. THREE COMMERCIAL VHF ASSIGNMENTS AND ONE OR MORE COMMERCIAL UHF ASSIGNMENTS

Philadelphi, Pa.

Detroit, Mich.

Boston, Mass.

Pittsburgh, Pa.

St. Louis, Mo.

Cleveland, Ohio

Baltimore, Md.

Buffalo, N. Y.

Cincinnati, Ohio

Milwaukee, Wis.

Kansas City, Mo.

Seattle, Wash.

Portland, Oreg.

Atlanta, Ga.

Indianapolis, Ind.

Columbus, Ohio

San Antonio, Tex.

Miami, Fla.

Memphis, Tenn.

Omaha, Nebr.

Nashville, Tenn.

Salt Lake City, Utah

Des Moines, Iowa

El Paso, Tex.

VII. FOUR COMMERCIAL VHF ASSIGNMENTS AND ONE OR MORE COMMERCIAL UHF ASSIGNMENTS

Chicago, Ill.

San Francisco-Oakland, Calif.

Washington, D. C.

Minneapolis-St. Paul, Minn.

Denver, Colo.

VIII. SEVEN COMMERCIAL VHF ASSIGNMENTS AND ONE OR MORE UHF COMMERCIAL ASSIGNMENTS

New York City

Los Angeles, Calif.

TABLE 23-A.—*Distribution of 108 prefreeze television stations*

PREFREEZE ONE-STATION COMMUNITIES

Arizona : Phoenix
California : San Diego
Connecticut : New Haven
Delaware : Wilmington
Florida :

Jacksonville

Miami

Indiana :

Bloomington

Indianapolis

Iowa : Ames

Louisiana : New Orleans

Michigan :

Grand Rapids

Kalamazoo

Lansing

Missouri :

Kansas City

St. Louis

New Mexico : Albuquerque

New York :

Binghampton

Buffalo

Rochester

Schneectady

Utica

North Carolina :

Charlotte

Greensboro

Ohio : Toledo

Oklahoma :

Oklahoma City

Tulsa

Pennsylvania :

Erie

Johnstown

Lancaster

Pittsburgh

Rhode Island : Providence

Tennessee :

Memphis

Nashville

Texas :

Fort Worth

Houston

Virginia :

Norfolk

Richmond

Washington : Seattle

West Virginia : Huntington

Wisconsin : Milwaukee

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 171

PREFREEZE TWO-STATION COMMUNITIES

Alabama : Birmingham	New York : Syracuse
Illinois : Davenport-Rock Island	Ohio : Dayton
Kentucky : Louisville	Texas :
Massachusetts : Boston	Dallas
Minnesota : Minneapolis-St. Paul	San Antonio
Nebraska : Omaha	Utah : Salt Lake City

PREFREEZE THREE-STATION COMMUNITIES

California : San Francisco	Ohio :
Georgia : Atlanta	Cleveland
Maryland : Baltimore	Cincinnati
Michigan : Detroit	Columbus
	Pennsylvania : Philadelphia

PREFREEZE FOUR-STATION COMMUNITIES

District of Columbia : Washington	Illinois : Chicago
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PREFREEZE SEVEN-STATION COMMUNITIES

California : Los Angeles	New York : New York
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TABLE 24.—Factory production, inventory, and sales of television sets

	Total TV sets			Sets equipped with UHF tuners			
	Production	Factory inventory (end of month)	Factory sales to domestic retailers and distributors	Production	Percent of total	Factory inventory (end of month)	Factory sales to domestic retailers and distributors
1953							
January-July	4,150,525			622,507	20.7		
August (4 weeks)	603,760	603,760	610,678	104,133	17.3	95,541	94,748
September (5 weeks)	770,085	520,748	852,967	193,212	25.1	99,571	189,159
October (4 weeks)	680,433	495,074	693,819	202,605	29.8	108,584	193,578
November (4 weeks)	560,197	487,688	549,228	197,311	35.2	138,410	183,838
December (5 weeks)	449,787	463,191	458,821	139,657	31.0	145,079	132,943
Total, 1953	7,214,787			1,459,475	20.2		
1954							
January (4 weeks)	420,571	360,418	520,380	120,299	28.6	128,666	138,964
February (4 weeks)	426,933	265,795	515,358	92,275	21.6	100,886	122,863
March (5 weeks)	599,606	301,894	554,326	124,855	20.8	105,779	119,944
1st 3 months of 1954	1,447,110			337,429	23.3		
Total, 1953-March 1954	8,661,897			1,796,904	20.7		

Source: RETMA reports.

TABLE 25.—*History of TV development*

- February 25, 1928: First television license issued to Jenkins Laboratories, W3XE, between Silver Spring and Wheaton, Md.
- June 30, 1928: First mention of "visual" broadcasting in FRC annual report.
- 1929: FRC allocated four 100-kilocycle channels in 2000-3000-kilocycle band for "visual" broadcasting.
- 1935: Experimental TV in 42-56, 60-86 megacycle bands.
- 1936: Informal engineering conference.
- 1937: Order 19 allocating 19 channels to TV.
- May 22, 1939: First FCC report—no standards approved. Television should remain developmental.
- November 15, 1939: FCC's Television Committee issued second report.
- December 22, 1939: Rules permitted sponsored programs on a limited basis.
- February 29, 1940: New rules adopted providing for two classes of stations, experimental and experimental program.
- March 20, 1941: Hearing to get new evidence on industry agreements on standards. Report made by NTSC.
- April 30, 1941: New rules adopting NTSC standards—18 channels—minimum hours of operation.
- June 17, 1941: First television licenses for regular commercial operation.
- April and October 1942: Order prohibiting new construction due to war.
- August 15, 1944: Order on general allocation hearing.
- May 25, 1945: Report of allocation hearings (480-920 experimental TV). Docket 6651 on the matter of allocation of frequencies to the various classes of non-governmental services on the radio spectrum from 10 kilocycles to 30 million kilocycles.
- October 7, 1945: Commission rescinded above orders.
- November 21, 1945 (Doc. 6780): Rules and allocation table adopted—13 channels—sharing with other service; 150-mile cochannel, 75 adjacent channel. First 140 metropolitan districts.
- April 10, 1946: First CP granted after war "freeze" on construction.
- December, 1946: January and February 1947 (Doc. 7896), hearing on CBS proposal for color.
- March 18, 1947: Report denying CBS petition.
- August 14, 1947 (Doc. 8487): Proposal to delete channel 1 and sharing on remaining channels. Sharing of TV with mobile services deleted in exchange for channel 1 to be used by these services. Dockets 8975 and 8736. Table of assignments amended to reflect the deletion of channel 1.
- May 6, 1948: Report on above hearing.
- May 6, 1948: Notice of proposed rulemaking to amend table of assignments in order to provide assignments to smaller communities. Previous separations of 150 miles cochannel and 75 miles adjacent channels continued. Approximately 955 assignments proposed in 459 communities on the 12 VHF channels. No other changes such as classes of stations, powers, etc., proposed in this docket. Dockets 8975 and 8736.
- June 29, 1948: Hearings on May 8, 1948, proposals began (Docs. 8975 and 8736).
- August 18, 1948: Last of CP's granted prior to official "freeze" order on new construction.
- September 13-14, 1948: Commission-industry conference to discuss procedure.
- September 30, 1948: "Freeze" order adopted.
- November 30, 1948: Engineering conference. Ad hoc committee set up as a result of this conference.
- May 27, 1949: Report of ad hoc committee sent to Commission.
- July 11, 1949: Notice of further proposed rulemaking (Docs. 8975, 8736, 9175, 8976). Proposed new rules, standards, and allocation table. 12 VHF and 42 UHF channels utilized with remaining UHF for experimental uses. Plan contained 3 classes of stations. Comments were invited on 61 megacycles color systems.

September 26, 1949: Hearings began on part I (general issues).

September 1, 1950: First report of Commission (color TV issues). Second notice of further proposed rulemaking (bracket standards). This report proposed to make final, the CBS field sequential standards.

October 10, 1950: Second report of Commission (color decision). Field sequential standards adopted.

October 16, 1950: Hearing recommended on general issues.

March 21, 1951: Third notice of further proposed rulemaking. 12 VHF and 52 UHF channels; one class of station with various minimum power; height combination, 220 miles cochannel in VHF, and 200 in UHF. Educational reservations.

June 21, 1951: Third report denying partial lifting of freeze.

July 12, 1951: Fourth report and order; denied Bell Telephone petition and assigned band 470-500 kilocycles to TV B/g.

July 25, 1951: Fifth report and order.

Docket 8736 et al: Authorized temporary increases in power for existing stations. (Partial lifting of the "freeze.")

August 27-December 1951: Written hearing on third notice.

April 11, 1952: Sixth report and order lifting the freeze. All 70 UHF channels intermixed, zones system, increased heat and power. In United States 2002 assignments (569 v, 1433 U) in 1,274 cities.

June 2, 1952: Post "freeze" rules became effective.

July 1, 1952: Processing of applications commenced.

174 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

Construction permits for UHF commercial TV stations surrendered or deleted—May 1, 1954

Permittee and location	Date filed	Call letters	Channel number	Period of operation	Disposition and date
Jemison Broadcasting Co., Inc., Birmingham, Ala.	June 27, 1952	WSGN-TV	42	None	Voluntarily surrendered Apr. 30, 1954.
Jacob A. Newborn, Jr., Gadsden, Ala.	Sept. 30, 1952	WTVS	21	do	Voluntarily surrendered May 26, 1953.
Little Rock Telecasters, Inc., Little Rock, Ark.	Aug. 15, 1952	KRTV	17	Mar. 18, 1953-Mar. 31, 1954.	Voluntarily surrendered Apr. 7, 1954.
S. A. Clesher and Grant R. Wrathall, doing business as Salinas-Montevay TV Co., Salinas, Calif.	Dec. 1, 1952	KICU	28	None	Voluntarily surrendered Jan. 12, 1954.
KITO, Inc., San Bernardino, Calif.	May 5, 1952	KITO-TV	18	do	Voluntarily surrendered Apr. 9, 1954.
John A. Victor, Jr., San Jose, Calif.	Mar. 13, 1952	KVIE	48	do	Voluntarily surrendered, Feb. 23, 1954.
John Stevenson, Yuba City, Calif.	June 30, 1952	KAGR-TV	52	do	Voluntarily surrendered, Mar. 30, 1954.
Empire Coil Co., Denver, Colo.	July 10, 1952	KDEN	26	do	Voluntarily surrendered, Jan. 11, 1954.
Mountain States TV Co., Denver, Colo.	July 24, 1952	KIRV	20	do	Deleted (application for extension of completion date denied) Jan. 27, 1954.
Harry L. Littig, Bridgeport, Conn.	July 17, 1952	WSIL	49	do	Deleted for failure to prosecute, Apr. 28, 1954.
WONN-TV, Inc., Lakeland, Fla.	June 18, 1952	WOTV	16	do	Voluntarily surrendered, Nov. 17, 1953.
Empire Coil Co., Inc., Indianapolis, Ind.	Jan. 29, 1953	WNES	67	do	Voluntarily surrendered, Nov. 11, 1954.
Cherokee Publishing Co., Inc., Marion, Ind.	Feb. 9, 1953	WMRI-TV	29	do	Voluntarily surrendered, Jan. 28, 1954.
Harkavey TV Corp., Cedar Rapids, Iowa	Apr. 3, 1953	KEYC	20	do	Voluntarily surrendered, Jan. 29, 1954.
Mel Foster-Harold Hoersch, Davenport, Iowa	Dec. 9, 1952	KDIO	36	do	Voluntarily surrendered, Nov. 18, 1953.
Owensboro On the Air, Inc., Owensboro, Ky.	Apr. 28, 1952	WVJS-TV	14	do	Voluntarily surrendered, Sept. 25, 1953.
The Blue Grass TV Co., a partnership, Richmond, Ky.	Mar. 24, 1953	WBGT	60	do	Voluntarily surrendered, Nov. 16, 1953.
Barnet Brezner, Alexandria, La.	Dec. 11, 1952	KSPI	62	do	Voluntarily surrendered, Feb. 8, 1954.
James B. Donovan et al., doing business as Capital Television & Broadcasting Co., Baton Rouge, La.	July 29, 1952	KHTV	40	do	Voluntarily surrendered, Feb. 24, 1954.
The Monocor Broadcasting Co., Frederick, Md.	June 30, 1952	WFMD-TV	62	do	Voluntarily surrendered, Dec. 24, 1953.
New England TV Co., Inc., Fall River, Mass.	July 15, 1952	WSEE-TV	46	do	Voluntarily surrendered, Nov. 6, 1953.
General Broadcasting Co., Lawrence, Mass.	May 8, 1952	WGLM	72	do	Voluntarily surrendered, Apr. 26, 1954.
Regional TV Co., Inc., Northampton, Mass.	Dec. 3, 1952	WNOH	36	do	Voluntarily surrendered, Sept. 23, 1953.
Palladium Publishing, N. Hampton, Mass.	July 2, 1952	WHBP-TV	42	do	Voluntarily surrendered, Mar. 3, 1954.
The American TV Co., Pittston Harbor, Mich.	June 26, 1952	WCTV	28	do	Voluntarily surrendered, Nov. 27, 1953.
WIBM, Inc., Jackson, Mich.	June 23, 1952	WIBM-TV	48	do	Voluntarily surrendered, Dec. 9, 1953.
WPCW-TV, Inc., Kalamazoo, Mich.	Oct. 17, 1952	WKMI-TV	38	do	Voluntarily surrendered, Aug. 17, 1953.
WPCW Television Co., a partnership, St. Paul, Minn.	Aug. 3, 1952	WPCW-TV	17	do	Voluntarily surrendered, Jan. 21, 1954.
WGC Television Corp., Gulfport, Miss.	Jan. 16, 1953	WGM-TV	56	do	Voluntarily surrendered, Jan. 12, 1954.
Allen B. Du Mont Laboratories, Inc., Kansas City, Mo.	Nov. 21, 1952	KCTV	23	June 3, 1953-Mar. 11, 1954.	Voluntarily surrendered, Mar. 11, 1954.
WBFS-TV, Inc., Buffalo, N. Y.	Nov. 7, 1952	WBFS-TV	59	do	Voluntarily surrendered, Dec. 30, 1953.
Mir-Hudson Broadcasters, Inc., Poughkeepsie, N. Y.	July 3, 1952	WFOK-TV	21	do	Voluntarily surrendered, Mar. 10, 1954.
The Brockway Co., Watertown, N. Y.	June 12, 1952	WVNY-TV	48	do	Do.
T. E. Allen & Sons, Inc., Durham, N. C.	Jan. 18, 1953	WCTG-TV	46	do	Voluntarily surrendered, Mar. 3, 1954.
Radio Hendersonville, Inc., Hendersonville, N. C.	Nov. 30, 1952	WHPK-TV	40	do	Voluntarily surrendered, Nov. 16, 1953.
Ralph D. Epperson, Mount Airy, N. C.	Sept. 11, 1952	WPAW-TV	27	do	Voluntarily surrendered, Jan. 20, 1954.
Lake Erie Broadcasting Co., Sandusky, Ohio.	July 9, 1952	WLEC-TV	52	do	Voluntarily surrendered, Aug. 31, 1953.
The Warren Tribune, Radio Station, Inc., Warren, Ohio.	July 17, 1952	WHH-TV	67	do	Voluntarily surrendered, July 10, 1953.

W. Gordon Allen, Eugene, Oreg.	Jan. 12, 1953	KTVF	20	do.	do.	Voluntarily surrendered Jan. 12, 1954.
Lawrence A. Harvey, Salem, Oreg.	Dec. 5, 1952	KPIC	24	Aug. 4, 1953-Mar. 29, 1954.	do.	Voluntarily surrendered Mar. 31, 1954.
Levistown Broadcasting Co., Levistown, Pa.	Aug. 11, 1952	WMRF-TV	38	None	do.	Voluntarily surrendered Mar. 3, 1954.
Chattanooga TV, Inc., Chattanooga, Tenn.	July 1, 1952	W'OUC	49	do.	do.	Voluntarily surrendered Apr. 20, 1954.
Tom Potter, Chattanooga, Tenn.	July 21, 1952	W'TVT	43	do.	do.	Deleted for lack of prosecution Mar. 22, 1954.
Charles Harry Coffield, doing business as Capital City TV Co., Austin, Tex.	June 23, 1952	KCTV	18	do.	do.	Voluntarily surrendered June 4, 1953.
Tom Potter, Austin, Tex.	July 21, 1952	KTVA	24	do.	Do.	
K. K. Kellam, et al., doing business as Tarrant County Television Co., Tarrant County, Texas	June 27, 1952	KTCO	20	do.	do.	Voluntarily surrendered Apr. 14, 1954.
M. B. Rudman trading as Rudman TV Co., Galveston, Texas	Sept. 15, 1952	KTVR	41	do.	do.	Deleted for lack of prosecution Oct. 15, 1953.
Texas State Network, Inc., McAllen, Tex.	July 21, 1952	KRIO-TV	20	do.	do.	Voluntarily surrendered June 26, 1953.
John A. Pather, et al., doing business as Sherman Television Co., Sherman, Tex.	June 30, 1952	KSHM	46	do.	do.	Voluntarily surrendered Jan. 27, 1954.
W. F. White, trading as White Television Co., Wichita Falls, Tex.	do.	KTVW	22	do.	do.	Voluntarily surrendered Aug. 3, 1953.
Charles Barham, Jr. and Emma Lou W. Barham, doing business as Barham & Barham, Charlottesville, Va.	Aug. 14, 1952	WCHV-TV	64	do.	do.	Voluntarily surrendered Jan. 29, 1954.
Old Dominion Broadcasting Corp., Lynchburg, Va.	Aug. 26, 1952	WWOD-TV	16	do.	do.	Voluntarily surrendered July 10, 1953.
Mountain Empire Broadcasting Corp., Marion, Va.	Nov. 21, 1952	WMFV-TV	50	do.	do.	Voluntarily surrendered Feb. 15, 1954.
Radio Room, Inc., Roanoke, Va.	July 24, 1952	WROV-TV	27	Jan. 27, 1953-July 21, 1953	do.	Voluntarily surrendered July 21, 1953.
KIT, Inc., Yakima, Wash.	Sept. 25, 1952	KIT-TV	23	None	do.	Voluntarily surrendered Dec. 10, 1953.
Stoney H. Piles, trading as Beloit Broadcasting Co., Beloit, Wis.	Jan. 14, 1953	W'RBJ	57	do.	do.	Voluntarily surrendered Oct. 14, 1953.
Cream City Broadcasting Co., Inc., Milwaukee, Wis.	Nov. 13, 1952	WMIL-TV	31	do.	do.	Voluntarily surrendered Dec. 14, 1953.
William F. Johns, et al., doing business as The Oshkosh Broadcasting Co., a Partnership, Oshkosh, Wis.	Aug. 5, 1952	WOSH-TV	48	June 30, 1953-Mar. 22, 1954	do.	Voluntarily surrendered Apr. 27, 1954.

1 On July 21, 1953, permittee filed application for channel No. 7.

176 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

Applications for new UHF commercial television stations dismissed, denied or returned—May 1, 1954

Applicant and location	File No. and date filed	Channel No.	Nature of disposition and date
Woodley O. Campbell et al., doing business as Southern Enterprises, Montgomery, Ala.	BPCT-1051, June 11, 1952	32	Dismissed without prejudice (docket), Aug. 11, 1953.
Southern Broadcasting Co., Inc., Montgomery, Ala.	BPCT-683, July 18, 1952	32	Dismissed without prejudice (docket), Sept. 9, 1953.
Community Broadcasting Co., Inc., Phenix City, Ala.	BPCT-1331, Oct. 7, 1952	28	Dismissed by request of attorney, Mar. 2, 1953.
John H. Poole, trading as John Poole Broadcasting Co., Bakersfield, Calif.	BPCT-1102, July 3, 1952	20	Dismissed by request of applicant, Dec. 10, 1952.
Pacific Foundation, Berkeley, Calif.	BPCT-1683, Apr. 20, 1953	44	Dismissed by request of attorney, Feb. 9, 1953.
Sidney A. Franklin, Jr., El Centro, Calif.	BPCT-1564, Feb. 5, 1953	16	Dismissed by request of attorney, Sept. 24, 1953.
Valradio, Inc., El Centro, Calif.	BPCT-1691, May 4, 1953	53	Dismissed by request of attorney, Aug. 11, 1953.
The McMahan Co., Fresno, Calif.	BPCT-1065, July 21, 1952	47	Dismissed by request of attorney, Apr. 1, 1953.
Robert M. Schuler, L. E. Chenualt, Bert Williamson, and Leona H. Todd, a partnership, Fresno, Calif.	BPCT-1576, Feb. 12, 1953		
Robert Schuler, Sheldon Anderson, Lester Eugene Chenualt and Bert Williamson, a partnership, Fresno, Calif.	BPCT-1062, June 30, 1952	47	Dismissed by applicant, Feb. 13, 1953.
Merced Broadcasting Co., Merced, Calif.	BPCT-1711, May 27, 1953	34	Dismissed by request of attorney, Sept. 15, 1953.
Ralph M. Brown, Modesto, Calif.	BPCT-1521, Nov. 20, 1952	14	Dismissed by request of attorney, Feb. 16, 1954.
Charles Thieriot, Modesto, Calif.	BPCT-1420, Sept. 25, 1952	14	Dismissed by request of attorney, Dec. 11, 1953.
California Telecasters, a partnership consisting of Joel Prescott, Zoel Bourdon, B. F. Malkin, William C. Wallace, and Robert W. Davidson, Riverside, Calif.	File number unassigned, received July 3, 1952	40	Returned for failure to prosecute, May 22, 1953.
Maria Helen Alvarez, Sacramento, Calif.	BPCT-1041, July 22, 1952	40	Dismissed without prejudice (docket), July 3, 1953.
Jack O. Gross, Sacramento, Calif.	BPCT-1077, July 28, 1952	46	Dismissed (order) June 26, 1953 (docket).
John H. Poole, trading as John Poole Broadcasting Co., Salinas, Calif.	BPCT-1221, July 3, 1952	28	Dismissed by request of applicant, Dec. 10, 1952.
Orange Bell Telecasters, San Bernardino, Calif.	BPCT-1252, Nov. 28, 1952	30	Denied Mar. 11, 1954 (docket).
Robert B. Ralsbeck and June D. Ralsbeck, doing business as Vista Broadcasting Co., San Diego, Calif.	BPCT-3357, Oct. 13, 1952	21	Dismissed by request of applicant, June 5, 1953.
Knox La Rue and Lester E. Chenualt, doing business as San Joaquin Telecasters, Stockton, Calif.	BPCT-1096, July 17, 1952	36	Dismissed by request of applicant, Dec. 16, 1952.
John Poole, trading as John Poole Broadcasting Co., Stockton, Calif.	BPCT-1094, July 3, 1952	36	Dismissed by request of applicant, Dec. 10, 1952.
E. J. Peters, Fresno, Calif.	BPCT-3718, June 4, 1953	37	Dismissed by request of attorney, Aug. 13, 1953.
Empire Oil Co., Inc., Bridgeport, Conn.	BPCT-477, July 10, 1952	49	Dismissed (order) July 11, 1952.
General Telecast, Inc., Hartford, Conn.	BPCT-4541, July 9, 1952	18	Dismissed by request of attorney, Oct. 20, 1953.
The WAVZ Broadcasters, Inc., Hartford, Conn.	BPCT-2743, June 27, 1952	18	Do.
The WAVZ Broadcasters, Inc., New Haven, Conn.	BPCT-1279, June 14, 1952	59	Dismissed by request of applicant, June 19, 1953.
American Republics, Inc., Watbury, Conn.	BPCT-204, June 26, 1952	53	Dismissed without prejudice, Sept. 26, 1952 (docket).
Independent Broadcasting Co., Wilmington, Del.	BPCT-1701, May 15, 1953	83	Dismissed without prejudice (order), Sept. 4, 1953 (docket).
Duval TV Broadcasters, Inc., Jacksonville, Fla.	BPCT-1626, Jan. 26, 1953	30	Dismissed by request of attorney, Aug. 11, 1953.
Gulfport Broadcasting Co., Inc., Jacksonville, Fla.	File number unassigned, received Jan. 27, 1953	36	Dismissed by request of attorney, May 29, 1953.
Robert W. Rounsaville, Miami Beach, Fla.	BPCT-1518, Jan. 19, 1953	27	Dismissed by request of attorney, Dec. 1, 1953.
The Television Corp. of Greater Miami, Miami, Fla.	BPCT-1409, Jan. 1953	33	Dismissed (lack of prosecution), Dec. 4, 1953.
Central Florida Publishing Co., Orlando, Fla.	BPCT-936, Oct. 29, 1952	18	Dismissed (lack of prosecution), Nov. 24, 1953.
Empire Oil Co., Inc., Tampa, Fla.	BPCT-426, June 19, 1952	38	Dismissed without prejudice, Sept. 16, 1952 (docket).
WBOY, Inc., Tarpon Springs (Clearwater), Fla.	BPCT-357	32	Dismissed by request of applicant, Dec. 1, 1953.
Board of Regents, University System of Georgia for and on behalf of Georgia Institute of Technology, Atlanta, Ga.	BPCT-286, Jan. 27, 1953	36	Dismissed without prejudice, Oct. 6, 1953 (docket).

WEAS, Inc., Atlanta, Ga.	BPCT-1508, Sept. 4, 1952.	36	Dismissed by request of attorney, Jan. 21, 1953.
Marlin Theatres of Georgia, Inc., Columbus, Ga.	BPCT-1104, June 30, 1952.	28	Dismissed by request of attorney, Sept. 26, 1952.
Radio Columbus, Inc., Columbus, Ga.	BPCT-1105, June 30, 1952.	32	Do.
WDMG, Inc., Douglas, Ga.	BPCT-1572, July 22, 1952.	28	Dismissed by request of attorney, Aug. 18, 1953.
LaGrange Broadcasting Co., LaGrange, Ga.	BPCT-1809, Nov. 27, 1953.	47	Dismissed by request of attorney, Mar. 22, 1954.
Middle Georgia Broadcasting Co., Macon, Ga.	BPCT-1106, July 3, 1952.	50	Dismissed by request of attorney, Sept. 10, 1952.
Teletronics, Inc., Waycross, Ga.	BPCT-1290, July 22, 1952.	59	Dismissed by request of attorney, May 19, 1953.
Donze Enterprises, Inc., Chester, Ill.	File number unassigned, received Feb. 5, 1953.	16	Returned Feb. 27, 1953 (violation of sec. 3.607 (b)).
Benjamin I., Albert E., Harry W. Sanders, doing business as Sanders Bros., Joliet, Ill.	BPCT-1288, June 22, 1952.	48	Denied for default, Aug. 20, 1953 (docket).
Trans-American Television Corp., Peoria, Ill.	BPCT-1018, June 24, 1952.	43	Dismissed by request of attorney, Aug. 19, 1952.
TV & Radio Peoria, Inc., near Peoria, Ill.	BPCT-1191, Aug. 22, 1952.	20	Dismissed by request of applicant, Nov. 25, 1952.
WCB, Inc., Springfield, Ill.	BPCT-504, Aug. 11, 1952.	19	Dismissed by request of attorney, Feb. 17, 1953.
W. R. Tuley, Evansville, Ind.	BPCT-1025, July 18, 1952.	62	Dismissed without prejudice, July 2, 1953 (docket).
Trans-American Television Corp., Evansville, Ind.	BPCT-559, June 30, 1952.	62	Dismissed without prejudice, May 20, 1953 (order docket).
Fort Wayne Television Corp., Fort Wayne, Ind.	BPCT-987, July 10, 1952.	33	Dismissed without prejudice, Nov. 14, 1952 (docket).
News Sentinel Broadcasting Co., Inc., Fort Wayne, Ind.	BPCT-979, June 30, 1952.	33	Denied, May 21, 1953 (docket).
Westinghouse Radio Stations, Inc., Fort Wayne, Ind.	BPCT-636, June 27, 1952.	21	Dismissed, July 11, 1952.
Do.	BPCT-1042, July 21, 1952.	21	Dismissed, Nov. 3, 1952, by request of attorney.
South Bend Telecasting Corp., South Bend, Ind.	BPCT-594, June 24, 1952.	21	Dismissed July 11, 1952.
Albert S. Polan et al., doing business as Polan Industries, Terre Haute, Ind.	BPCT-1016, June 18, 1952.	46	Dismissed by request of applicant, May 26, 1953.
Chapman S. Root, Terre Haute, Ind.	BPCT-1288, Sept. 15, 1952.	63	Dismissed by request of attorney, Dec. 8, 1953.
Ottumwa Telecasting Corp., Ottumwa, Iowa.	BPCT-1316, Sept. 30, 1952.	63	Dismissed by request of attorney, Oct. 29, 1953.
Valley TV & Radio, Inc., Ottumwa, Iowa.	BPCT-1548, Jan. 27, 1953.	15	Dismissed by request of attorney, Dec. 29, 1953.
Charles H. Gurney, Waterloo, Iowa.	BPCT-1439, Nov. 24, 1952.	15	Dismissed by request of applicant, Dec. 28, 1953.
L. F. Kelly, Waterloo, Iowa.	BPCT-1679, Apr. 15, 1953.	16	Dismissed by request of attorney, Nov. 19, 1953.
R. F. Schoonover, Topeka, Kans.	BPCT-1313, Sept. 29, 1952.	42	Dismissed by request of applicant, Oct. 27, 1953.
WREN Broadcasting Co., Inc., Topeka, Kans.	File number unassigned, received Aug. 7, 1952.	42	Dismissed without prejudice, Sept. 22, 1953 (docket).
The C. W. C. Co., Inc., Wichita, Kans.	BPCT-962, July 3, 1952.	16	Returned, Aug. 11, 1952.
KFBI, Inc., Wichita, Kans.	BPCT-963, June 30, 1952.	16	Dismissed, July 11, 1952.
Wichita Beacon Broadcasting Co., Inc., Wichita, Kans.	BPCT-973, June 30, 1952.	16	Dismissed without prejudice, Oct. 24, 1952 (docket).
Bel-A-Ray Enterprises, Inc., Henderson, Ky.	BPCT-781, July 15, 1952.	50	Dismissed by request of attorney, Feb. 17, 1952.
Bluegrass Broadcasting Co., Lexington, Ky.	BPCT-1135, June 16, 1952.	18	Dismissed by request of attorney, Oct. 17, 1952.
Central Kentucky Broadcasting Co., Lexington, Ky.	BPCT-1134, June 17, 1952.	64	Dismissed without prejudice, Feb. 25, 1954 (docket).
J. F. West and C. H. Bingham, doing business as West-Bingham Television Co., Lexington, Ky.	BPCT-1137, July 22, 1952.	27	Dismissed by request of attorney, Nov. 10, 1953.
Standard Tobacco Co., Inc., Maysville, Ky.	BPCT-1325, June 16, 1952.	24	Dismissed by request of attorney, Sept. 25, 1953.
Owensboro Publishing Co., Owensboro, Ky.	BPCT-1243, June 27, 1952.	14	Dismissed by request of attorney, Aug. 18, 1953.
Pierre E. Lackey, Paducah, Ky.	BPCT-1467, Mar. 23, 1953.	43	Dismissed by request of applicant, Sept. 15, 1953.
Jacob A. Newborn, Jr., Alexandria, La.	BPCT-1641, Nov. 26, 1952.	62	Dismissed by request of applicant, Mar. 25, 1953.
Tom Potter, Baton Rouge, La.	BPCT-1038, July 21, 1952.	40	Dismissed by request of attorney, Nov. 14, 1952.
Miss-Lou, Inc., Bogalusa, La.	BPCT-1287, July 30, 1952.	69	Dismissed by request of attorney, Nov. 16, 1953.
William C. Moss and Dorothy Moss Siegelin, doing business as the Enterprise Publishing Co., Bogalusa, La.	BPCT-1487, July 3, 1952.	69	Dismissed by request of applicant, Jan. 19, 1954.
Jacob A. Newborn, Jr., near Filmore, La. (Minden, La.)	BPCT-1423, Nov. 17, 1952.	30	Dismissed by request of applicant, Feb. 16, 1953.
Parish Broadcasting Corp., Minden, La.	BPCT-1584, Feb. 17, 1953.	30	Dismissed by request of attorney, Sept. 24, 1953.

Applications for new UHF commercial television stations dismissed, denied or returned—May 1, 1954—Continued

Applicant and location	File No. and date filed	Channel No.	Nature of disposition and date
WSMB, Inc., New Orleans, La.	File number unassigned; received June 30, 1952.	32	Returned by request of attorney, Mar. 25, 1953.
The Baltimore Radio Show, Inc., Baltimore, Md.	BPCT-1477, July 11, 1952.	18	Dismissed without prejudice (docket), Sept. 22, 1953.
Cheapeake Television Broadcasting, Inc., Baltimore, Md.	BPCT-1429, July 11, 1952.	18	Dismissed without prejudice (docket), Sept. 21, 1953.
The Western Maryland Broadcasting Co., Cumberland, Md.	BPCT-1144, July 10, 1952.	17	Dismissed by request of applicant, Nov. 2, 1953.
United Eastern Broadcasting Co., Hagerstown, Md.	BPCT-1149, June 17, 1952.	52	Dismissed by request of attorney, Dec. 15, 1953.
Montgomery County Broadcast Co., Inc., Orienton, Md.	BPCT-1355, Oct. 13, 1952.	14	Dismissed by request of attorney, July 17, 1953.
Capital Broadcasting Co., Silver Spring, Md. (Washington, D. C.)	BPCT-1519, July 17, 1952.	20	Dismissed by request of attorney, Sept. 10, 1953.
Massachusetts Teleradio Broadcasting Corp., Medford, Mass. (Boston, Mass.)	BPCT-1504, Jan. 9, 1953.	44	Dismissed by request of attorney, Aug. 11, 1953.
Greylock Broadcasting Co., Pittsfield, Mass.	BPCT-1442, June 27, 1952.	64	Dismissed without prejudice (docket), May 12, 1953.
New England Broadcasting Co., Worcester, Mass.	BPCT-1123, Aug. 4, 1952.	14	Dismissed by request of attorney, Oct. 15, 1952.
W. R. Ott Corp., Worcester, Mass.	BPCT-1060, July 1, 1952.	20	Dismissed without prejudice (docket), Oct. 13, 1952.
W. S. Butterfield Theatres, Inc., Battle Creek, Mich.	BPCT-1005, July 2, 1952.	20	Dismissed by request of attorney, Oct. 13, 1952.
W. S. Butterfield Theatres, Inc., Colfax, Mich.	BPCT-1328, July 2, 1952.	64	Dismissed without prejudice (docket), July 20, 1953.
W. S. Butterfield Theatres, Inc., Detroit, Mich.	BPCT-1507, Nov. 10, 1952.	21	Dismissed without prejudice (docket), Sept. 22, 1953.
Royal Oak Broadcasting Co., Inc., Ferndale, Mich. (Detroit, Mich.)	BPCT-737, Sept. 10, 1952.	62	Dismissed without prejudice (docket), Oct. 6, 1953.
Booth Radio & Television Stations, Inc., Grand Rapids, Mich.	BPCT-1502, Oct. 20, 1952.	23	Dismissed without prejudice (docket), Aug. 18, 1953.
W. S. Butterfield Theatres, Inc., Grand Rapids, Mich.	BPCT-969, June 25, 1952.	48	Dismissed without prejudice (docket), Oct. 21, 1952.
Jackson Broadcasting & Television Corp., Jackson, Mich.	BPCT-1202, Aug. 26, 1952.	48	Dismissed without prejudice (docket), Oct. 27, 1952.
Starbon Broadcasting Co., Jackson, Mich.	BPCT-1404, Oct. 30, 1952.	54	Dismissed by request of applicant, Jan. 22, 1953.
J. Frank Gallaher, Loren M. Berry, and Ronald B. Woodyard, a partnership, Lansing, Mich.	BPCT-1654, Mar. 25, 1953.	47	Dismissed by request of attorney, Sept. 29, 1953.
Paul A. Brandt, Mount Pleasant, Mich.	BPCT-1677, Mar. 17, 1953.	23	Dismissed by request of attorney, Sep. 24, 1953.
Northwestern Schools—Bible College, College of Liberal Arts, Theological Seminary, Minneapolis, Minn.	BPCT-1027, July 11, 1952.	47	Dismissed by request of attorney, Feb. 5, 1954.
Mississippi Broadcasting Co., Inc., Jackson, Miss.	BPCT-1443, Aug. 8, 1952.	31	Dismissed for lack of prosecution, Apr. 29, 1953.
Louis Alford, Philip D. Brady, Albert Maek Smith, doing business as Southwestern Broadcasting Co. of Mississippi, McComb, Miss.	Reinstated, June 8, 1953.		Dismissed by request of applicant, Nov. 10, 1953.
Donald M. Donze and Elmer L. Donze, doing business as the Donze Broadcasting Co., Festus, Mo.	BPCT-1450, Dec. 1, 1952.	14	Dismissed by request of applicant, Dec. 16, 1952.
David M. Segal, Kansas City, Mo.	BPCT-1735, July 3, 1953.	65	Dismissed by request of applicant, Dec. 23, 1953.
Belleville Broadcasting Co., Inc., St. Louis, Mo.	File number unassigned; received Dec. 15, 1952.	42	Returned Jan. 15, 1953; not reverified.
Empire Coal Co., Inc., St. Louis, Mo.	BPCT-1446, Nov. 21, 1952.	36	Dismissed by request of attorney, Jan. 26, 1953.
Cecil W. Roberts, St. Louis, Mo.	File number unassigned; received Aug. 1, 1952.	30	Dismissed by request of applicant, Dec. 30, 1952.
Granite State Broadcasting Co., Inc., Claremont, N. H.	BPCT-1684, Apr. 20, 1953.	37	Dismissed by request of applicant, July 27, 1953.
Grandview, Inc., Manchester, N. H.	BPCT-542, Aug. 18, 1952.	48	Dismissed by request of applicant, Aug. 18, 1953.
Union Leader Corp., Manchester, N. H.	BPCT-1040, Oct. 30, 1952.	48	Dismissed by request of attorney, Aug. 18, 1953.
Chattelier Broadcasting Co., New Brunswick, N. J.	BPCT-1288, July 31, 1952.	47	Dismissed by request of attorney, Mar. 25, 1953.
Morrisville Broadcasting Co., Trenton, N. J.	BPCT-1249, Sept. 10, 1952.	41	Dismissed without prejudice (docket), Jan. 16, 1953.
Trent Broadcast Corp., Trenton, N. J.	BPCT-1201, Aug. 21, 1952.	41	Dismissed by request of attorney, Jan. 21, 1953.
Governor Dongan Broadcasting Corp., Albany, N. Y.	BPCT-1271, June 30, 1952.	41	Dismissed by request of attorney, Apr. 9, 1953.
The Binghamton Broadcasters, Inc., Binghamton, N. Y.	BPCT-1100, July 16, 1952.	40	Dismissed without prejudice (docket), Jan. 19, 1954.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 179

27	BPCT-1607, Nov. 19, 1952	Rochester Broadcasting Co., Inc., Reighton, N. Y.	Dismissed by request of attorney, Mar. 25, 1953.
28	BPCT-620, Mar. 23, 1952	Elmira Star-Gazette, Inc., Elmira, N. Y.	Dismissed by request of attorney, Sept. 22, 1952.
29	BPCT-1192, July 23, 1952	Chautauque Broadcasting Corp., Jamestown, N. Y.	Dismissed by request of attorney, Jan. 9, 1953.
30	BPCT-1747, July 24, 1952	WHOV-TV, Inc., New York, N. Y.	Dismissed by request of attorney, Apr. 23, 1954.
31	BPCT-1248, Aug. 29, 1952	WHDL, Inc., Olean, N. Y.	Dismissed by request of attorney, Jan. 9, 1953.
32	BPCT-1580, July 15, 1952	Great Northern Television, Inc., Plattsburg, N. Y.	Dismissed by request of attorney, Sept. 29, 1953.
33	BPCT-357, Sept. 25, 1952	Plattsburg Broadcasting Corp., Plattsburg, N. Y.	Dismissed by request of attorney, Mar. 18, 1954.
34	BPCT-1273, June 30, 1952	WARC, Inc., Rochester, N. Y.	Dismissed by request of applicant, June 8, 1953.
35	BPCT-412, June 26, 1952	Tray Broadcasting Co., Inc., Troy, N. Y.	Dismissed by request of attorney, June 8, 1953.
36	File number unassigned; received Oct. 21, 1952.	WIBX, Inc., Utica, N. Y.	Dismissed by request of attorney, June 30, 1953.
37	File number unassigned; received Oct. 21, 1952.	George D. Patterson and Francis M. Fitzgerald, doing business as Charlotte Telecasters, Charlotte, N. C.	Returned to request of attorney, Jan. 14, 1953.
38	BPCT-1491, Dec. 31, 1952	Winston-Salem Broadcasting Co., Inc., Durham, N. C.	Dismissed by request of attorney, Feb. 18, 1953.
39	File number unassigned; received Feb. 25, 1953	Public Information Corp., Durham, N. C.	Returned July 13, 1953, order of June 26, 1953.
40	BPCT-1411, Nov. 5, 1952	Care Fear Broadcasting Co., Fayetteville, N. C.	Dismissed by request of applicant Dec. 22, 1953.
41	BPCT-1406, Oct. 31, 1952	Rollins Broadcasting, Inc., Fayetteville, N. C.	Dismissed by request of attorney, Dec. 22, 1953.
42	BPCT-1719, June 2, 1953	Eastern Carolina Broadcasting Co., Inc., Goldsboro, N. C.	Dismissed by request of applicant, Sept. 2, 1953.
43	BPCT-1500, Dec. 8, 1952	Matra Enterprises, a partnership comprised of William G. Matra and G. C. Matra, Akron, Ohio.	Dismissed without prejudice (docket) June 23, 1953.
44	BPCT-1501, Dec. 8, 1952	Allen T. Simmons, Akron, Ohio.	Dismissed without prejudice, June 23, 1953 (docket).
45	BPCT-1722, June 10, 1953	Gordon Broadcasting Co., Cincinnati, Ohio.	Dismissed without prejudice, Nov. 18, 1953 (docket).
46	BPCT-1593, Feb. 20, 1953	Robert W. Rounsaville, Cincinnati, Ohio.	Dismissed by request of attorney, Mar. 23, 1953 (docket).
47	BPCT-250, July 22, 1952	WJW, Inc., Cleveland, Ohio.	Dismissed without prejudice (docket), Oct. 13, 1953.
48	BPCT-1116, June 30, 1952	The Lorain Journal Co., Lorain, Ohio.	Dismissed without prejudice (docket), Jan. 6, 1954.
49	BPCT-1143, Dec. 2, 1952	The Brush-Moore Newspapers, Inc., Portsmouth, Ohio.	Dismissed without prejudice (docket), Apr. 21, 1953.
50	BPCT-1130, Nov. 18, 1952	Woodruff, Inc., Portsmouth, Ohio.	Dismissed without prejudice (docket), Oct. 21, 1953.
51	File number unassigned; received, Apr. 21, 1953.	Valley Television Co., Youngstown, Ohio.	Retr., ed., Sept. 4, 1953; order of Aug. 12, 1953.
52	File number unassigned; received Sept. 21, 1952.	Do.....	Returned Oct. 30, 1952; order of Oct. 30, 1952.
53	File number unassigned; received, June 23, 1952.	McAlester Broadcasting Co., Inc., McAlester, Okla.	Returned May 12, 1953; failure to prosecute.
54	BPCT-1894, July 28, 1952	Tulsa Television Co., Tulsa, Okla.	Dismissed without prejudice (docket), Jan. 20, 1954.
55	File number unassigned; received, July 3, 1952.	KOOS, Inc., Coos Bay, Oreg.	Dismissed by request of attorney, Jan. 14, 1953.
56	BPCT-1778, Aug. 10, 1953	Television Air Ways, Inc., Eugene, Oreg.	Dismissed for failure to prosecute, Mar. 23, 1954.
57	BPCT-439, June 30, 1952	Mount Scott Telecasters, Inc., Portland, Oreg.	Dismissed without prejudice (docket), Sept. 23, 1953.
58	BPCT-1018, July 15, 1952	Allentown Television Corp., Allentown, Pa.	Dismissed without prejudice (docket), July 7, 1953.
59	BPCT-928, June 30, 1952	B. Bryan Musselman, Olivia P. Musselman, Albert L. Wentz, and Paul I. Weitz, Allentown, Pa.	Dismissed without prejudice (docket), Oct. 21, 1953.
60	BPCT-457, June 30, 1952	Queen City Television Co., Inc., Fourtain Hills Heights, Pa. (Allentown, Pa.)	Dismissed (order) July 11, 1952.
61	BPCT-1352, Oct. 21, 1952	Civic Television, Inc., Erie, Pa.	Dismissed without prejudice by request of attorney, Aug. 24, 1953 (docket).
62	BPCT-937, June 27, 1952	Kendrick Broadcasting Co., Inc., Harrisburg, Pa.	Dismissed July 23, 1953 (docket).
63	BPCT-201, June 27, 1952	WABX, Inc., Harrisburg, Pa.	Dismissed without prejudice, Oct. 24, 1952 (docket).
64	BPCT-1028, June 25, 1952	Stelz Newspapers, Inc., Lebanon, Pa.	Dismissed June 10, 1953 (docket).
65	File number unassigned; received July 25, 1952.	Susquehanna Valley Television Corp., Lock Haven, Pa.	Returned request of applicant Aug. 20, 1952.
66	BPCT-1397, Aug. 7, 1952	Lou Poller, Philadelphia, Pa.	Dismissed with prejudice Sept. 29, 1953 (docket).

Applications for new UHF commercial television stations dismissed, denied or returned—May 1, 1954—Continued

Applicant and location	File No. and date filed	Channel No.	Nature of disposition and date
Patrick Joseph Stanton, Philadelphia, Pa.	BPCT-1674, Apr. 6, 1953	17	Dismissed without prejudice Dec. 8, 1953 (docket).
Westinghouse Radio Stations, Inc., Philadelphia, Pa.	BPCT-854, June 24, 1952	17	Dismissed by request of attorney Mar. 30, 1953.
Electric City Telecasting Co., Scranton, Pa.	BPCT-602, July 14, 1952	16	Dismissed Feb. 19, 1953.
Sharon Herald Broadcasting Co., Sharon, Pa.	BPCT-1549, Jan. 27, 1953	39	Dismissed Nov. 24, 1953.
Sunbury Broadcasting Corp., Sunbury, Pa.	BPCT-1303, July 10, 1952	65	Dismissed by request of applicant Feb. 23, 1954.
Television Associates of Rhode Island, Inc., Providence, R. I.	File number unassigned; received Oct. 24, 1952	16	Dismissed Feb. 23, 1953.
William L. Watkins et al., doing business as Anderson Television Co., Anderson, S. C.	BPCT-1533, Feb. 17, 1953	58	Dismissed by request of attorney Sept. 25, 1953.
Piedmont Radio Co., Greenville, S. C.	BPCT-1296, Sept. 23, 1952	23	Dismissed by request of applicant, Jan. 14, 1953.
WTND, Inc., Orangeburg, S. C.	BPCT-1729, Dec. 22, 1953	44	Dismissed by request of applicant, Feb. 2, 1954.
Piedmont Radio Co., Spartanburg, S. C.	BPCT-1640, Mar. 17, 1953	17	Dismissed by request of applicant, July 28, 1953.
Kingsport Broadcasting Co., Inc., Kingsport, Tenn.	BPCT-684, June 30, 1952	26	Dismissed by request of attorney, Sept. 4, 1953.
W. R. Tuley, Knoxville, Tenn.	BPCT-1184, Aug. 20, 1952	25	Dismissed by request of attorney, Mar. 18, 1953.
J. Frank Gallaher, Loren M. Berry, and Ronald B. Woodward, a partnership, Memphis, Tenn.	BPCT-1475, Dec. 17, 1952	42	Dismissed by request of attorney, June 26, 1953.
KWEM-TV, Inc., Memphis, Tenn.	BPCT-1365, Sept. 2, 1952	48	Dismissed by request of attorney, Aug. 7, 1953.
Tom Potter, Beaumont, Tex.	BPCT-1033, July 21, 1952	31	Dismissed by request of attorney, Nov. 14, 1952.
Claude H. Craig, transmitting as Franklin Broadcasting Co., El Paso, Tex.	BPCT-576, July 23, 1952	30	Dismissed Oct. 15, 1953, for lack of prosecution.
Gainesville Broadcasting Co., Inc., Cooke County, Tex. (near Gainesville)	BPCT-1321, July 31, 1952	49	Dismissed by request of applicant, Jan. 18, 1953.
John B. Hill, Houston, Tex.	BPCT-1586, July 29, 1952	23	Dismissed by request of attorney, June 15, 1953.
Jacob A. Newborn, Jr., San Antonio, Tex.	BPCT-1733, June 29, 1953	41	Dismissed by request of attorney, Nov. 12, 1953.
Portsmouth Radio Corp., Portsmouth, Va.	BPCT-1694, Oct. 14, 1952	27	Dismissed by request of attorney, July 8, 1953.
Dixie Television Corp., Richmond, Va.	BPCT-1483, Dec. 17, 1952	29	Dismissed by request of applicant, Nov. 25, 1953.
Rollins Broadcasting, Inc., Roanoke, Va.	BPCT-1082, July 29, 1952	67	Dismissed by request of attorney, Sept. 4, 1952.
Central Washington Telecasters, Inc., Wenatchee, Wash.	BPCT-1308, Aug. 8, 1952	25	Dismissed by request of attorney, Feb. 23, 1954.
Westcott Broadcasting Co., Wenatchee, Wash.	BPCT-1621, Sept. 2, 1952	55	Dismissed by request of attorney, Feb. 24, 1953.
Chemical City Broadcasting Co., Charleston, W. Va.	BPCT-1294, Sept. 2, 1952	49	Dismissed by request of applicant, Jan. 25, 1954.
Clarksburg-Fairmont Corp., Clarksburg, W. Va.	LBPCV-1779, May 13, 1953	22	Dismissed by request of attorney, June 30, 1953.
Amerdeus Corp., Fairmont, W. Va.	BPCV-1263, July 14, 1952	35	Dismissed by request of attorney, Feb. 4, 1953.
Albert S. Polan et al., a partnership doing business as Polan Industries, Parkersburg, W. Va.	BPCT-1256, July 26, 1952	15	Dismissed by request of attorney, Feb. 4, 1953.
Bartell Broadcasters, Inc., Appleton, Wis.	File number unassigned; received Dec. 23, 1952	42	Returned Dec. 30, 1952; obsolete form and channel no longer available.
Belle Co., Inc., La Crosse, Wis.	BPCT-1097, May 11, 1953	38	Dismissed by request of applicant, Dec. 11, 1953.
Bartell Broadcasters, Inc., Madison, Wis.	BPCT-1092, July 21, 1952	33	Dismissed by request of applicant, Dec. 28, 1952.
Earl W. Fessler, Madison, Wis.	BPCT-1206, Aug. 27, 1952	33	Dismissed by request of applicant, Dec. 29, 1952.
Northwest Television Corp., Milwaukee, Wis.	File number unassigned; received Dec. 16, 1952	19	Dismissed by request of attorney, Jan. 15, 1953.
Television of Sheboygan, Inc., Sheboygan, Wis.	BPCT-1574, Feb. 12, 1953	59	Dismissed by request of attorney, July 23, 1953.
WHBL, Inc., Sheboygan, Wis.	BPCT-1566, Feb. 24, 1953	59	Dismissed by request of attorney, Aug. 31, 1953.

Outstanding authorizations for UHF commercial television stations—May 1, 1954

Permittee and location	Date filed	Call letters	Channel number	Date when commercial operation authorized
Johnston Broadcasting Co., Birmingham, Ala.	June 24, 1952	WJLN-TV	48	
Tennessee Valley Broadcasting Co., Inc., Decatur, Ala.	Dec. 19, 1952	WMSL-TV	23	
Pursley Broadcasting Service, Inc., Mobile, Ala.	June 30, 1952	WKAB-TV	48	Dec. 29, 1952
Capitol Broadcasting Co., Montgomery, Ala.	June 27, 1952	WCOV-TV	20	Apr. 8, 1953
Southwestern Radio and Television Co., Fort Smith, Ark.	Oct. 20, 1952	KFSA-TV	22	July 16, 1953
Great Plains Television Properties of Arkansas, Inc., Little Rock, Ark.	Aug. 19, 1952	KETV	23	
Bakersfield Broadcasting Co., Bakersfield, Calif.	June 30, 1952	KBAK-TV	29	Aug. 17, 1953
KOWL Broadcasting Co., Corona, Calif.	Jan. 5, 1953	KCOA	52	
William B. Ross, etc., doing business as Valley Empire Telecasters, El Centro, Calif.	Jan. 28, 1953	KPIC-TV	16	
McClatchy Broadcasting Co., Fresno, Calif.	July 1, 1952	KMJ-TV	24	Jan. 29, 1953
O'Neill Broadcasting Co., Fresno, Calif.	Aug. 25, 1952	KJEO	47	Aug. 27, 1953
John H. Poole, trading as John Poole Broadcasting Co., Fresno, Calif.	July 17, 1952	KBID-TV	53	Feb. 2, 1954
John H. Poole, trading as John Poole Broadcasting Co., Los Angeles, Calif.	June 30, 1952	KBIC-TV	22	
Merced Television Corp., Merced, Calif.	May 13, 1953	KMER	34	
KTRB Broadcasting Co., Inc., Modesto, Calif.	June 9, 1953	KTRB-TV	14	
Capital City TV Corp., Sacramento, Calif.	Oct. 6, 1952	KCCC-TV	40	Sept. 25, 1953
John H. Poole, trading as John Poole Broadcasting Co., Sacramento, Calif.	July 15, 1952	KBIE-TV	46	
Elliott L. Cushman, San Diego, Calif.	Sept. 11, 1953	KUSH	21	
Lawrence A. Harvey, San Francisco, Calif.	Dec. 15, 1952	KBAY-TV	20	Sept. 15, 1953
S. H. Patterson, San Francisco, Calif.	Mar. 23, 1953	KSAN-TV	32	Mar. 5, 1954
San Joaquin Telecasters, Stockton, Calif.	Dec. 9, 1952	KTVU	36	Dec. 1, 1953
Sheldon Anderson, Tulare, Calif.	June 23, 1952	KVVQ	27	Nov. 12, 1953
Southern Connecticut & Long Island Television Co., Bridgeport, Conn.	June 30, 1952	WICC-TV	43	Mar. 12, 1953
General-Times Television Corp., Hartford, Conn.	Oct. 20, 1953	WGTH-TV	18	
The New Britain Broadcasting Co., New Britain, Conn.	June 27, 1952	WKNB-TV	30	Feb. 6, 1953
Connecticut Radio Foundation, Inc., New Haven, Conn.	June 30, 1952	WELI-TV	59	
The Thames Broadcasting Corp., New London, Conn.	July 15, 1952	WNLC-TV	26	
Stamford-Norwalk Television Corp., Stamford, Conn.	Apr. 7, 1953	WSTF	27	
WATR, Inc., Waterbury, Conn.	June 24, 1952	WATR-TV	53	July 28, 1953
Rollins Broadcasting, Inc., Dover, Del.	Oct. 24, 1952	WHRN	40	
Delaware Broadcasting Co., Wilmington, Del.	May 28, 1953	WILM-TV	83	
United Broadcasting Co., Inc., Washington, D. C.	Dec. 17, 1953	WOOK-TV	50	
W. Frank Hobbs, trading as Pioneer Gulf Television Broadcasters, Clearwater, Fla.	June 30, 1952	WPGT	32	
Gerico Investment Co., Fort Lauderdale, Fla.	June 2, 1952	WITV	17	Nov. 23, 1953
Tri-County Broadcasting Co., Fort Lauderdale, Fla.	June 30, 1952	WFTL-TV	23	Apr. 1, 1953
The Jacksonville Journal Co., Jacksonville, Fla.	Dec. 4, 1952	WJHP-TV	36	Nov. 30, 1953
Southern Radio and Equipment Co., Jacksonville, Fla.	June 30, 1952	WOBS-TV	30	
Miami-Biscayne Television Corp., Miami, Fla.	Jan. 16, 1953	WMFL	33	
WMIE-TV, Inc., Miami, Fla.	June 30, 1952	WMIE-TV	27	
WPFA-TV, Inc., Pensacola, Fla.	Aug. 21, 1952	WPFA	15	Oct. 14, 1953
City of St. Petersburg, Fla., St. Petersburg, Fla.	June 30, 1952	WSUN-TV	38	Apr. 15, 1953
WIRK-TV, Inc., West Palm Beach, Fla.	Nov. 13, 1952	WIRK-TV	21	Sept. 11, 1953
Robert W. Rounsaville, Atlanta, Ga.	Sept. 8, 1952	WQXI-TV	36	
Martin Theaters of Georgia, Inc., & Radio Columbus, doing business as Television Columbus, Columbus, Ga.	Sept. 23, 1952	WDAX-TV	28	Aug. 17, 1953
Macon Television Co., Macon, Ga.	Sept. 9, 1952	WNEX-TV	47	July 23, 1953
WGOV-TV, Inc., Valdosta, Ga.	July 7, 1952	WGOV-TV	37	
Signal Hill Telecasting Corp., Belleville, Ill.	Oct. 17, 1952	WTVL	54	July 21, 1953
Cecil W. Roberts, Bloomington, Ill.	Jan. 29, 1953	WBFL	15	Dec. 2, 1953
Champaign-Urbana Television, Inc., Champaign, Ill.	Mar. 11, 1953	WCUI	21	
WIND, Inc., Chicago, Ill.	July 2, 1952	WIND-TV	20	
WHFC, Inc., Chicago, Ill.	June 30, 1952	WHFC-TV	26	
WOPA-TV, Inc., Chicago, Ill.	Dec. 18, 1953	WOPT	44	
Northwestern Publishing Co., Danville, Ill.	May 28, 1952	WDAN-TV	21	Dec. 16, 1953
Prairie Television Co., Decatur, Ill.	Oct. 28, 1952	WTVP	17	Aug. 4, 1953

182 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

Outstanding authorizations for UHF commercial television stations—May 1, 1954—Continued

Permittee and location	Date filed	Call letters	Channel number	Date when commercial operation authorized
Northwestern Television Broadcasting Corp., Evanston, Ill.	June 10, 1953	WTLE	32	-----
Turner-Farrar Association, a partnership of Oscar L. Turner, et al., Harrisburg, Ill.	June 26, 1952	WSIL-TV	22	Dec. 4, 1953
Joliet Television, Inc., Joliet, Ill.	Oct. 16, 1952	WJOL-TV	48	-----
Illitop Broadcasting Co., Peoria, Ill.	July 15, 1952	WTVH-TV	19	May 27, 1953
Robert S. Kerr, et al., doing business as West Central Broadcasting Co., Peoria, Ill.	July 7, 1952	WEEK-TV	43	Jan. 27, 1953
Winnebago Television Corp., Rockford, Ill.	July 9, 1952	WTVO	39	Apr. 19, 1953
Plains Television Corp., Springfield, Ill.	July 30, 1952	WICS	20	Sept. 25, 1953
Truth Publishing Co., Inc., Elkhart, Ind.	May 6, 1952	WSJV	52	Mar. 10, 1954
Premier Television, Inc., Evansville, Ind.	July 16, 1952	WFIE	62	Aug. 6, 1953
Northeastern Indiana Broadcasting Co., Inc., Fort Wayne, Ind.	June 30, 1952	WKJG-TV	33	Nov. 6, 1953
Marion Broadcasting Corp., Indianapolis, Ind.	Feb. 3, 1953	WJRE	26	-----
WFAM, Inc., Lafayette, Ind.	May 21, 1952	WFAM-TV	59	June 8, 1953
Tri-City Radio Corp., Muncie, Ind.	June 10, 1952	WLBC-TV	49	Apr. 17, 1953
Southern Indiana Telecasting, Inc., Princeton, Ind.	Feb. 5, 1953	WRAY-TV	52	Dec. 7, 1953
South Bend Tribune, South Bend, Ind.	July 1, 1952	WSBT-TV	34	Dec. 15, 1952
Tri-State Television, Inc., Waterloo, Ind.	Mar. 5, 1953	WINT	15	-----
Rib Mountain Radio, Inc., Des Moines, Iowa	Feb. 4, 1953	KGTV	17	Nov. 2, 1953
Northwest Television, Inc., Fort Dodge, Iowa	June 25, 1952	KQTV	21	Oct. 29, 1953
Great Plains Television Properties of Iowa, Inc., Sioux City, Iowa	Aug. 21, 1952	KCTV	36	-----
Alf M. Landon, Topeka, Kans.	July 23, 1952	KTKA	42	-----
KEDD, Inc., Wichita, Kans.	Nov. 7, 1952	KEDD	16	July 15, 1953
Albert S. Polan, et al., doing business as Polan Industries, Ashland, Ky.	July 7, 1952	WPTV	59	-----
Ohio Valley Television Co., Henderson, Ky.	July 17, 1952	WEHT	50	Sept. 14, 1953
American Broadcasting Corp., Lexington, Ky.	June 25, 1952	WLAP-TV	27	-----
The Central Kentucky Broadcasting Co., Lexington, Ky.	Dec. 14, 1953	WLEX-TV	18	-----
Mid-America Broadcasting Corp., Louisville, Ky.	June 3, 1952	WKLO-TV	21	Oct. 14, 1953
Robert W. Rounsaville, Louisville, Ky.	Nov. 18, 1952	WQXL-TV	41	-----
Tri-City Broadcasting Co., Newport, Ky.	July 9, 1953	WNOP-TV	74	-----
Paducah Television Corp., Paducah, Ky.	Apr. 9, 1953	WTLK	43	-----
Modern Broadcasting Co. of Baton Rouge, Inc., Baton Rouge, La.	July 22, 1952	WAFB-TV	28	Mar. 11, 1953
KTAG-TV, Inc., Lake Charles, La.	Nov. 3, 1952	KTAG-TV	25	Nov. 2, 1953
Delta Television, Inc., Monroe, La.	July 11, 1952	KFAZ	43	Aug. 10, 1953
CKG Television Co., New Orleans, La.	Dec. 8, 1952	WCKG	26	-----
Community Television Corp., New Orleans, La.	June 13, 1952	WCNO-TV	32	-----
Supreme Broadcasting Co., New Orleans, La.	Nov. 28, 1952	WJHR-TV	61	Oct. 13, 1953
R. L. Wheelock, et al., doing business as New Orleans Television Co., New Orleans, La.	June 20, 1952	WTLO	20	-----
Lewiston-Auburn Broadcasting Corp., Lewiston, Maine.	July 7, 1953	WLAM-TV	17	Nov. 12, 1953
The Portland Telecasting Corp., Portland, Maine.	Jan. 16, 1953	WPMT	53	Aug. 19, 1953
United Broadcasting Co. of Eastern Maryland, Inc., Baltimore, Md.	Oct. 21, 1953	WTLF	18	-----
WTH-TV, Inc., Baltimore, Md.	July 25, 1952	WTH-TV	72	-----
Maryland Radio Corp., Cumberland, Md.	July 11, 1952	WTBO-TV	17	-----
The Peninsula Broadcasting Co., Salisbury, Md.	June 25, 1952	WBOC-TV	16	Feb. 18, 1954
Springfield Television Broadcasting Corp., Agwam, Mass. (Springfield)	June 30, 1952	WWLP	61	Mar. 12, 1953
E. Anthony & Sons, Inc., Best n, Mass.	June 30, 1952	WBOS-TV	50	-----
J. D. Wrather, Jr., Boston, Mass.	Jan. 9, 1953	WJDW	44	-----
Trans-American Television Enterprises, Inc., Brocton, Mass.	June 26, 1953	WHEF-TV	62	-----
Middlesex Broadcasting Corp., Cambridge, Mass.	Dec. 22, 1952	WTAO-TV	56	Sept. 16, 1953
E. Anthony & Sons, Inc., New Bedford, Mass.	June 30, 1952	WTEV-TV	28	-----
Greylock Broadcasting Co., North Adams, Mass.	June 30, 1952	WMGT	74	Feb. 1, 1954
Western Massachusetts Broadcasting Co., Pittsfield, Mass.	Aug. 5, 1952	WBEC-TV	64	-----
The Hampden-Hampshire Corp., Springfield, Mass.	June 26, 1952	WHYN-TV	55	Apr. 10, 1953
Salisbury Broadcasting Corp., Worcester, Mass.	July 9, 1952	WWOR-TV	14	Nov. 25, 1953
Wilson Enterprises, Inc., Worcester, Mass.	Sept. 8, 1952	WAAB-TV	20	-----

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 183

 Outstanding authorizations for UHF commercial television stations—May 1,
 1954—Continued

Permittee and location	Date filed	Call letters	Channel number	Date when commercial operation authorized
Washtenaw Broadcasting Co., Inc., Ann Arbor, Mich.	June 24, 1952	WPAG-TV.....	20	Apr. 3, 1953
Booth Radio & Television Stations, Inc., Battle Creek, Mich.	July 30, 1952	WBKZ-TV.....	64	May 15, 1953
Michigan Broadcasting Co., Battle Creek, Mich.	June 30, 1952	WBCK-TV.....	58	
UAW-CIO Broadcasting Corp., of Michigan, Detroit, Mich.	Feb. 19, 1953	WCIO-TV.....	62	
Michigan State Board of Agriculture, East Lansing, Mich.	June 30, 1952	WKAR-TV.....	60	Jan. 7, 1954
Trendle-Campbell Broadcasting Corp., Flint, Mich.	July 8, 1952	WTAC-TV.....	16	Nov. 13, 1953
Lansing Broadcasting Co., Lansing, Mich.....	Nov. 5, 1952	WILS-TV.....	54	July 30, 1953
Verslius Radio & Television, Inc., Muskegon, Mich.	July 18, 1952	WTVM.....	35	
Lake Huron Broadcasting Corp., Saginaw, Mich.	Aug. 27, 1952	WKNX-TV.....	57	May 1, 1953
Booth Radio & Television Stations, Inc., Saginaw, Mich.	Sept. 3, 1952	WSBM-TV.....	51	
Great Plains Television Properties of Minnesota, Inc., Duluth, Minn.	Aug. 14, 1952	WFTV.....	38	Apr. 22, 1953
Birney Imes, Jr., Columbus, Miss.....	Jan. 21, 1953	WCBI-TV.....	28	
Mississippi Publishers Corp., Jackson, Miss.....	May 21, 1952	WJTV.....	25	Jan. 10, 1953
Mississippi Broadcasting Co., Meridian, Miss.	Oct. 31, 1952	WCOC-TV.....	30	Nov. 13, 1953
KGMO Radio-Television, Inc., Cape Girardeau, Mo.	Mar. 30, 1953	KGMO-TV.....	18	-----
Ozark Television Corp., Festus, Mo.....	Nov. 14, 1952	KACY.....	14	Nov. 19, 1953
Broadcast House, Inc., St. Louis, Mo.....	July 29, 1952	KSTM-TV.....	36	Aug. 25, 1953
Lutheran Church-Missouri Synod, St. Louis, Mo. (Clayton).	July 23, 1952	KFUO-TV.....	30	
Missouri Broadcasting Corp., St. Louis, Mo.....	Nov. 19, 1952	WIL-TV.....	42	-----
WKNE Corp., Keene, N. H.....	June 24, 1952	WKNE-TV.....	45	
Atlantic Video Corp., Ashbury Park, N. J.....	Aug. 26, 1952	WRTV.....	58	Dec. 10, 1953
David E. Maekey, Atlantic City, N. J.....	Dec. 8, 1952	WOCN.....	52	
Neptune Broadcasting Corp., Atlantic City, N. J.	May 19, 1952	WFPG-TV.....	46	Dec. 13, 1952
South Jersey Broadcasting Co., Camden, N. J.	Sept. 26, 1952	WKDN-TV.....	17	-----
Home News Publishing Co., New Brunswick, N. J.	May 27, 1952	WDHN.....	47	
Peoples Broadcasting Corp., Trenton, N. J.....	Jan. 15, 1953	WTTM-TV.....	41	
Hudson Valley Broadcasting Co., Albany, N. Y.	June 27, 1952	WROW-TV.....	41	Oct. 13, 1953
Patron Broadcasting Co., Inc., Albany, N. Y.	Aug. 5, 1952	WPTR-TV.....	23	-----
WBUF-TV, Inc., Buffalo, N. Y.....	Aug. 7, 1952	WBUF-TV.....	17	Aug. 14, 1953
John S. Booth, et al., doing business as Elmira Television, Elmira, N. Y.	June 25, 1952	WTVE.....	24	May 29, 1953
El Cor Television, Inc., Elmira, N. Y.....	June 26, 1952	WECT.....	18	Sept. 14, 1953
Cornell University, Ithaca, N. Y.....	July 8, 1952	WHCU-TV.....	20	
James Broadcasting Co., Inc., Jamestown, N. Y.	June 30, 1952	WJTN-TV.....	58	
WKNY-TV Corp., Kingston, N. Y.....	June 24, 1952	WKNY-TV.....	66	Apr. 21, 1954
Genesee Valley Television Corp., Rochester, N. Y.	Sept. 29, 1952	WRNY-TV.....	27	-----
Star Broadcasting Co., Inc., Rochester, N. Y.....	Feb. 25, 1953	WCBF-TV.....	15	
Van Curler Broadcasting Corp., Schenectady, N. Y.	July 2, 1952	WTRI.....	35	Jan. 20, 1954
Richard H. Balch, Utica, N. Y.....	Sept. 17, 1952	WFRB.....	19	
WISE, Inc., Asheville, N. C.....	July 1, 1952	WISE-TV.....	62	Jan. 10, 1953
WAYS-TV, Inc., Charlotte, N. C.....	Sept. 2, 1952	WAYS-TV.....	36	Dec. 31, 1953
Fayetteville Broadcasters, Inc., Fayetteville, N. C.	Oct. 23, 1952	WFLB-TV.....	18	
Air-Pix Corp., Gastonia, N. C.....	Mar. 9, 1954	WNSC-TV.....	48	-----
Goldboro Television Corp., Goldsboro, N. C.	May 5, 1953	WTVC.....	34	
Inter-City Advertising Co. of Greensboro, N. C., Inc., Greensboro, N. C.	July 11, 1952	WCOG-TV.....	57	
Sir Walter Television Co., Raleigh, N. C.....	Aug. 14, 1952	WNAO-TV.....	28	July 10, 1953
Winston-Salem Broadcasting Co., Inc., Winston-Salem, N. C.	Dec. 31, 1952	WTOB-TV.....	26	Sept. 17, 1953
Summit Radio Corp., Akron, Ohio.....	June 27, 1952	WAKR-TV.....	49	May 25, 1953
WICA, Inc., Ashtabula, Ohio.....	July 21, 1952	WICA-TV.....	15	Sept. 11, 1953
Robert W. Rounsaville, Cincinnati, Ohio.....	Apr. 17, 1953	WQXN-TV.....	54	
Cleveland Broadcasting, Inc., Cleveland, Ohio.	June 30, 1952	WERE-TV.....	65	-----

184 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

Outstanding authorizations for UHF commercial television stations—May 1, 1954—Continued

Permittee and location	Date filed	Call letters	Channel number	Date when commercial operation authorized
United Broadcasting Co., Cleveland, Ohio	May 28, 1952	WHK-TV	19	
Skyland Broadcasting Corp., Dayton, Ohio	June 5, 1952	WIFE	22	Oct. 2, 1953
Elyria-Lorain Broadcasting Co., Elyria, Ohio	Aug. 7, 1952	WEOL-TV	31	
Northwestern Ohio Broadcasting Corp., Lima, Ohio	Nov. 3, 1952	WIMA-TV	35	
WLOK, Inc., Lima, Ohio	Oct. 24, 1952	WLOK-TV	73	Mar. 20, 1953
Midwest TV Co., Massillon, Ohio	July 14, 1952	WMAC-TV	23	
Albert S. Polan et al., doing business as Polan Industries, Youngstown, Ohio	June 30, 1952	WUTV	21	
The Vindicator Printing Co., Youngstown, Ohio	Apr. 28, 1952	WFMJ-TV	73	Dec. 4, 1952
WKBN Broadcasting Corp., Youngstown, Ohio	May 2, 1952	WKBN-TV	27	Jan. 3, 1953
Clay Littick et al., doing business as South-eastern Ohio Television System, Zanesville, Ohio	June 26, 1952	WHIZ-TV	18	May 15, 1953
George L. Coleman et al., doing business as Miami Television Co., Miami, Okla.	Mar. 24, 1953	KMIV	58	
Everett E. Cotter, trustee and receiver, Oklahoma City, Okla.	Dec. 1, 1952	KMPT	19	Nov. 20, 1953
Republic Television and Radio Co., Oklahoma City, Okla.	June 23, 1952	KTVQ	25	Nov. 2, 1953
Elfred Beck, Tulsa, Okla.	Oct. 7, 1952	KCEB	23	Jan. 18, 1954
Arthur R. Olson, Tulsa, Okla.	Oct. 27, 1952	KSPG	17	
Empire Coil Co., Inc., Portland, Oreg.	June 19, 1952	KPTV	27	Sept. 20, 1952
Penn-Allen Broadcasting Co., Allentown, Pa.	July 10, 1952	WFMZ-TV	67	
Queen City Television Co., Inc., Allentown, Pa.	July 14, 1952	WQCY	39	
Associated Broadcasters, Inc., Bethlehem, Pa.	Aug. 26, 1952	WLEV-TV	51	Apr. 13, 1953
Chambersburg Broadcasting Co., Chambersburg, Pa.	June 2, 1952	WCHA-TV	46	Aug. 19, 1953
Easton Publishing Co., Easton, Pa.	July 1, 1952	WGLV	57	July 18, 1953
Commodore Perry Broadcasting Service, Inc., Erie, Pa.	Aug. 1, 1952	WLEU-TV	66	
Great Lakes Television Co., Erie, Pa.	June 30, 1952	WSEE	35	Apr. 22, 1954
Harrisburg Broadcasters, Inc., Harrisburg, Pa.	July 10, 1952	WTPA	71	June 23, 1953
Rossmoyne Corp., Harrisburg, Pa.	June 30, 1952	WCMB-TV	27	
WHP, Inc., Harrisburg, Pa.	do	WHP-TV	55	Mar. 28, 1953
Hazleton Television Corp., Hazleton, Pa.	Aug. 20, 1952	WAZI-TV	63	
Rivoli Realty Co., Johnstown, Pa.	Apr. 17, 1952	WARD-TV	56	Sept. 9, 1953
Harold C. Burke, Lancaster, Pa.	Apr. 6, 1953	WWLA	21	
Lebanon Television Corp., Lebanon, Pa.	June 30, 1952	WLBR-TV	15	Oct. 14, 1953
WKST, Inc., Newcastle, Pa.	July 8, 1952	WKST-TV	45	Mar. 19, 1953
Daily News Television Co. (a corporation), Philadelphia, Pa.	June 25, 1952	WIBG-TV	23	
Pennsylvania Broadcasting Co., Philadelphia, Pa.	June 19, 1952	WIP-TV	29	
Golden Trinalge Television Corp., Pittsburgh, Pa.	Oct. 27, 1952	WTVQ	47	
Agnes J. Reeves Greer, Pittsburgh, Pa.	Sept. 30, 1952	WKJF-TV	53	Mar. 21, 1953
Telesating, Inc., Pittsburgh, Pa.	Sept. 29, 1952	WENS	16	Aug. 18, 1953
Eastern Radio Corp., Reading, Pa.	June 19, 1952	WHUM-TV	61	Feb. 13, 1953
Hawley Broadcasting Co., Reading, Pa.	July 7, 1952	WEEU-TV	33	Apr. 1, 1953
Appalachian Co., Scranton, Pa.	July 14, 1952	WTVU	73	Aug. 7, 1953
Scranton Broadcasters, Inc., Scranton, Pa.	July 1, 1952	WGBI-TV	22	June 7, 1953
Union Broadcasting Co., Scranton, Pa.	June 30, 1952	WARM-TV	16	Jan. 26, 1954
Leonard J. Shafft, Sharon, Pa.	Jan. 12, 1953	WSHA	39	
Louis G. Baltimore, Wilkes-Barre, Pa.	June 26, 1952	WBRE-TV	28	Jan. 1, 1953
Wyoming Valley Broadcasting Co., Wilkes-Barre, Pa.	May 15, 1952	WILK-TV	34	Sept. 11, 1953
WRAK, Inc., Williamsport, Pa.	June 27, 1952	WRAK-TV	36	
H. J. Williams, et al., doing business as The Helm Coal Co., York, Pa.	July 2, 1952	WNOW-TV	49	Nov. 10, 1953
Susquehanna Broadcasting Co., York, Pa.	July 2, 1952	WSBA-TV	43	Dec. 15, 1952
Channel 16 of Rhode Island, Inc., Providence, R. I.	July 24, 1952	WNET	16	Feb. 3, 1954
Aiken Electronics Advertising Corp., Aiken, S. C.	Nov. 26, 1952	WAKN-TV	54	
Wilton E. Hall, Anderson, S. C.	June 12, 1952	WAJM-TV	40	Dec. 11, 1953
Camden Broadcasting Corp., Camden, S. C.	Jan. 26, 1953	WACA-TV	14	
Palmetto Radio Corp., Columbia, S. C.	June 30, 1952	WNOK-TV	67	Aug. 25, 1953
Columbia, Columbia, S. C.	June 19, 1952	WCOS-TV	25	Apr. 13, 1953
Greenville Television Co., Greenville, S. C.	Oct. 14, 1952	WGVL	23	July 24, 1953
Greco, Inc., Greenwood, S. C.	July 23, 1952	WCRS-TV	21	
Sterling Telesating Co., Spartanburg, S. C.	Feb. 16, 1953	WSCV	17	
Television Services of Knoxville, Inc., Knoxville, Tenn.	Aug. 25, 1952	WTSK-TV	26	Sept. 4, 1953

Outstanding authorizations for UHF commercial televisoin stations—May 1, 1954—Continued

Permittee and location	Date filed	Call letters	Channel number	Date when commercial operation authorized
Television Broadcasters, Inc., Beaumont, Tex.	July 30, 1952	KBMT.....	31	Apr. 5, 1954
Coastal Bend Television Co., Corpus Christi, Tex.	July 24, 1952	KVDO.....	22	May 7, 1954
Trinity Broadcasting Corp., Corpus Christi, Tex.	July 18, 1952	KTLG.....	43	-----
Trinity Broadcasting Corp., Dallas, Tex.	Oct. 22, 1952	KLIF-TV.....	29	-----
R. L. Wheelock, et al., doing business as UHF Television Co., Dallas, Tex.	June 20, 1952	KDTX.....	23	-----
KNUZ Television Co., Houston, Tex.	Oct. 7, 1952	KNUZ-TV.....	39	Oct. 8, 1953
Shamrock Broadcasting Co., Houston, Tex.	Aug. 13, 1952	KXYZ-TV.....	29	-----
R. L. Wheelock, et al., doing business as UHF Television Co., Houston, Tex.	June 20, 1952	KTVP.....	23	-----
Arlington James Henry, trading as East Texas Television Co., Longview, Tex.	June 25, 1952	KTVE.....	32	Oct. 8, 1953
Marshall Television Corp., Marshall, Tex.	May 5, 1953	KMSL.....	16	-----
W. W. Lechner, doing business as Alamo Television Co., San Antonio, Tex.	June 30, 1952	KALA.....	35	-----
Jacob A. Newborn, Jr., Tyler, Tex.	Nov. 17, 1952	KETX.....	19	July 28, 1953
Albert B. Alkek, doing business as KNAL Television Co., Victoria, Tex.	June 30, 1952	KNAL-TV.....	19	-----
Central Texas Television Co., Inc., Waco, Tex.	July 21, 1952	KANG-TV.....	34	Oct. 10, 1953
Piedmont Broadcasting Co., Danville, Va.	do.....	WBTM-TV.....	24	Jan. 7, 1954
Peninsula Broadcasting Corp., Hampton, Va.	July 14, 1952	WVEC-TV.....	15	Aug. 4, 1953
Eastern Broadcasting Corp., Newport News, Commonwealth Broadcasting Corp., Norfolk, Va.	June 30, 1952	WACH.....	33	Oct. 2, 1953
Winston-Salem Broadcasting Co., Inc., Richmond, Va.	Aug. 8, 1952	WTOV-TV.....	27	Oct. 16, 1953
Dec. 31, 1952	WOTV.....	29	-----	
Seattle Construction Co., Inc., Seattle, Wash.	Nov. 23, 1953	Unassigned.....	20	-----
KVAN, Inc., Vancouver, Wash.	June 25, 1952	KVAN-TV.....	21	-----
Cascade Broadcasting Co., Inc., Yakima, Wash.	Aug. 1, 1952	KIMA-TV.....	29	July 10, 1953
Appalachian Television Corp., Beckley, W. Va.	May 13, 1953	Unassigned.....	21	-----
Joe L. Smith, Jr., Inc., Charleston, W. Va.	July 18, 1952	WKNA-TV.....	49	Sept. 17, 1953
Fairmont Broadcasting Co., Fairmont, W. Va.	June 30, 1952	WJPB-TV.....	35	Mar. 23, 1954
West Virginia Enterprises, Inc., Parkersburg, W. Va.	Sept. 23, 1952	WTAP.....	15	Oct. 8, 1953
Albert S. Polan et al., doing business as Polan Industries, Wheeling, W. Va.	Dec. 19, 1952	WLTV.....	51	-----
La Crosse Television Corp., La Crosse, Wis.	Apr. 3, 1953	WTLB.....	38	-----
Bartell Television Corp., Madison, Wis.	Dec. 23, 1952	WMTV.....	33	July 8, 1953
Monona Broadcasting Co., Madison, Wis.	Aug. 20, 1952	WKOW-TV.....	27	June 21, 1953
Bartell Broadcasters, Inc., Milwaukee, Wis.	July 8, 1952	WOKY-TV.....	19	Sept. 16, 1953
Midwest Broadcasting Co., Milwaukee, Wis.	Nov. 18, 1952	WCAN-TV.....	25	July 9, 1953
Neenah-Menasha Broadcasting Co., Neenah, Wis.	June 25, 1952	WNAM-TV.....	42	Jan. 13, 1954
Alvin E. O'Konski, Wausau, Wis.	Feb. 2, 1954	WOSA-TV.....	16	-----

HEARING ON STATUS AND DEVELOPMENT OF UHF CHANNELS BEFORE A SUBCOMMITTEE OF THE SENATE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE

Comments of the Federal Communications Commission with respect to miscellaneous factual inquiries raised on the record in the above hearing May 19-21, 1954. Transcript reference cited in connection with each question

Question 1. How many separate ownership interests are there in television?
 Answer. 431.

Question 2. How many licensees own 5 stations? 4 stations? 3 stations?

Answer. Approximately 487 different companies or individuals own the 570 TV stations authorized as of May 1, 1954. A total of 51 companies or individuals

had either majority or substantial minority ownership interests in more than one TV station. A breakdown of these ownership interests is as follows:

Number of stations in which a majority or substantial minority interest is held	Number of companies or individuals holding such interest	Number of stations involved
5	4	20
4	5	20
3	10	30
2	32	64
Subtotal 2 or more	51	134
1	436	436
--	487	570

Of the 377 stations on the air as of May 1, 1954, there were approximately 304 separate companies or individuals owning such stations.

Question 3. How many communities have 4 or more commercial VHF stations? 3 or more commercial VHF stations?

Answer. Seven communities have assigned to them 4 or more commercial VHF stations. A total of 37 communities have assigned to them 3 or more commercial VHF stations.

Question 4. How many VHF and UHF canceled CP's were transferred or sold?

Answer. Two UHF stations were transferred from their original owners to new owners prior to the cancellation of the stations' authorizations. These were KRTV, Little Rock, Ark., and KCTV, Kansas City, Mo. In addition, 1 UHF authorization and 1 VHF authorization were transferred from their original owners to new owners after the stations had gone on the air. Subsequently, the new owners of these stations shut down the stations' operation with a request that the CP's be retained pending future developments and reorganization.

Question 5. To what extent are UHF stations denied access to network programs?

Answer. Based on the Commission's study of network programming during the week of March 14-20, 1954, the average UHF station in cities of 250,000 and over population carried 19 hours of network programs during that week; the average postfreeze VHF station in cities of the same size carried 37 hours of network programs. In cities under 250,000 population, the average UHF stations carried 14 hours of network programs during that week while the average postfreeze VHF in that city size carried 15 hours.

In the 34 cities where both VHF and UHF stations were in operation during that week, the average VHF station in those cities carried 44 hours of network programs and the average UHF station carried 14 hours. Of the 11 hours of network programs listed among the Top Ten programs (by 3 different research organizations) the average VHF station in the VHF-UHF cities carried 5 of these 11 hours while the average UHF station carried 1 hour.

Question 6. Were the UHF applicants radio people or were they newcomers?

Answer. Approximately 2 out of 3 UHF authorizations were issued to persons or companies operating radio broadcast stations.

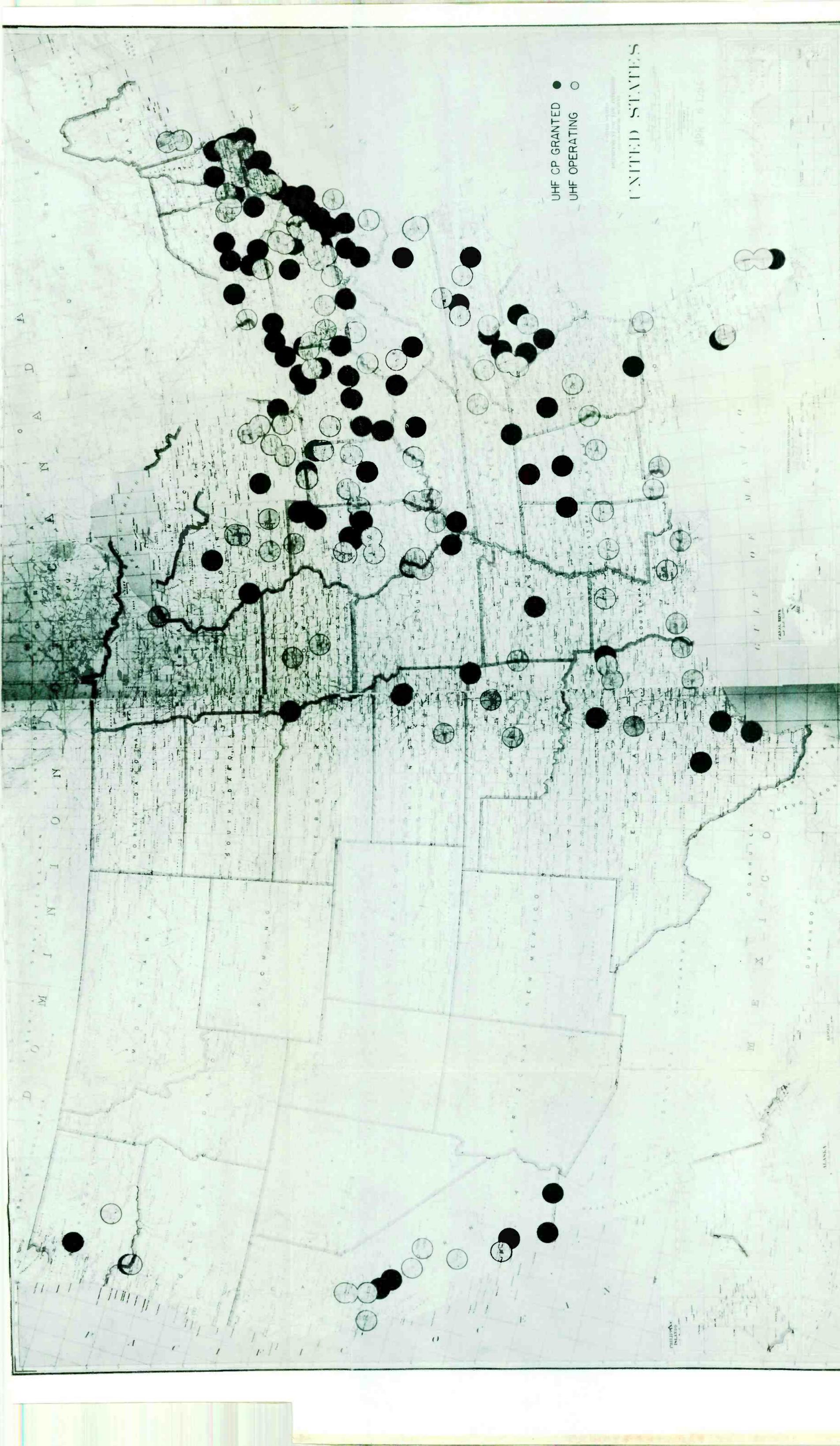
Question 7. Is there any appreciable difference in the cost of UHF and VHF stations?

Answer. Based on data reported by postfreeze licensees, the average construction cost of the 109 VHF stations was \$376,000 compared to \$300,000 for the average cost of 100 UHF stations.

Question 8. What percentage of UHF stations are solvent at the present time?

Answer. It is not possible to state the number and percent of UHF stations which are solvent at the present time, since the Commission does not have information on the current balance sheet items of the UHF licensees. In order to answer this question it would be necessary to have current data concerning each UHF station on the amount of its available working capital and other current assets as well as the amount of its current liabilities.

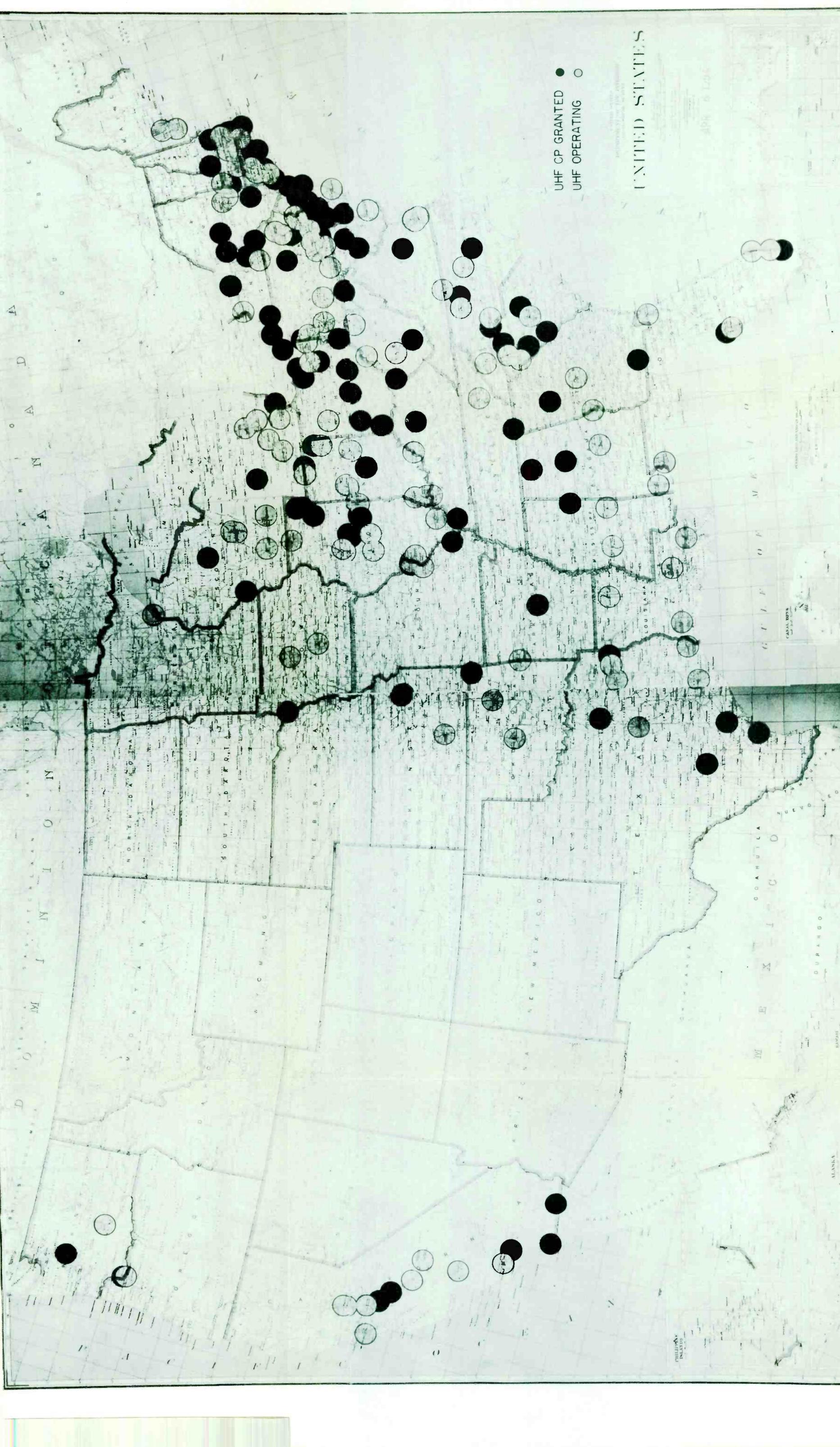
In terms of profit and loss, however, the Commission's survey of 87 UHF stations during the first 3 months of 1954 revealed that 13 were operating



UHF CP GRANTED ●
UHF OPERATING ○

UNITED STATES

APR 6 1966



PULLIQUAN ISLANDS

ALASKA

CASAL DORA

PERMANENT RESIDENCE

profitably during that period. Of the remaining 74 UHF stations which reported a loss for this period, 10 were profitable in 1 or 2 months of the period; 11 were approaching a break-even point on a month-by-month basis; and 53 were operating with continuing substantial losses in each month. Of these 53, 8 stations had ceased operating by May 1, 1954.

Similar data for 88 postfreeze VHF stations showed that 33 reported a profit during the same period. Of the 55 reporting an overall loss for the period, 20 reported a profit in 1 to 2 months of the period; 12 were approaching a break-even point on a month-by-month basis; and 23 were operating with continuing substantial losses in each month. Of these 23, 1 had ceased operating by May 1, 1954.

Question 9. How much has radio advertising dropped off in the last 5 years?

Answer. Between 1948 and 1953 total expenditures for radio advertising increased by approximately 15 percent. During this period expenditures for national radio advertising declined by about 2 percent, while expenditures for local radio advertising increased by about 48 percent.

Of the 1,813 operating AM radio stations in 1948, 581, or 32 percent, reported losses for the year. In 1952, of the 2,312 operating AM radio stations, 468, or 20 percent, reported losses for the year.

Question 10. How many radio stations own television stations?

Answer. Approximately 3 out of 4 of the 570 authorized TV stations are owned by companies or individuals operating radio stations.

Question 11. What percent of the station's total revenues comes from network, national spot, and local advertising?

Answer. The average postfreeze TV station in 1953 derived 23.4 percent of its total time sales from network advertising; 44.3 percent from national spot advertising; and 32.3 percent from local advertising.

Question 12. How long does a TV set owner keep his set before buying a new one, i. e., what is the average life of a TV set?

Answer. It is estimated that the average TV set is turned in for a new set after 6 or 7 years.

Senator POTTER. Thank you, Mr. Hyde.

We will now recess until 2 o'clock. The Chair will endeavor to secure a more adequate hearing room. If you should come back at 2 o'clock and find someone at the door, he will inform you that the committee will meet in another place. However, I forewarn you that, if we can secure another hearing room which will accommodate all the people who are interested, I shall try to do so. If not, we shall meet here at 2 o'clock this afternoon.

(Whereupon, at 12:07 p. m., the subcommittee recessed until 2 p. m.)

AFTERNOON SESSION

The Subcommittee, No. 2, on Communications, reconvened at 2:03 p. m., in room 318, Senate Office Building; Senator Charles E. Potter (chairman of the subcommittee) presiding.

Senator POTTER. The committee will come to order. If anyone is here, under the misapprehension that this is still the McCarthy-Army hearing, I can assure him that it is not.

I believe we concluded, this morning, with the statement by the Chairman of the Federal Communications Commission, Mr. Hyde. Miss Hennock, Commissioner of the Federal Communications Commission, is present, and will state her views on this subject.

STATEMENT OF COMMISSIONER FRIEDA B. HENNOCK, OF THE FEDERAL COMMUNICATIONS COMMISSION

Senator POTTER. All right, Miss Hennock. Do you care to give your statement at this time? First, I may say we are always pleased to have you grace our committee meetings with your presence, at any time; we look forward to it.

Miss HENNOCK. Thank you very much, Mr. Chairman. And to you Senator Bowring, I want to pay my respects, as the first woman to serve on this committee. I am sure from the statements I have read that you are a great tribute to our sex.

Senator BOWRING. I hope I shall be as great a tribute as you have been, Miss Hennock.

Miss HENNOCK. Thank you very much.

Mr. Chairman and members of the committee, my name is Frieda B. Hennock. I am a Commissioner of the Federal Communications Commission. I want to thank you for the opportunity to appear before you. I came here because I feel that, though I may be imposing on your limited time, the UHF problem is so critical that my views should be made known to you.

Television is at the crossroads. For the success of the nationwide competitive television system is completely and inextricably bound to the fate of UHF.

Television can be a service limited to 12 VHF channels, or it can occupy 82 channels—depending upon whether or not UHF is in existence. It can be a service with big city operators controlling the programming from two strong networks and perhaps a weak third network, with a fourth unable to survive. It can serve the large corporations; or it can get into every community and give the small-business man an opportunity to get on television at a reasonable rate. It can be in the hands of some 2,000 licensees with diversified ownership and interests, who will provide some 1,300 communities with local means of expression, and our country with an exchange of diverse ideas, political and otherwise; or it can simmer down to a few stations in each State dominated by a few large interests. In short, on the solution of the economic problems of UHF depends the future of a truly nationwide competitive television system. No consideration of public interest transcends in importance the necessity for such a system of television broadcasting. The alternative is monopoly—a condition which free enterprise abhors. The choice must be made now.

These are bold statements, but television is a bold medium. Its course during our lifetime depends on the outcome of these historic hearings. We must accept this challenge. For the mere passage of time without immediate action will make the whole problem academic. The improvements of the art itself depend on the fate of UHF. If just a handful of people control this medium, they will not compete with each other. There will be no need for it and, as in every monopoly, improvements will be slow in coming. If this is allowed to happen, the public will be the loser. For in a field with so many improvements possible, this medium can afford competitive advantages to all—the broadcaster, the consumer, and the set-holder.

With the benefit of hindsight, I am now convinced that the approval of intermixture was a basic mistake. It has enabled VHF to smother UHF. I take my due share of the blame for creating this problem. But that is not enough. Something must be done now in order to enable UHF to survive. From a technical point of view, UHF can, under the present table of assignments, provide a nationwide service. I have seen the UHF signals. The quality of the UHF picture is every bit as good as VHF. The real question is what can be done about the UHF problem at this stage? I have five specific recommendations to make.

My first recommendation is to impose an immediate freeze on all grants of new construction permits for VHF stations and new allocations of VHF channels.

UHF stations should have had a head start from the beginning over VHF to enable them firmly to establish themselves in their community and to overcome the initial handicap of service in a new part of the spectrum. This was needed to allow UHF to compete with VHF licensees who, at the time the "freeze" was lifted in April 1952, enjoyed an advantage of 15 million VHF sets in the hands of the public unable to tune to UHF. Now with the number of VHF sets almost doubled, the opening of every new VHF station with its wider coverage still more retards the chances of success of the UHF station whose service area it blankets. Any map depicting the coverage of VHF and UHF stations will show that virtually every community with an existing or prospective UHF station will also receive one or more viewable VHF signals from distant stations. With the set conversion problem what it is, this represents a dire threat to these UHF stations. This threat is accelerated through mergers and "drop-outs." These mergers and "drop-outs" can still take place in pending competitive proceedings.

The situation is further aggravated by what has descriptively become known as "drop-ins." Since June 1953 (when the Commission commenced accepting petitions for amendments of the table of frequency allocations), new VHF channels have been "dropped-in," in addition to those provided in the sixth report and order. Requests for more "drop-ins" of VHF's are presently pending before the Commission. Typically these additional VHF channels have been "dropped-in" to communities which either have a UHF channel available but not applied for, or a UHF station on the air, or are in small communities adjacent to large cities which appear profitable for an additional VHF station. Each such "drop-in," therefore, spells economic disaster for the UHF station on the air, and kills any prospect of anyone applying for a station on the available UHF channels, because of the known fact that advertisers and networks gradually whittle away the flow of programming and advertising to their UHF outlets upon the opening of a VHF station in the same area.

Unless this race of "drop-outs" and "drop-ins" is stopped immediately, the extinction of many additional UHF stations is threatened, and the entire problem of survival of UHF stations in intermixed markets and maintenance of any adequate competitive television service in these markets will have been rendered academic. An immediate suspension of all VHF grants as well as a discontinuance of new VHF allocations or "drops-ins" would give those UHF licensees on the air courage to continue, and much needed encouragement to the holders of UHF construction permits to go ahead and build stations; it would give them an opportunity to bring and continue to render a first local TV service to many communities which they do not now have if the licensing of VHF stations continues at its present rapid rate; and it would reassure the UHF operators, construction permit holders and applicants that they may rely on the table of allocations in estimating their economic prospects.

Of course, the VHF applicants affected by the freeze on VHF grants should be given an opportunity to apply for a UHF channel in place

of the VHF one. I am sure that in every case an appropriate UHF channel can be found.

That was my most important suggestion.

My second recommendation is to cut back the power and antenna height of VHF stations, to approximate the coverage which UHF stations may presently obtain.

Admittedly one of the major difficulties facing UHF is the overlapping service areas of large VHF stations, causing blanketing of UHF stations. The most obvious and forthright remedy is to cut down these service areas. The coverage of VHF stations in many cases is 3 to 4 times as large as that of today's UHF stations.

The question of power and antenna height concerns in essence the relationship between the VHF and UHF portions of the spectrum, as well as the development of television in the smaller communities of the country. Certainly a system comprising only a few hundred VHF stations, each with the greatest possible coverage, would be most profitable from the point of view of the existing VHF stations. This would, however, indeed create a monopoly for the large city VHF's and annihilate the prospects of a nationwide competitive service for 1,300 communities, depriving scores of cities of their sole opportunity for local self-expression.

By cutting back the power of these powerful VHF stations we would insure that most, if not all, UHF stations in UHF only cities would stay in business. For, as soon as this cutback in power is accomplished, the Commission should issue show-cause orders to the VHF licensees and permittees with a view to requiring them immediately to comply with the new power limitations. As to the applicants and prospective applicants in UHF only communities, they would be assured that these communities would remain that way. This, in turn, would encourage the building of more UHF stations as a means of local expression, and contribute to the achievement of a nationwide competitive television service.

My recommendation to cut the power of VHF stations finds precedent in the history of broadcasting. In 1938 when it appeared that the Commission was about to inaugurate an era of super power in the AM broadcast field, the Senate, at the instance of Senator Wheeler, the then chairman of the Senate Interstate and Foreign Commerce Committee, adopted a resolution which stated that it was the sense of the Senate that no AM station should be authorized by the FCC to operate with power in excess of 50 kilowatts. (S. Res. 294, 75th Cong., 3d sess., 1938). This resolution—and it is only a resolution—has been honored by the FCC to this very day.

My third recommendation is to require VHF transmitters to be located in close proximity to the principal community to be served and the station's service confined to the area which would not overlap the coverage of UHF stations in other communities.

This is a corollary of the power problem. Under the present rules of the Commission (sec. 3.685) there is nothing that ties the transmitter to any specific location. The transmitter of a TV station may be located at any distance from the community to be served by it on the channel assigned thereto, so long as the station will provide a signal of the minimum prescribed strength over the whole of that community. As a result, an applicant is free to select a transmitter site many miles distant from that city to which a channel is assigned in order to serve

a larger city and a more desirable market. Two consequences follow: (1) Some of the population around city A that legitimately expects service from the channel assigned to that city is deprived of the service, and UHF operators in city B are pitted against another VHF competitor. To prevent this, applicants should be required to locate their transmitters not more than 5 miles, for example, from the community they are expected to serve under the Commission's allocations plan, except upon a very strong showing that a site more distant than 5 miles is peculiarly suited to serve the community and will not result in serving another.

I am aware that all three recommendations may be criticized on the ground that their adoption would result in a loss of VHF service to the areas involved. To this I would reply that the lost VHF service would soon be replaced by new UHF service which would not only compensate the areas concerned, but also bring closer to reality a nationwide competitive service.

As my fourth recommendation, I urge the adoption of Senator Johnson's bill to remove the excise tax from UHF-equipped receivers. This bill, if enacted into law, would give the manufacturers incentive to produce immediately all-channel receivers, UHF converters and tuners. It would offer the public an advantageous purchase. Some people may say that this is a bounty. Perhaps so; but it would not be the first time that the Congress has indulged in bounties to stimulate a pioneering industry in the public domain. And I want to commend Senator Johnson of Colorado, because this is the last year of his service in the Senate. I think it only proper and fitting that he should have introduced such a fine bill, based on his many years of experience in the protection and furtherance of the public interest; and this is certainly that kind of bill.

Senator POTTER. If I may comment at that point, I think the members of the committee and, in fact, all members of Congress, as well as Senator Johnson's many friends throughout the Nation, regret that the distinguished Senator from Colorado has decided not to return to Washington. He is probably the leading authority in the Senate in this great field of communications, and the termination of his service here will be a great loss to the Nation. I, as one member of the committee, highly endorse Senator Johnson's efforts to have the excise tax removed from UHF facilities.

Miss HENNOCK. As my fifth recommendation, I favor the general objectives of Senator Bricker's bill, S. 3456. For the life and death of a television station depends upon its ability to secure network affiliation; to the extent that they cannot do so, they are unable to obtain popular programs and advertising revenues, and cannot exist. This measure holds promise of breaking the vicious cycle of not enough UHF receivers because there are no popular programs on UHF—no popular programs on UHF because there are not enough UHF receivers.

I realize that there are those who have recommended that the solution for UHF is to move all television into the ultrahigh band; others urge that only UHF stations should be permitted to use subscription television and color television. These are important measures that merit full hearing and careful long-range planning. They must not be confused with what is needed now, and that is immediate emergency measures.

I want to go back to a point made earlier, that the principal problem of UHF is intermixture. I urge you to direct the Commission to make a study of the matter and report back within 6 to 9 months as to the steps that can and should be taken in order to abolish intermixture. Of course, there would be no point in such a study, unless the freeze I recommended is imposed, and imposed immediately.

There will be those who will contend that a VHF freeze is too extreme; that dire consequences will result therefrom, especially to avoid VHF license seekers in large metropolitan areas. You heard some reference made this morning to the value of the freeze in that area. I think that a freeze imposed now on VHF when there are over 370 stations on the air in order to preserve 85 percent of the television spectrum, is far less extreme than the imposition of a 3½-year freeze in 1948 when there were only 108 stations authorized, and 1½ million sets in the hands of the public. As a matter of fact, I do not think there were over 60 or 70 stations on the air in 1948. They did build up to 108, because they had already been authorized. I repeat: I think that a freeze imposed now on VHF when there are over 370 stations on the air, in order to preserve 85 percent of the television spectrum, is far less extreme than the imposition of a 3½-year freeze in 1948 when there were only 108 stations authorized. This is so, especially since the proposed freeze will apply only to VHF, and anyone seeking to extend television service will be able to get a UHF grant and thus help establish a truly nationwide competitive service.

Where so much spectrum space is involved for the most important medium of mass communications, certainly the proclamation of a freeze now and an announcement of a firm intent to act and employ every measure necessary would, in and of itself, produce a salutary effect. This is inherently within the jurisdiction of this committee and the regulatory Commission whose rulings so vitally affect the broadcasting industry.

Mr. Chairman and members of the committee, I realize that this problem is not easy at this time, but I feel confident that attacking it on all fronts and immediately will produce a complete and satisfactory solution.

I thank you for your patience and courtesy.

Senator POTTER. Miss Hennock, you have made five recommendations. Would you tell the committee whether any or all of the five recommendations were taken by the Commission?

Miss HENNOCK. Mr. Chairman, you mean recently?

Senator POTTER. Yes.

Miss HENNOCK. Through the years, when the cease-and-desist order was first issued, in 1952, and the Commission increased the power and the height of the VHF, the matter was taken up by me, because I resented it very vigorously and opposed it. The problem was that if reception were blocked by these large VHF stations, it was impossible to get the program; therefore, it was impossible to get the people to buy the sets; there would be no incentive for them to do so. That is reflected in our rules issued in April 1952.

Senator POTTER. Miss Hennock, I want to thank you for your comprehensive statement. It gives us additional views with which to attack this problem.

Are there any questions? Senator Schoeppel?

Senator SCHOEPEL. No, thank you. I am sorry I was late.

Senator POTTER. Senator Hunt?

Senator HUNT. What percentage of UHF stations are solvent at the present time and are on the air?

Miss HENNOCK. Senator Hunt, that is a very good question; I am glad you asked it. If a large percentage of them are still solvent, they will not remain so if they keep on granting VHF construction permits. I have already seen where the manufacturers are not going into the production of VHF converters, because the demand does not exist, and because they know that of the 311 plants that were given construction permits only 127 are on the air; and they also know that some of them are just holding on, breathing their last breath, you might say; and there will be more, in the next 6 months or a year. You will see a deterioration of the present situation; and, the more of the VHF's that are opened up in other areas, and if there are any more of these blackouts, I do not know how many will be left—I would say, just a handful. I hate to paint such a dark picture, in contrast to the optimistic picture to which I pointed in my own statement. I was trying to show you that there was nothing inherently wrong with UHF. Today, it is a fine service; it can serve television adequately; but, unfortunately, it has not been given a chance to flourish, and they have closed up—why? My answer to you is that I do not know. I am very, very much afraid that not very many will be found.

It is not possible to state the number and percent of UHF stations which are solvent at the present time, since the Commission does not have information on the current balance-sheet items of the UHF licensees. In order to answer this question it would be necessary to have current data concerning each UHF station on the amount of its available working capital and other current assets, as well as the amount of its current liabilities.

In terms of profit and loss, however, the Commission's survey of 87 UHF stations during the first 3 months of 1954 revealed that 13 were operating profitably during that period. Of the remaining 74 UHF stations which reported a loss for this period, 10 were profitable in 1 or 2 months of the period; 11 were approaching a break-even point on a month-by-month basis; and 53 were operating with continuing substantial losses in each month. Of these 53, 8 stations had ceased operating by May 1, 1954.

Similar data for 88 postfreeze VHF stations showed that 33 reported a profit during the same period. Of the 55 reporting an overall loss for the period, 20 reported a profit in 1 or 2 months of the period; 12 were approaching a break-even point on a month-by-month basis; and 23 were operating with continuing substantial losses in each month. Of these 23, 1 had ceased operating by May 1, 1954.

Senator HUNT. I think it is tremendously interesting that so many would apply for UHF's, with this situation later developing, of course. We are, so to speak, doing Monday morning thinking, now. It would really seem to me that the signs were pointing very clearly. I cannot understand how so many of them got into it.

Miss HENNOCK. Well, they were not clear, Senator. When they got our allocations plan, they had a right to assume that a city without UHF in the plan would remain so, and that that would be an ultra-high area. But, suddenly, stations from the larger cities blew in

and covered that city. To take a specific example, Atlantic City had a right to assume that if UHF was confined to Atlantic City—and I am just taking it at random—it would be a UHF city. Immediately another station went on the air; which, as I remember, recently shut down. They immediately went on the air, serving Atlantic City with television. But in May the new Philadelphia station upped its power and blacked out Atlantic City. There were only so many converters. The public did not feel altruistic. When they could get three stations from Philadelphia, why did they want to undertake to have a local UHF?

Senator HUNT. Who were the applicants for the UHF? Were they people of the radio and television industry, or were they amateurs?

Miss HENNOCK. Approximately 2 out of 3 UHF authorizations were issued to persons or companies operating radio broadcast stations. A great many of them were experienced, and are very fine, reputable, practical businessmen; and they had very fine operations. As a matter of fact, I have seen some of their individual operations, and I daresay they could get a network, in terms of advertising dollars.

Senator HUNT. Is there any appreciable difference in the cost of the UHF and the VHF stations?

Miss HENNOCK. I should say not, Senator, on a long-range basis. Based on data reported by post-freeze licensees, the average construction cost of the 109 VHF stations was \$376,000 compared to \$300,000 for the average cost of 100 UHF stations. It means very little, to them, that extra bit of money for higher power, with respect to making or breaking that station. They always knew they had to have higher power. They knew that they could be dropped out. That is the thing that has forced an awful lot of the UHF's out of business. We, of the Commission, settled those rules by the announcement of the April 1952 decision.

For instance, since you have in a city like Kansas City only 1 VHF on the air, you had just that 1 with which to compete; and so it would take several years, in a hearing, to permit the next VHF on the air. But suddenly, they had dropped out, and there were 2 new VHF's. You could not compete against those, and then you were left without a network program.

Senator HUNT. You say they first had 1 VHF, and then 2?

Miss HENNOCK. Two of them, and one was a dropout. The other was another kind.

Senator HUNT. Would you tell the committee just what you mean by saying one of them was a dropout? I think I know what you mean by a dropin, but I do not know what you mean by a dropout.

Miss HENNOCK. That is right. I shall make myself a little clearer. Assume more than one applicant filed for a channel and therefore a competitive hearing must be held. They had both filed for that channel—channel 6, let us say—in Kansas City. Then—or, take any channel. Take St. Louis, or any one of the other large cities. One of the applicants got it.

There is no typical dropping out. There are different types of dropping out. Assuming that one decided to drop out, and, in consideration of the amount of money he spent for such things as engineering fees, he is induced to withdraw his application. He will have no plan to compete with the one remaining. Therefore, that remaining

applicant—there were two competitors—would apply, on a Tuesday afternoon, and get an immediate grant of a VHF construction permit on Wednesday morning. That did away with months and months of litigation and hearings between those two competitors. In other words, there was an impetus to get as many VHF's as possible on the air, in a hurry; and to the extent that they got on, in a hurry, they did so at the expense of the development of the UHF stations, because they did not give those UHF stations an opportunity to develop a following, to get the sets converted, to get a viewing audience, and to establish a position sufficient to warrant advertising on a network, for that UHF station.

Senator HUNT. I do not quite get what you have said to us, as yet. You have two plans for VHF stations. They are very valuable, provided they are supported. Now, by a dropout, do I correctly understand you to mean that they act together for one company, and only get one company?

Miss HENNOCK. Right. Or, one of them drops out, leaving the other. There are different types of dropouts, as I indicated. There may be a merger of the 2 applicants into 1 corporation, or it may be done by various other means. They can get together and occupy and use the 1 channel; or they may arrange it so that 1 applicant will drop out, and the other applicant remain.

Senator HUNT. But as to that channel, it is still available to anyone who wants to make an application for it?

Miss HENNOCK. I know.

Senator HUNT. Now, that is what I want you to explain.

Miss HENNOCK. In order to prevent a new applicant from coming in as the remaining applicant—now, perhaps it would be better if I illustrated it, using Chairman Hyde as an example. Let us assume that Chairman Hyde and I were competing for a channel—we are not that practical; we are just poor public servants—that Chairman Hyde and I talked it over, and I could convince the chairman—he could probably convince me—and he would assume whatever expense it took for me to file my application, with lawyers' and engineers' fees, and so forth—and I hope there are no other considerations attached, for I would have strong objections—but, anyway, he is a remaining applicant, and he convinces me I should drop out. I would withdraw my application, and the chairman then files new papers, on a Tuesday afternoon, and he does it about 5 o'clock, so that no other applicant can get in; and by Wednesday morning he gets a break. He would get around to the Commission. It would be taken up on our agenda Wednesday morning.

Senator HUNT. What would happen to your channel if Mr. Hyde got one?

Miss HENNOCK. I am sure I am no longer concerned.

Senator HUNT. But the channel is still available?

Miss HENNOCK. What channel are you talking about? There was only one channel.

Senator HUNT. Well, was there only one? I thought there were two.

Miss HENNOCK. No; only competing applicants for one channel.

Senator HUNT. I thought you were each going after two.

Miss HENNOCK. Now, what would happen to that UHF channel—that is what I was talking about—in this city that had spent \$1 million

to get started and set upon the air? It shouldn't happen to my worst enemy. He's a dead duck. [Laughter.]

Senator POTTER. Do you have any questions, Senator Bowring?

Senator BOWRING. No.

Miss HENNOCK. It is very difficult for me to come up here and talk to you gentlemen and to Senator Bowring, because this is a very difficult problem, but I cannot conceive that 85 percent of our spectrum space is going by the board in an important medium like television.

If radio jumped by leaps and bounds in a few years to 2,600 AM stations, the possibilities of this medium on our entire Nation in a few short years is just limitless, and it is one of the most important and dynamic industries in the country. On this spectrum space depends that medium. If you limit it to this space and it is there, what you do here will determine its course for many years to come, perhaps in our lifetime.

Senator POTTER. Thank you very much, Miss Hennock.

The next group of witnesses are from the UHF Coordinating Committee, represented by Senator Scott Lucas. The various witnesses are under your control, Senator, and you may present them at will.

I would like to say, first, that we are pleased to have you here, with your great legislative record as a Member of the United States Senate: it is indeed an honor to have you present the case in behalf of the UHF Coordinating Committee.

STATEMENT OF SCOTT LUCAS, COUNSEL, UHF COORDINATING COMMITTEE

Mr. LUCAS. Mr. Chairman, you are very kind in those remarks. Obviously, I am grateful. It seems to me I have seen you in this committee room before, however.

Senator POTTER. This is a much more pleasant experience, however, Senator.

Mr. LUCAS. Mr. Chairman and members of the subcommittee; my name is Scott W. Lucas. I am a member of the law firm of Lucas & Thomas, with law offices in the city of Washington, D. C. Benedict P. Cottone, who will testify later in these hearings, is one of our associates.

We appear before your committee on behalf of the UHF Industry Coordinating Committee, an organization composed of some 70 UHF station owners scattered throughout the Nation. The names of these stations and owners will be submitted later for the record.

Mr. Chairman, I became a Member of Congress the year following the passage of the Communications Act of 1934, and served both in the House and Senate until January 1951. I have had occasion to study this measure from time to time, with the result that I have a general working knowledge of this extremely important piece of legislation as it affects the public interest.

In addition to the foregoing, our firm has had some active experience through litigation in this field.

Mr. Chairman, the 70 station owners that we represent are men of excellent character, as has been testified to by the fact that their applications for television permits were granted by the Commission. They are leaders in the economic and social life of their respective communities. They have laid out and expended large sums of money

in good faith, thoroughly believing that they would be able to make a reasonable profit on their investments, as well as serving the public interest. Their venture into the communications field was based upon the Commission's own principles of assignment of television channels.

But, Mr. Chairman, the principles laid down by the Commission, and upon which their investments were made, have been altered and modified. The rules have been changed in the middle of the game, and our clients are caught in the squeeze. We candidly admit that we have an ax to grind. However, we come before your committee in a cooperative spirit. We desire to be helpful, and we feel that the witnesses, including experts, as well as certain individual station owners who have suffered irreparable loss, will give great aid and comfort to this committee in helping to find a solution to a most difficult problem.

In conclusion, I say with the utmost sincerity that unless affirmative relief soon comes to this palse of the television industry, the great majority of UHF stations are doomed to die. I am confident this statement will be borne out by witnesses to follow, who will advise the committee of their financial plight and the reasons therefor. They recognize their danger. They know that survival is impossible unless relief is granted.

In conclusion, Mr. Chairman, I desire to thank you and members of the subcommittee as well as all members of the Interstate Commerce Committee who have been responsible for the calling of this hearing. It is timely. In fact, it is almost too late because of the fact that some of the stations are in peril as a result of the policy that the Federal Communications Commission has laid down, and we are grateful to you, Mr. Chairman and members of the committee.

Senator POTTER. Thank you, Senator. I think we are cognizant of the fact that this committee has no pat answers. We are seeking information. It is a complex problem and we hope that the hearing will bring some light on this question so that solutions can be brought before it which will aid in saving the UHF band.

Mr. LUCAS. Precisely so, and I should conclude further by saying that members of this committee are all active individuals in the UHF field and have spent a good many hours, through the experts, engineering and otherwise, in attempting to provide this committee facts upon which you can base definite and affirmative conclusions.

Senator POTTER. Thank you.

Mr. LUCAS. Mr. Thoms is our next witness.

STATEMENT OF HAROLD THOMS, PRESIDENT, STATION WISE AND WISE-TV, ASHEVILLE, N. C.

Mr. THOMS. Mr. Chairman and members of the subcommittee, I am president of WISE and WISE-TV, Asheville, N. C.; secretary and supervisor of WAYS and WAYS-TV, Charlotte, N. C.; a minor stockholder of WTSK-TV, Knoxville, Tenn.; and secretary of WCOG, which holds a construction permit for a television station in Greensboro, N. C. All of my television interests are in the UHF band.

I have been asked to serve as chairman of the UHF Industry Coordinating Committee, which consists of a group of UHF stations operating in every part of the country. Our present membership is 70 stations.

The UHF Industry Coordinating Committee was organized shortly after it was announced that this subcommittee had been formed to hold hearings on the UHF problems. I wish to state that every broadcaster who has become a member of this group saw in the announcement of these hearings a bright ray of sunshine on UHF breaking through theretofore black and ominous clouds. It was an event which galvanized the UHF broadcasting industry into what I fairly believe is a solid and unified front to present their problems to this subcommittee, as well as the results of many, many weeks of hard work by these broadcasters to put together their best thinking as to the solution to those problems.

I wish to conclude now by expressing the deep sense of gratitude of UHF broadcasters throughout the country to the Congress and to the Senate committee of which this subcommittee is a part, for giving us this opportunity to lay our problems before you. We hope, and will most certainly make every effort, to give you every possible measure of assistance, which I know that a proper decision as to these problems will require.

Senator POTTER. Do you have a UHF station on the air now?

Mr. THOMS. Yes, sir; both in Asheville and in Charlotte.

Senator POTTER. You have two stations?

Mr. THOMS. Yes, sir.

Senator POTTER. How long have they been on the air?

Mr. THOMS. Ever since 1953. Asheville has been on the air since August 2, 1953.

Senator POTTER. And do you have to compete with VHF?

Mr. THOMS. Outside coverage only, no coverage from within. There is a VHF assigned and it will probably have inside coverage about September.

Senator POTTER. Have you experienced any difficulty in having the sets, in the public purchasing sets that will receive the UHF signal?

Mr. THOMS. In Asheville, I was particularly fortunate in that I secured the network contracts from NBC, CBS, ABC, and Du Mont, and with the strong programing that we were able to secure, we have had a reasonable amount of success with the station and to this date it has not suffered too badly from UHF.

We did have a conversion problem. We still have it and are working with it every day. We have used all the ingenuity and experience and backlog of our 13 years of experience in AM, mine particularly, to apply to television in Asheville, and I think we can safely say that it has only been because we have not had any VHF coverage from within that we have, to this date, not lost very much money.

Senator POTTER. Did I understand you to say that you are affiliated with all four networks?

Mr. THOMS. Yes, sir.

Senator POTTER. So you have good programing?

Mr. THOMS. Yes, sir.

Senator POTTER. Have you had any problem with your transmission power, the equipment, securing the equipment necessary to transmit your signal?

Mr. THOMS. I think I can safely say, and it will probably be checked up by other testimony, that we have had fairly successful luck with what might be termed experimental equipment.

Senator POTTER. What power transmission do you have?

Mr. THOMS. One thousand watts and a 27-gain antenna with an effective radiated power of 24,000 watts.

Senator POTTER. How far out can you reach?

Mr. THOMS. Well, I would hate for Madison Avenue to find this out.

Senator POTTER. Is it grade A or grade B service areas?

Mr. THOMS. I can say that it has lacked considerably in reaching the projected coverage or circulation that we had anticipated.

Senator POTTER. That sounds like many of the answers we got here last week.

Have you any questions, Senator Schoeppel?

Senator SCHOEPEL. I take it that the men who will follow you will indicate as they see it what the problems are under the present rules established by the Federal Communications Commission and which are causing you people, as you see it, this difficulty.

Mr. THOMS. That is right, sir.

Senator SCHOEPEL. That is all.

Senator POTTER. Do you have any questions, Senator Bowring?

Senator BOWRING. No questions.

Senator POTTER. Thank you again, Mr. Thoms.

Will you have your next witness come up, Senator Lucas?

Mr. LUCAS. The next witness is Mr. Fred Weber.

STATEMENT OF FRED WEBER, STATION WPFQ, ATLANTIC CITY, N. J.

Mr. WEBER. Station WPFQ operates AM today. It operated station WPFQ-TV for 18 months until Monday of this week. I have been in broadcasting 27 years, connected with the networks as general manager of Mutual, had the privilege and opportunity to participate in Commission and Senate and House proceedings in connection with the network rules. I was connected with a UHF and radio station in New Orleans, La., prior to residence in Atlantic City.

Senator POTTER. You operated a UHF station for 18 months?

Mr. WEBER. Yes, sir; reluctantly and regretfully discontinued from the air because of lack of ability to continue its operation with pride because of the economic situation that arose and we had built the station for the purpose of servicing the area.

I will present at a later date individual testimony with respect to that operation. At this time the committee has requested me to present the general picture regarding the UHF matter.

The UHF broadcasters throughout the country who have organized themselves into the UHF Industry Coordinating Committee deeply appreciate the privilege and opportunity afforded by these hearings to give to the Congress the facts about the past, present, and future of television in our country. This subcommittee has been constituted for the express purpose of considering the problems of UHF. It is our committee's objective to present to this subcommittee all the facts and experiences of UHF television broadcasters throughout the country which may place those problems into the proper perspective for consideration by the Congress, and to present as well our studied views as to the solution to those problems.

I may say at the outset of my testimony that you will hear many times an expression which you will probably come to regard as hackneyed before these hearings are concluded. I am not going to offer

any apology for my repetitive use of that phrase. I refer, of course, to the phrase "nationwide competitive system."

I will also say at the outset that you will not be kept in suspense as to what we believe is the solution to the problems of UHF. We believe that the basic disparity and inequality now inherent in the present television system of broadcasting must be eliminated by a reassignment of television channels through administrative proceedings, having the goal of doing away with the intermixture of UHF and VHF service in the same areas. We expect to show you from the facts of bitter experience that however laudable was the intention and expectation that VHF and UHF stations could live, side by side, with the hope of healthy competition between the two, that that expectation has proved to be misguided and unrealistic at the present.

The UHF Industry Coordinating Committee fully understands the serious nature of this proposal. It will no doubt be characterized as drastic. If it is, we believe it is more than justified by the more drastic consequences and injury to public interest which are fairly to be expected by the continuation of the two-class system of television which now exists under the present television allocation plan.

The alternative to the remedy we propose is dangerous monopoly of the most potent medium of mass communications and the most powerful force for the molding of public opinion which has ever been developed up to date. We have become accustomed to hear that atomic energy, with its tremendous potentialities for evil, has greater potentialities for good. Let me paraphrase this, to suggest that television, with its tremendous and already-realized potentialities for good, also can have serious potentialities for evil. We honestly believe that the borderline between the good and evil potentialities of television is the point at which it has ceased to be a truly nationwide competitive system and begins to be a monopolistic or concentrated system. If the latter possibility is not fantasy, and we believe it will be very real unless present trends are checked, no remedy which offers reasonable promise of avoiding that result should be considered drastic.

But the remedy we propose is not seriously drastic. We have had reevaluations and changes in existing patterns of radio broadcasting before without undue injury to the public and private interests. It is fairly to be expected that the application of the best brains of Government and industry to the task of working out an allocation system which no longer perpetuates the basic disparities and inequalities now existent in the utilization of the two spectrum systems should be able to produce at an early date, a result which would avoid any serious dislocations of public and private interests.

We have carefully considered other solutions. But we have found after careful study that such solutions merely fringe the periphery of the basic problem and do not go to its core. We believe that these solutions merely attack the result of the problem, not its cause.

We do not wish to be understood as disfavoring any of the many proposals, of which you will hear a great deal, such as measures requiring greater availability to UHF stations of network and other high-quality programs, giving financial assistance possibly to UHF broadcasters, correcting current UHF receiver and transmitter problems, or of making attainment of maximum powers by UHF stations more possible in order to achieve an equality with VHF, excise-tax measures, and many other measures. You will also hear proposals for

subscription television. Also, color television will be brought in as the possible cure, with the suggestion that it is to be expected that color receivers will not perpetuate the class distinction that now exists between UHF and VHF. However, we believe that these proposals are only palliative, and may provide temporary relief. But they just do not go to the cause of the problem.

You may also hear that there is nothing wrong with the present system; that the whole problem lies in the failure of the UHF industry to attract the necessary brains, management, skills, ingenuity, and the other wherewithal that are required for successful operation of successful broadcasters. To these qualities of successful broadcasters will be added the quality of patience and a mental attitude and perseverance to sustain the necessary losses during the so-called development period of UHF. It has been suggested in certain quarters that UHF operators are guilty of faulty business judgment in going into the markets for which the allocation of UHF channel were made. We believe we can show that this kind of thinking is neither logically justified nor fair, and that the problem we have today is not to be attributed to lack of ingenuity, incentive, management skill, or willingness to bear losses, sound business judgment, or any of the like suggestions.

We wish to have it plainly understood that we are not here to throw stones, to cast blame, or to criticize. We are in complete accord with, and commend the sincere purpose and objective which the Commission has had over the years in creating a nationwide competitive television system. We are hopeful that the Commission and we believe that the Commission is still anxious to do everything possible to achieve that result. Historically, its efforts in that direction have been notable, and we believe that this history is worthy of some discussion.

The groundwork of television broadcasting service in this country was laid in the extensive allocation proceedings which the Commission conducted in the year 1945. A whole reallocation of the entire radio spectrum was then undertaken by the Commission. The demands of the many conflicting claimants to frequency space were many and most difficult to equate. Television broadcasting was given at that time a share of the spectrum which everyone recognized could not reasonably be expected to give long-range television service on a nationwide competitive basis.

In the 1945 allocation proceedings, 13 channels, each of 6-megacycle band width, were assigned to television broadcasting. These were contained in that part of the radio spectrum which is known as the very high frequency, or VHF, portion. In its report at the end of these proceedings, the Commission expressly found that the number of channels so provided for television was admittedly inadequate for a truly nationwide competitive system. Looking to the long-range requirements for television broadcasting, the Commission stated that the ultra high frequency, or UHF, portion of the radio spectrum must be relied upon to meet these other requirements. It allocated for experimentation by television broadcasters in the UHF band a block of frequencies between 480 and 920 megacycles.

Shortly thereafter, the Commission adopted rules and standards for utilization of the 13 VHF channels then allocated for commercial television. A table of assignments was adopted which made geographical

assignment of these channels to various communities throughout the United States.

Some of the 13 VHF channels so allocated by the Commission were shared by other radio services. As a result of technical problems found to have resulted through this sharing, the Commission in 1948, after conducting formal proceedings, eliminated the sharing of television channels with other services. In its report in that proceeding, the Commission adverted to the previous recognition of the insufficiency of the VHF channels assigned for nationwide competitive service and reiterated that—

there is insufficient spectrum space below 300 megacycles (namely the UHF band) to make possible a truly nationwide and competitive television system, and such a system must find its lodging higher in the spectrum where more space exists.

By the end of 1948, it became apparent that the demands for television facilities throughout the country could not be provided on the basis of the existing assignment table. In May of that year, in an effort to meet this problem, the Commission instituted the proceedings which somewhat later resulted in the so-called freeze. The freeze order was adopted in order to prevent the complication of the task of making the reassignment of channels which then appeared would become necessary. Following comprehensive engineering studies undertaken by the Commission's staff in conjunction with technical experts of other Government agencies and of the industry, the Commission, on July 11, 1949, proposed an assignment plan which included not only the utilization of the 12 VHF channels, but proposed to make available for commercial use 42 channels in the UHF band.

While the technical problems underlying the table of assignments were under study through informal procedures, the Commission began proceedings in September 1949 on the question of approval of color television standards. The color television proceedings were not concluded until October 11, 1950, at which time a report adopting a set of color television standards was approved. A formal hearing on the engineering principles and technical issues underlying the table of assignments was then conducted, and a new assignment plan was proposed. Under this plan, the number of UHF channels assigned to television broadcasting was increased to 70, and these channels were distributed to communities throughout the country, intermixed in the larger communities with VHF channels. After comments and testimony in written form had been received from hundreds of parties, the Commission's so-called sixth report and order, lifting the freeze and approving standards and a revised table of assignments, was adopted in April 1952.

The intermixture of UHF and VHF channels in the same markets was one of the most critical and difficult problems considered in these proceedings. One position expressed at that time was that in view of the current state of development of UHF, and the high rate of saturation of television sets equipped for VHF reception only, that the UHF stations in the intermixed markets and service areas would have great difficulty in competing successfully with the VHF stations. It was argued that suitable receiver equipment could not become available for some time. But the Commission concluded, upon the basis of expert engineering evidence advanced in the proceedings, that these problems were only temporary in nature since "it is reasonable

to assume that * * * television receivers will be built to receive VHF and UHF signals". That is from paragraph 189 in the report. It was the Commission's opinion that intermixture of UHF and VHF stations in the same market was necessary in order to provide enough stations in such markets for adequate competition.

The table of assignments adopted was based upon a premise that channels were assigned to specific communities and for the purpose of serving the needs of those communities. However, it was felt that the needs of outlying areas beyond those communities should be met through providing substantially wider separations between VHF stations than formerly existed. Also, in order to achieve such wide-area coverage beyond the particular community to which the channel was assigned, heights and powers considerably in excess of those previously permitted were provided for and encouraged.

Senator POTTER. I am sorry to have to interrupt you at this point, Mr. Weber, but it sounds like a vote in the Senate and the committee will have to recess. We will recess at this time for 15 or 20 minutes.

(Whereupon, at 3:13 p. m., the subcommittee recessed for 13 minutes.)

Senator SCHOEPEL. The committee will come to order, please. Senator Potter will be detained for a little while at another important committee conference and has suggested that we proceed with the hearing.

You may proceed, Mr. Weber.

Mr. WEBER. Because of the technical characteristics of UHF stations, narrower separations were required to be set up for such stations. In addition, because of the technical characteristics of UHF, the Commission sought to provide equality of coverage with VHF by providing for maximum powers for UHF of 1 million watts. Only one-tenth of that amount of power was found to be necessary, and was prescribed as a maximum, for stations operating on 5 of the VHF channels, and one-third of that power was found to be necessary, and prescribed as a maximum, for the remaining 7 VHF channels. As in the case of receiver equipment, the unavailability of transmitter facilities, as yet undeveloped, which would achieve the million-watt power and the equality of coverage with VHF stations expected to be provided with such facilities, was stated to be a temporary problem. Upon the basis of the evidence it had heard, the Commission voiced confidence in the early availability of such equipment for UHF stations. It stated that the evidence showed that—

it will be possible to operate stations in the UHF band with 400 kilowatts radiated power by the time that authorizations are issued for such stations. Further, there is no reason to believe that American science will not produce the equipment necessary for the fullest development of UHF.

That is from paragraph 199.

The table of assignments constructed upon the foregoing premises was intended to provide a distribution of VHF and UHF channels to specific communities throughout the United States so as to accomplish, first, the purpose of complete coverage of all the areas of the country with television service, and, second, a sufficient number of stations for each community to provide the amount of competition among such stations believed to be necessary.

As will be noted from the foregoing recital, the 1952 allocation order of the Commission had the laudable purpose of providing addi-

tional stations throughout the United States in order to provide the public with the maximum nationwide competitive television service. However, we have now gone through 2 years of experience with the method provided to achieve this purpose and no other conclusion is now possible, in the light of this experience, than that this method cannot reasonably be expected to achieve the intended purpose. For we have now found that there is such a fundamental disparity and divergence between VHF and UHF, whenever they are subjected to practical direct comparison and when viewed in the light of the unnatural handicaps against which UHF has been forced to struggle, that equality cannot reasonably be hoped for under present and foreseeable conditions.

We do not believe that under the present allocation plan, the fundamental aim can reasonably be expected to be realized even as an ultimate goal for the future. Today's trend points forcefully to increased concentration of the most desirable and popular television programs on favored VHF facilities, and an ever-decreasing program distribution to UHF stations in all substantially intermixed areas. This we believe is a consequence of the monopoly accruing to VHF assignments possessing unnatural facility advantages.

You will hear the experiences of UHF broadcasters showing that the present allocation system has not provided, nor can it reasonably be expected to provide, to the public the hoped-for diversification of informational and entertainment service that a rounded service must provide. It does not achieve for UHF stations generally a practical capacity for equality of competitive opportunity to achieve this result. These experiences will illustrate why 13 stations have signed off; why 61 stations have returned construction permits; why few, if any, new permittees have undertaken recent construction; and why many of the 130 present operators have good reason to fear the fate of others where they are beginning to feel the pinch of increased direct comparison with VHF stations. In this atmosphere, UHF operators who have genuine pride in rendering public service on a competitive basis find their efforts along this line threatened by the situation facing them today.

All broadcasters are keenly aware of the commendable motives which fostered the commencement of early television operations. They appreciate, too, the forthright action 5 years ago which halted additional licensing in order to prevent limitation of the number and type of television services, and to prevent the concentration of programs. The FCC objective was to attain for the public the widest coverage, and the greatest amount of competitive services in a climate of free enterprise. As in any far-reaching scientific development, however, the 1952 allocations had to be based on the results of quite limited experience under the laboratory ideal conditions prevailing in the Bridgeport experimentation program which preceded these allocations. We now know that this one major experimental application of UHF did not provide the facts that practical, widespread public and commercial experience in over 100 markets during nearly 2 years can now produce and show. Today, wherever UHF is subjected to direct comparison with VHF transmission and reception performance, the public and the advertiser reaction, we have a representative demonstration of why UHF suffers competitive inequality in its ability to serve the public. And the disparity has been simul-

taneously compounded by the substantial increases of authorized power and antenna heights to VHF stations which create vastly enlarged service areas which encroach upon areas served or expected to be served by the UHF stations.

At this point, I would like to make it clear to this subcommittee that UHF broadcasters are not, for the most part, inexperienced. Many have been in the radio business for many years, as long as 25 years in some instances. They were successful in that. They, along with many others with equal incentive and willingness to venture into public service, realized the potentialities of television and wanted to get into television. While the television presented the great potential, it was also very plain that UHF was the only way many could get into television. UHF at that time was presented as a vital new force. Responsible sources presented UHF as comparable with VHF, and in many respects even superior to VHF. These persons accepted as fact the word of responsible spokesmen upon whose experience and knowledge reliance could reasonably be placed. These broadcasters may indeed be regarded as pioneers. They brought into this new field their enthusiasm, their determination, their management abilities, their venture capital and all of the other attributes, which, added to the expected capabilities of UHF, gave reasonable assurance of a fair fighting chance of success. Criticism can hardly be directed to those who were willing to take the developmental risks that were involved. Rather, criticism might more appropriately be addressed to an unwillingness to venture into this field.

The licensing and rulemaking authority properly reserved to the Commission furnishes, in our opinion, the correct approach to the consideration of the current problem. This approach alone can reasonably assure equitable and nationwide maximum competitive service to the public, and fully bring about equal opportunity to all telecasters to serve the public. And it is only through this approach that fundamental disparities of facilities creating unnatural barriers can be removed.

If we reflect for a moment, it will readily be seen that the direct approach we suggest, by striking at the roots of the problem, not only gives the greatest promise for curing the ailment, but will avoid clamor for undesirable and unsatisfactory remedies if present trends are allowed to continue. If monopoly and concentration of television facilities results in this country, the beneficiaries will certainly not be the public. Those who will privately profit may find their gains short lived. For monopoly breeds public distrust and public distrust breeds direct regulatory action. And the degree of direct regulatory controls publicly demanded will undoubtedly be commensurate with the extent of the evil. We have seen evidence of this in the demands now current for direct regulation of network operations and for similar measures of a like nature.

I think we would all agree that broadcasting should be allowed to develop under a pattern in which competitive forces are allowed full play. But because of the spectrum limitations of this great medium, Government must fix the basic outlines or ground rules of that pattern. There can be no true play of competitive forces if the ground rules impose unnatural obstacles to some who enter the field, and unnatural advantages to others obtainable through no initiative or enterprise on their own part. It was for these purposes that Congress

wisely provided for a minimum amount of regulation of the field of broadcasting. Broadcasting channels were expected to be allocated in a fair, efficient, and equitable manner, and licensed to qualified applicants who would then survive or succumb, in competition with each other, according to the attractiveness of their service to the public. It is only by making equal facilities available, that additional regulatory controls become unnecessary since under a pattern providing equal competitive opportunity, the failure of any broadcaster to survive cannot be placed at anyone's doorstep but his own.

At a later time, this subcommittee will hear testimony from many UHF broadcasters who will recite their experiences. I believe it would be helpful if I were to summarize, at this point, the general nature of the many difficulties which they have encountered.

EFFECT OF THE UHF AND VHF LABELS

One of the major handicaps under which UHF has been forced to operate is that classification of its service by a particular name setting it apart from the VHF service which has a long background of public acceptance. We live in a trade-mark-conscious America, and labels have great psychological power. The separate nature of UHF service, emphasized by its name, is exploited in trade circles by those who either seek to gain in a competitive way, by critical comment, or unwittingly by those who disparage it because they are influenced by such comment.

THE TRANSMITTER PROBLEM

The nonavailability of adequate transmitter equipment is a serious difficulty of UHF. The evidence upon which findings were made by the Commission as to the early availability of suitable UHF transmitter equipment was given by technical experts approximately 3 years ago. The plain fact is that today VHF equipment with maximum power is readily obtainable but there is yet to be manufactured a transmitter capable of an output of greater than one-fourth the maximum expected power for UHF. So far as we know, there is not even in present prospect a possibility that UHF transmitters capable of 1,000 kilowatts ERP will be available in the foreseeable future. The unavailability of adequate transmitters is a handicap additional to the greater proportionate cost which 1-million-watt transmitters would involve as compared with VHF transmitters capable of providing comparable coverage.

Further, it cannot be accepted as a certainty, even if UHF transmitters with the specified power become available, that comparable coverage would be attainable in relation to VHF transmitters of far less power. As to the low-power transmitters which have been available to UHF broadcasters, technical transmission problems of performance have been encountered which have complicated their difficulties.

THE RECEIVER PROBLEM

It is now clear the Commission's expectation that receivers for adequate reception of UHF stations would be available and in circulation within a period of time which would enable UHF stations to procure the necessary audience for effective competition with VHF

stations was overoptimistic. The same may be said about the "abundant evidence as to the feasibility of adapting existing receivers or building new ones which will be capable of receiving signals on all television channels," upon which the Commission relied. Experience has shown that these predictions were unrealistic, gentlemen.

You will hear from others of the technical nature of the difficulties which have been encountered with respect to UHF receivers, converters, antennas, and installations. One of the problems requiring serious attention is that where all channel receivers are available, their extra cost over VHF-only receivers is a deterrent to their sale.

ECONOMIC CONSEQUENCES OF THE TWO-SPECTRUM ALLOCATION SYSTEM

Stations can survive or succumb in accordance with their ability to obtain the necessary revenues for operation. This, in turn, depends upon the availability of programming of a sufficiently attractive nature to stimulate public acceptance of the station. A vicious cycle is created by the unavailability of adequate receiver and transmitting equipment because the inability of UHF stations to obtain the necessary coverage blocks UHF stations from obtaining sponsored high-quality programming.

The lifeblood of any television station under today's conditions is the availability of adequate network programs. Networks are interested in the lowest cost per 1,000 sets, and consequently they invariably favor competitive VHF stations. Experience has shown that even though a UHF station with a network affiliation has been established in a community for some time, whenever a new VHF station comes into that market it is able to obtain the network affiliation. Many UHF stations which have network affiliations do not even have the first call on all the programs of their network and they find the better programs taken away from them to be broadcast over a VHF station. This frequently happens in cases where the VHF station is not even located in the same market as the UHF station, but is in a separate city.

The situation has been complicated in many instances by the fact that VHF stations have been permitted to locate their high-power transmitters at a point far removed from the community to which the channel has been allocated. Such moves have generally been prompted by the desire to obtain desirable network affiliations which would not be obtainable in the market to which the channel was assigned, and have resulted in serious detriment to UHF stations located in the different market to which the move is made. The network problem has further been complicated by the fact that in a given market, existing VHF stations are given the opportunity to carry all of the choice programs of all networks even though such programs cannot be carried at the time originally broadcast. This results in unavailability of any of such programs to any of the UHF stations in the same market which might have carried them live at the time of the broadcast if selected by the advertiser.

In addition, there are situations where VHF stations obtain exclusive long-term arrangements from suppliers of film programs, which preclude VHF stations in another community from obtaining such films. These problems, of course, stem from the basic problems which give rise to an inability to obtain circulation of UHF stations comparable to that of the VHF stations.

The inadequacy of UHF coverage, cost of conversion, and the other problems pointed out above are frequently exploited to the further detriment of UHF stations by competitive VHF operators and others who stand to gain by such tactics. Thus, the competitive efforts of those interested in VHF are frequently directed to playing up such inadequacies and the extra investments required by the public to enable them to receive the UHF stations in the area. In some instances, VHF stations entering a market in which a UHF station has been established have engaged in a heavy promotional campaign to discourage conversions.

The difficulties of UHF operators are compounded by the burdens of paying the great cost of equipment. While equipment may be purchased on a deferred credit basis from the manufacturer, the credit terms extend over a relatively short period which is not realistically geared to the period of time which UHF operators necessarily require to become established and to overcome their existing handicaps. These handicaps, of course, make more difficult the availability of adequate credit terms from normal banking sources, because of the risks involved.

It was possible for the Commission to make grants of large numbers of UHF authorizations because of the absence of conflicting demands for such channels as compared to the demands for VHF channels. In the major markets of the country, the number of applicants for the scarce VHF channels portended proceedings of extensive duration which it was assumed would give UHF operators a fair chance to become established and minimize the existing competitive handicap before additional VHF competition in those markets could be authorized.

Commission procedures which are designed to eliminate conflicts through the encouragement of merger of applications and so-called overnight grants have intensely aggravated the difficulties of UHF stations in many markets, particularly in intermixed markets. These merger efforts have been proceeding at a rapid pace in many of the cities in which competitive proceedings remain.

The high cost of telephone interconnections and the charges for expediting of network interconnection have also had a serious effect. Quite naturally, networks cannot support the connection costs except where they know commercial program traffic will yield a return for underwriting the connection cost. Thus, wherever stations are not demanded by agencies and advertisers because these people believe the market is fringe covered or because of market size or the station is "less desirable because it is UHF," the telephone cable cost prevents station development.

In radio, stations often had to be willing to carry network programs without payment for time or charges to the advertisers to build audience and commercial acceptance. This was called a bonus network affiliation. They cannot do so generally in television because without revenue the cost of telephone connection becomes prohibitive and uncompetitive with their VHF rivals who do not have to underwrite cash payment for telephone connections. An example cost is the \$3,200 monthly for television compared with \$250 in radio for less than 60 miles from Philadelphia to Atlantic City. And in addition,

this prohibition to development of new stations is compounded in many instances by postfreeze telephone expediting charges for prompt interconnections varying from \$7,500 to \$20,000 initially and the proposed higher fees for color transmission that the established and favored VHF stations will not have to finance individually.

Preliminary inquiries made by the UHF Industry Coordinating Committee reveal the serious plight of UHF stations in many of the intermixed areas. It is not an understatement that, unless adequate measures are promptly instituted, the extinction of many UHF stations is threatened, and the entire problem of survival of UHF stations in intermixed areas and maintenance of any adequate competitive television service in these markets will have been rendered academic.

The conclusions of the UHF broadcasters who have constituted themselves as the UHF Industry Coordinating Committee may be stated as follows:

First, the paramount consideration of public interest which should be recognized by the Senate subcommittee and the Commission is that the American public has a vital stake in the preservation of existing television stations as a competitive force in the industry.

This consideration is based upon the basic governmental determination which is implicit and explicit in the nationwide television allocation report and plan that the existing VHF channels are inadequate to assure the attainment of a truly nationwide competitive television service. Pertinent to this general public interest factor are the great financial and economic stakes of UHF broadcasters, UHF station personnel, and television dealers, distributors, service men and manufacturers.

Second, bitter experience has now proved that intermixture of UHF and VHF channels in the same market was based upon a misguided, though sincere, faith in the ability of UHF stations to achieve competitive equality of opportunity with VHF stations in the same service areas.

Therefore, administrative proceedings should immediately be instituted to explore methods of reallocation or reassignment of channels in such a manner that such equality of competitive opportunity is more readily available. Such plan should, of course, seek to safeguard against serious dislocation of public and industry investments in television.

Third, so that the problem of survival of a competitive television system will not have been rendered academic by the extinction of all UHF broadcasters in intermixed areas, and in order to avoid complicating a solution to the intermixture problem, pending completion of such proceedings, there should be an immediate suspension of any further grants of applications for new television permits and for changes in existing television authorizations affecting coverage.

Senator SCHOEPEL. Thank you, Mr. Weber. Do you have any question, Senator Bowring?

Senator BOWRING. No questions.

Senator SCHOEPEL. I understand the next gentleman who desires to be heard is Mr. Ben K. McKinnon, of Greenville, S. C.

You may proceed, sir.

**STATEMENT OF BEN K. MCKINNON, GENERAL MANAGER, WGVL-TV,
GREENVILLE, S. C.**

Mr. MCKINNON. My name is Ben K. McKinnon, of Greenville, S. C. I am general manager and a minority owner of television station WGVL, which operates on channel 23 at Greenville, S. C. I am a member of the board of directors of the Ultra High Frequency Television Association and a charter member of the UHF Coordinating Committee.

I consider it a distinct honor to have the opportunity of appearing before this committee for the purpose of expressing my personal views concerning one of the problems facing UHF stations. The problem I wish to discuss concerns the manner in which the Commission has carried out the principles as expressed in its Nationwide Television Allocation Plan, the Sixth Report and Order.

The Commission adopted two basic principles in the nationwide television plan which they offered:

(1) There should be an intermixture of UHF and VHF with many communities having both UHF and VHF television stations.

(2) Television allocations would be made to more than a thousand individual communities all over the country.

The Commission expressly rejected plans for the establishment of a few regional stations and large metropolitan area stations. Instead, they wisely decided that the opportunities of viewing television should be given to citizens in every community and that many allocations to many communities, large and small, would provide better public service, better meet local needs and enable television to serve particular needs and objectives of particular communities.

It is in my opinion that despite the worthy principles it adopted in that report, the Commission has not followed through, in actual practice, with its basic proposition that grants will be made to individual communities and that there will be no regional stations—witness the many grants of higher power and antenna height to the old established VHF stations directly in the midst of the great struggle to create pioneer UHF television—and it is further my opinion that this failure of the Commission has caused serious hardship to both UHF and VHF stations, but the serious hardship has fallen primarily to the new UHF stations; to the operators and owners trying to carry out the television plan declared to be the best to serve this great Nation by the Federal Communications Commission.

There are many examples of situations where the Commission has failed to follow through with this basic principle; since I think our situation in Greenville, S. C., is a typical one and proves a point which should be in the records of this important committee, I will confine my comments to the individual case of channel encroachment, as we see it in Greenville.

In the Sixth Report the Commission allocated 2 commercial television channels to Greenville, UHF channel 23 and VHF channel 4. The city of Spartanburg, S. C., some 30 miles away, was assigned UHF channel 17, VHF channel 7 and later UHF channel 74. As I indicated before, the basic philosophy was that these channels were assigned to these separate communities for the purpose of the Greenville channels serving the needs of the Greenville community and the

Spartanburg channels serving the needs of the Spartanburg community. Indeed channel 7 had originally been assigned to Columbia, S. C., but was reassigned to Spartanburg for various reasons—one of which voiced the opinion that Spartanburg could not expect to be served adequately from Greenville and should be granted an individual VHF channel of its own.

Relying upon the above-allocation plan and desiring to expedite television service to the Greenville community, some 14 prominent, civic-minded Greenville businessmen formed a corporation and applied for UHF channel 23 in Greenville. This application was granted and WGVL commenced operation on August 1, 1953. Since that time WGVL has rendered a great service to the Greenville community, has programed as many as 24 hours of live, local programs weekly including many extremely popular public-service programs such as: You and the Law, the WGVL Roundtable, the Voice of Safety, the Furman University Hour, TV Chapel of the Air, the JayCee Hour, and many more.

WGVL's programing and technical performance is on a par with the other Greenville station—VHF channel 4 and WGVL's owners are extremely proud of the wonderful community work the station has done and of the exceedingly fine reputation that the station enjoys in Greenville. WGVL signed on the air affiliated with ABC, Du Mont, and NBC networks. When channel 4 in Greenville, WFBC-TV, signed on the air in January 1953, the NBC network affiliation was moved to this station.

I would like to say that WGVL knew at the time that we signed with NBC that the network would be moved to FBG—Greenville.

There are now about 100 owners of WGVL, most of them Greenville residents. Of course, the owners of WGVL have always recognized that there would be competition from VHF channel 4 in Greenville, which is also rendering fine public service and programing to the city. While the owners of Greenville Television Co. were not absolutely sure of the future of the new medium—UHF television—but relying on the assurances of the Commission that UHF would be nationwide, accepted, competitive television—they were willing to take the desired risk, believing that there would be only one local VHF station in competition with them.

They did not anticipate that the Spartanburg VHF allocation, designed to serve the Spartanburg community, would ever become a Greenville allocation. This is happening now.

I want to make one point clear at this time. WGVL certainly realizes that it has no right to insist that the status quo as to channel allocations be frozen forever; we knew at the time that we applied for channel 23 that there were legal and fair ways of rulemaking to change the allocation table, even to the extent perhaps of assigning additional channels to Greenville. We did think, however, that if such a proposal were ever made, the Greenville Television Co., which pioneered television for Greenville through WGVL, would at least have an opportunity of being heard in such a rulemaking proposal; of opposing it if it thought justifiable or alternatively of applying for the new allocation, if thought desirable. In other words, we thought that if a change were to come about it would be done in a lawful hearing or other rulemaking proceeding which would at least give WGVL a chance to state its stand before the Commission.

The fact of the matter is that the Commission has permitted the VHF allocation in Spartanburg to be changed in practical effect to an additional Greenville VHF allocation without giving WGVL any effective right to object.

The Spartanburg VHF allocation was granted to a local Spartanburg group. After receiving that grant which specified that transmitter would be on Hogback Mountain to serve the Spartanburg community most effectively, the Spartanburg station—WSPA-TV—asked the Commission for temporary authority to locate its transmitter on Paris Mountain, 5 miles from Greenville and over 27 miles from Spartanburg. The site chosen was the best site available for service to Greenville, though not for Spartanburg, as is supported by the fact that both Greenville stations operate on that same mountain. Indeed, WSPA-TV's location is 1 mile closer to Greenville than the location of either of the 2 Greenville stations.

Now, I think it is pertinent to look at the market rank of Greenville and Spartanburg. The July 15, 1953, edition of TV Factbook shows how the J. Walter Thompson Advertising Agency ranks the first 312 markets of the United States. This authoritative research report ranks Greenville as a B market as 105th in the United States. Spartanburg is ranked as a D market as 166th in the Nation. The manager of Time-Buying for McCann-Erickson, another well respected advertising agency, ranks the TV markets in the Television magazine, February 1954. In that report Greenville is shown as the 75th TV market in the United States but Spartanburg is not listed in the top 162 TV markets.

Greenville is an established far larger market than Spartanburg; WSPA-TV from Paris Mountain will get a better combined coverage of Greenville, Spartanburg, and Anderson—also some 30 miles from Greenville in the opposite direction from Spartanburg—WSPA-TV, by moving transmitter an additional 30 miles away from the transmitter of WBTV in Charlotte, N. C., the closest VHF station to Greenville carrying CBS programs—Charlotte is 102 miles from Greenville—apparently will also be able to obtain a CBS network affiliation and could only obtain this by operating from this central location, some 30 miles past Spartanburg. I ask you, gentlemen, if you had a construction permit for a television station in Frederick, Md.,—would you not be delighted to move your transmitter to Washington, D. C. if you could obtain a CBS television network affiliation by doing so.

The committee can appreciate, I am sure, the tremendous adverse effect this new grant had on WGVL's operation—locally and nationally. Due to the fact that UHF stations are not judged individually on performance and audience but, in many cases, just shrugged off as another UHF television, we have had some problems with national advertising—despite excellent technical performance, programming and verified set count approaching 100,000 families. Naturally, with the news that the Spartanburg VHF would be in Greenville with CBS affiliation, national advertiser resistance became even more noticeable. And local advertisers began asking us if CBS shows were coming into Greenville. We had, of course, offered to carry CBS programs but had been unsuccessful in obtaining any type of affiliation with the network.

What had originally been a two-station market—one UHF and one VHF—now, without any change in the allocation plan at all, had be-

come a three-station market—2 VHF and 1 UHF. Needless to say, WGVL, as the only OIF station, was placed in a serious competitive position which would require a fight for its very survival.

We did, and indeed are, fighting to the best of our ability. Apart from the competitive fight that we are waging, we also formally protested to the Commission under section 309(8) of the Communications Act. We argued that to permit WSPA-TV to operate from its new location completely violated the allocation plan and rendered meaningless the requirement of the Commission that stations be allocated to certain communities only. We were joined in this fight by UHF operators and Cp holders from Anderson and Spartanburg. We argued that to permit this Spartanburg UHF station to move to Greenville would be particularly damaging to our relatively new UHF station, which was trying to establish itself in the Greenville market, even though suffering substantial initial operating losses in the neighborhood of \$100,000.

The Commission, however, denied our protest on the grounds that we were not a part in interest and weren't sufficiently injured by this change in transmitter location. Immediately we appealed to the United States Court of Appeals for the District of Columbia, claiming that we were entitled to a hearing on our protest. The Court of Appeals entered a stay order suspending the effectiveness of the WSPA-TV temporary grant, until we could be heard on the merits of our case.

But we had not won the fight yet, for apparently the Commission was determined that the Spartanburg VHF station was going to get its chance to operate from the Greenville location no matter what the court said. The Commission, upon a request by WSPA-TV, canceled the temporary authorization permitting WSPA-TV to operate from the new location. The Commission then moved to dismiss our appeal on the grounds that the appeal was moot. This motion has not as yet been acted on by the court. Immediately thereafter, and upon application by WSPA-TV, the Commission granted a permanent authorization to WSPA-TV to operate from the identical location near Greenville, and certainly under identical circumstances, to those about which WGVL had protested.

The startling thing about this new grant to WSPA-TV is that it was made by three members of the Commission. Three Commission members established this permanent location of the Spartanburg station on Paris Mountain, a move that could possibly have damaging results to the entire UHF industry; far-reaching and policy forming. There was no unanimous opinion—there were only five members of the Commission present. The vote was not even a clear-cut majority of 4 to 1. No, it was 3-2, with 1 of the 2 minority commissioners writing a strong dissenting opinion. One of WGVL's original assertions had been that WSPA-TV planned permanent location on Paris Mountain, despite request for special temporary authority to operate. This statement has not been proved.

Needless to say, WGVL and the many other UHF stations following this case with avid interest were greatly chagrined at the important decision rendered by so few Commissioners. Again we have protested this new grant, alleging the same grounds as before. As yet the Commission has taken no action on our protest.

I honestly believe that this sort of Commission action, operating supposedly within the framework of the present rules, has been most injurious to our pioneer UHF operation and to many other pioneer UHF operations in other parts of the country. And, as I indicated at the very beginning, our case is typical of others faced with the same sort of invasion by stations allocated to nearby communities.

The Commission has, in my opinion, shut its eyes to its own requirements that a TV station in Gastonia, N. C., be a Gastonia station and not a Charlotte station, that a Spartanburg station be a Spartanburg station and not another Greenville station, regardless of the desire for transmitter relocation to obtain network affiliation. Any station which is allocated to and located in a relatively small community is going to try to locate its transmitter and to so program as to serve and take advantage of the larger market area. Obviously, therefore, the competition to stations in the larger community is going to be increased. Unfortunately, due to a combination of other problems and their growing pains, the first station to suffer and suffer the most is the UHF station.

UHF stations and the UHF industry may or may not need some sort of special assistance during the present transition period. The Senate committee will decide the answer to this question. But certainly UHF at least needs a thorough and sincere effort by the Commission to adhere strictly to its own allocation plan, where such adherence will assist in the effective establishment of a truly competitive UHF system. When the Commission lets the bars down and permits VHF stations from nearby smaller markets to invade larger UHF markets without so much as a cursory hearing, the Commission is itself cooperating in the destruction of their own UHF industry. And to illustrate how this Commission action appears to the general public, I would like to introduce, as a part of this statement, the report of Commission action in regard to WSPA-TV permanent permission to operate on Paris Mountain as made public in an authoritative publication of the radio and television industry, Radio and TV Daily, issue of Monday, May 3, 1954, the first paragraph only. It has a Washington dateline and it states as follows:

The allocation in FCC's Sixth Report and Order of channel 7 to Spartanburg, S. C., was wiped out Friday when the Commission, in effect, made it a Greenville station, over the protests of stations at Greenville and Anderson, S. C., over the dissents of 2 FCC members, and without the participation of 2 Commission members.

Channel encroachment is a serious situation to the UHF industry, the individual stations, the UHF Coordinating Committee and the UHF Television Association are vitally concerned with the manner in which the Commission has carried out the principles are expressed in its Nationwide Allocation Plan, the Sixth Report and Order.

I appreciate the opportunity to have been heard.

Senator PORTER. I wish to apologize for being away since the recess. I had another executive meeting of a committee meeting and it took longer than I had expected. I appreciate Senator Schoeppel's having taken over while I was gone.

Thank you very much, Mr. McKinnon.

The next witness is Mr. Glen McDaniel, president of the Radio-Electronics-TV Manufacturers Association.

STATEMENT OF GLEN McDANIEL, PRESIDENT, RADIO-ELECTRONICS-TELEVISION MANUFACTURERS ASSOCIATION

Mr. McDANIEL. My name is Glen McDaniel, I am president of the Radio-Electronics-Television Manufacturers Association, 777 14th Street NW., Washington, D. C. Our association, now celebrating its 30th year, consists of about 380 companies engaged in the manufacture of television sets, radios, other electronic end products, and their component parts. Its membership includes most of the manufacturers of television sets.

I am not a UHF broadcaster, but some of the UHF broadcasting witnesses are not here and I understand my appearance has been on ahead of some of them.

Senator POTTER. You have a vital part to play in this, I assure you.

Mr. McDANIEL. We do appreciate the opportunity of coming here.

We appreciate the opportunity to appear before the committee and we are certain that these hearings will serve a useful purpose. The economic problems now faced by television broadcasters in the ultra-high frequency band are serious. There is no single or simple solution to the problem. These hearings should go far toward stimulating and crystallizing the thoughts of all those in industry and Government who are sincerely interested in the healthy growth and economic soundness of television broadcasting. We hope they will produce new ideas and measures that will help solve the problems of UHF broadcasting.

The manufacturers of television sets are vitally concerned in the economic well-being and healthy growth of television broadcasting. If there is no broadcasting, we have nothing to sell. And generally speaking, the more broadcasting there is, and the wider the choice of programs available to the viewer, the greater and more promising is the market for our products.

Early in the development of television broadcasting, the set makers showed their interest in making more channels available to the public than the 12 allocated in the VHF band. Others scheduled to testify here will recount some of the efforts to develop transmitting equipment that would make the UHF band useful. This work included years of experimental work.

Examples of this work include the experimental UHF transmitting station of RCA and NBC at Bridgeport, Conn., which commenced operations on December 29, 1949. When this station went on the air, the Bridgeport area became a laboratory for the set makers to test and develop their receiving sets and converters. After some months of this process RETMA, our association, sponsored a demonstration of UHF receiving equipment to the members and the staff of the Federal Communications Commission. This demonstration, held at Bridgeport in June 1951, included receivers, converters and antennas of eight manufacturers and indicated to the members of the Commission that clear and sharp pictures could be produced commercially in the UHF band.

Later, when the first regular UHF broadcasting station—KPTV—went on the air in Portland, Oreg., in September 1952, again the set

makers were there with their crews of experts making observations and carrying on experimentation under a variety of test conditions.

The set makers felt then, and still feel, that the UHF band will open a new era of broadcasting and a much wider market for the industry's products. But we must remember that the way of a pioneer is not easy. Especially in broadcasting, it has always been difficult to launch a new service because of the interrelation of programing and set circulation. In this sense the experience of other broadcast services should encourage the UHF broadcasters in their present difficulties.

My main task today is to try to give the committee the relevant information concerning receiving equipment.

The set manufacturers have made and sold as many VHF-UHF receivers as the public will buy. The statistics indicate that for a while we made substantially more VHF-UHF sets than we were able to sell, and the manufacturers were forced to reduce their optimistic UHF production schedules.

Our industry statistics for UHF began in 1953. The first station, as I noted, went on the air in the latter part of 1952 and the statistics began in 1953.

The figures on production are set out in table I, which shows that 1953 production of UHF sets was 1,459,475, or 20.2 percent of total set production, and that in the first 4 months of 1954 UHF production was 412,913 or 21.6 percent of the total.

UHF statistics—Production

Year, month	UHF factory production	Total television production	Percent
1953—January	556,961	3,626,046	15.7
February			
March			
April			
May			
June			
July	65,546	524,479	12.5
August	104,183	603,760	17.2
September	193,212	770,085	25.1
October	202,605	680,433	29.8
November	197,311	560,197	35.2
December	139,657	449,787	31.0
Total, 1953	1,459,475	7,214,787	20.2
1954—January	120,299	420,571	28.6
February	92,275	426,933	21.6
March	124,855	599,606	20.8
April	75,484	463,829	16.3
Total	412,913	1,910,939	21.6

Senator POTTER. When you speak of UHF sets, are you referring to the combination set?

Mr. McDANIEL. That is correct. These are all sets tuned to all channels.

Senator SCHOEPPLE. What is the difference in the cost of these sets, VHF and UHF?

Mr. McDANIEL. The difference to the consumer between a VHF only set and a VHF-UHF set ranges between \$20 and \$60. If you had to pick a narrower range, I would say \$30 to \$40 to the consumer, and most of them are in that range, I think.

Senator SCHOEPEL. Thank you.

Mr. McDANIEL. The present situation in a nutshell is that during the first 4 months of 1954 our factory inventories were 32 percent VHF-UHF sets but only 22 percent of our sales were VHF-UHF sets. In other words, we have been making more VHF-UHF sets than we can sell.

As you will see from table II, the proportion of factory sales represented by UHF was 15 percent in the first 6 months of 1953, rose to 32.4 percent in November of 1953 and has been steadily declining since November until in April it was 17.5 percent.

TABLE II.—UHF statistics, sales

Year, month	UHF factory sales	Total television sales	Percent
1953—January.....	487,931	3,260,118	15.0
February.....			
March.....			
April.....			
May.....			
June.....			
July.....	76,405	431,847	17.7
August.....	94,794	570,987	16.6
September.....	189,182	870,015	22.0
October.....	181,702	706,107	25.7
November.....	183,912	567,583	32.4
December.....	125,988	473,411	26.6
Total 1953.....	1,339,914	6,870,068	19.5
1954—January.....	139,175	525,257	26.5
February.....	120,055	521,556	23.0
March.....	119,962	563,507	21.3
April.....	77,507	443,705	17.5
Total.....	456,699	2,054,025	22.2

From table III you will see what has happened to inventories. From practically no UHF inventory in the first part of 1953, the proportion of our inventory represented by UHF sets has risen steadily until it reached 38 percent in February of this year. It is obvious that an industry cannot carry 38 percent of its inventory in an article that is accounting for only around 22 percent of sales. Thus, the proportion of UHF inventory fell to 32 percent at the end of April. We may assume that UHF inventory will continue to seek a balance with sales.

TABLE III.—UHF statistics, inventory at factory level

Year, month	UHF inventory ¹	Total television inventory	Percent
1953—May.....	22,157	599,594	3.7
June.....	23,135	693,490	3.3
July.....	86,152	577,905	14.9
August.....	95,541	610,678	15.6
September.....	99,571	520,748	19.1
October.....	125,011	495,074	25.2
November.....	138,410	478,688	28.4
December.....	147,542	465,104	31.7
1954—January.....	128,606	360,418	35.6
February.....	100,886	265,795	37.9
March.....	105,779	301,894	35.0
April.....	103,756	322,018	32.2

¹ At end of the month. May is 1st month for which we have data.

Senator POTTER. Do you have any information as to whether the retailers have tried to sell the UHF sets? Do they advertise the UHF sets as they do the VHF sets?

Mr. McDANIEL. I think they do. I think it depends a great deal on the individual area, but tremendous efforts have been made in many areas in promoting UHF sets. In others, there have been complaints that the dealers have not shown the enthusiasm they should have shown. It is varying depending upon how optimistic a particular dealer is about the chances of selling, but they have certainly had vigorous promotion efforts all over the country.

We hope that these hearings will result in some new ideas or measures which will stimulate these sales and permit the manufacturers to dispose of their excess inventory of UHF sets.

The question has been asked as to why the manufacturers are not marketing receivers which tune only to the UHF band. The answer is purely one of economics. It is my opinion that whenever a manufacturer comes to the conclusion that the market for UHF is big enough to afford an advantage to one who markets a UHF-only set, such a set will be made and sold. No one has made that decision. Presumably one reason is that the cost saving is too small in terms of the present market. Another possible reason is that past history, as in FM, indicates that when a new frequency band is authorized, the public does not readily buy a receiver that tunes only to the new band but prefers to buy either a receiver that tunes only to the old band or one that tunes to both bands.

Our board of directors at its last meeting on April 29 discussed some of the problems confronting UHF broadcasters, and one of the directors suggested a practical means of encouraging the manufacture of VHF-UHF television receivers. And I might say that it is one of many discussions that we have held over a long period of time. He pointed out that if the 10-percent Federal excise tax were removed from all VHF-UHF sets, there would be an incentive to manufacture only those sets that tune to UHF broadcasts.

Our UHF policy committee concurred in this suggestion, and I was authorized to propose it in my testimony before this committee. However, in the meantime, Senator Johnson of Colorado introduced a proposed amendment to H. R. 8300 embodying the same idea. This proposed amendment was referred to the Finance Committee on May 11. And I was most happy to hear your endorsement of it earlier this afternoon, Mr. Chairman.

I would like to endorse the legislation sponsored by Senator Johnson and explain briefly why we believe it would stimulate sales of VHF-UHF receivers.

As the committee knows, there is a price differential between VHF-only sets and VHF-UHF sets, necessitated by higher production costs. Our association does not collect any statistics relating to prices, but trade journals have estimated that the price differential to the customer ranges between \$20 in the case of the least expensive sets to \$40 and \$50 in the case of higher priced sets, and I should add \$60 as I did a moment ago in answer to a question by Senator Schoeppel.

It is said by some individual manufacturers that this price differential is decreasing as the industry gets into higher quantities of UHF production. It must be emphasized, however, that no amount of quantity production can entirely eliminate the price differential between

VHF-only sets and VHF-UHF sets. It costs more to make an instrument that tunes to 82 positions than one that tunes to 12 positions. The experts say there is no way that this increased cost can be eliminated.

There is a way, however, that this increased manufacturing cost can be offset.

As this committee is no doubt aware, the Congress, in the summer of 1950, shortly after the outbreak of the Korean war and under the stress of the revenue needs arising from that mobilization, imposed a 10-percent manufacturer's excise tax on television sets. Up to that time there had never been an excise tax on television sets.

Prior to the outbreak of the Korean war, the Treasury had made a proposal for such a tax but it had been defeated on three separate occasions in the House Ways and Means Committee and in the Senate Finance Committee.

We propose that the excise tax be removed from VHF-UHF television sets. This will offset the manufacturing cost differential entirely, I believe, in the case of medium- and high-priced sets, and in less expensive sets it will offset most of the manufacturing cost differential. The revenue loss to the Treasury at present production rates would be about \$25 million annually which is a minor amount as budget figures go. Naturally, the revenue loss to the Treasury will increase as the amendment successfully encourages the manufacture of relatively more tax-exempt sets.

Lest the manufacturers be misunderstood, I should point out that we have steadfastly argued that the excise tax on television sets is unsound legislation and we have repeatedly urged its complete repeal. Television is an instrumentality of public education and enlightenment and is an important means by which citizens gain the knowledge that enables them to participate in their own self-government in these times when democracy is threatened throughout the world. The circulation and use of such an instrumentality should not be impeded by a selective and discriminatory excise tax. By proposing the removal of the tax from UHF sets we do not mean to condone its application to other television sets, or to radios.

In recent hearings on H. R. 8224, which was the excise tax bill of 1954, and 8300, the revenue revision bill, we urged that the tax be suspended on color sets in order to permit this new product to have a breathing spell and reach quantity production before the burden of the tax is imposed upon it. We have said, here is a new instrument and Congress has traditionally shown a solicitude for infant industries and new developments by not imposing excessive excise taxes on them until they have had a chance to get into production and growth.

Senator POTTER. What is the excise tax?

Mr. McDANIEL. Ten percent of the manufacturer's selling price.

This proposal was voted down by the Finance Committee. We also asked for a general reduction in the tax consistent with the treatment of other consumer goods. The tax was kept at the full 10 percent on all sets despite the fact that the tax on other household products was reduced from 10 percent to 5 percent, and despite the fact that it was virtually removed from admissions to movie houses which had recommended the imposition of the tax in 1950 as a means of equalizing competition between the movies and television.

The proposed amendment to H. R. 8300, introduced by Senator Johnson on May 11, offers a golden opportunity to accomplish several things at once:

(1) Encourage the manufacture and sale of sets capable of receiving UHF broadcasts;

(2) Encourage the incorporation of UHF equipment in all color sets so that, as we emerge into the new era of color television, UHF will be stimulated by the added attraction of color;

(3) Encourage color television itself by permitting removal of the tax from all color sets that tune to the UHF band and thus help to bring the advantages of color to the American public.

All of these things can be accomplished at a small loss in Treasury revenue. We do not see how Congress can balk at this revenue loss, in view of the fact that in the recently enacted H. R. 8224 it provided substantial tax reductions at enormous revenue loss to the movies, to furs, jewelry, and perfumes, and to refrigerators, home laundry equipment and other household articles, but gave not one cent of tax reduction to the purchasers of television sets.

The time for action on Senator Johnson's proposed amendment is very short. The Finance Committee of the Senate is in daily session on H. R. 8300.

I might say that the staff director of the committee tells me that he has heard that the Finance Committee will reach tomorrow the place in H. R. 8300 that this excise tax proposal would normally go in. I do not think it means that they will not act on it later, but the place where they reach it will occur tomorrow.

We strongly urge that this committee immediately call upon the Finance Committee to include the Johnson amendment in the Finance Committee's version of H. R. 8300.

We wish to reserve the opportunity to present at a later time our recommendations concerning the detailed language of the amendment. I have no criticism of Senator Johnson's draft, but we have not had time to formulate our comments on any questions of statutory language.

I wish to reserve the opportunity to present at a later time any recommendations that we might have about the detailed language of the bill. I have no criticism at all of Senator Johnson's draft, but we have not had an opportunity to study the detailed language of it and we might have some comments at some later time on that.

Representatives of UHF broadcasters have expressed a desire for higher sensitivity in UHF sets. I do not think that has been a matter of any contention here today, but it has been discussed many times in leading up to these hearings. Our comment on this is twofold.

First, UHF sets now being made are of a quality as high as can be reasonably expected in the present state of the art. This conclusion can be drawn from a report issued by the Hazeltine Laboratories after testing 32 representative UHF sets and 3 representative UHF converters marketed during 1953.

Incidentally, they are unbiased in that they do not manufacture sets. They are research laboratories.

The Hazeltine report, No. 8018, was issued on March 24, 1954. As the committee knows, the quality of a product under a free competitive system ranges between the lowest priced article which as the minimum quality necessary for public acceptance, and the product which has

the highest quality the consumer is willing to pay for. I believe that the tests made by Hazeltine covered a representative sample throughout this range.

The Hazeltine tests, which also included 37 VHF receivers, showed these averages of sensitivity:

	<i>Decibels</i>
VHF low band, channels 2-6-----	91.5
VHF high band, channels 7-13-----	86
UHF band, channels 14-82-----	80

Senator POTTER. What do you mean by decibels?

Mr. McDANIELS. It is simply a level of measuring the sensitivity of the set, and that is about as much as I know of it. I have a copy of the report here.

Senator POTTER. It is a means of measuring it?

Mr. McDANIELS. That is right. The decibel is a unit of sound, the volume or intensity of sound.

In other words, the sensitivity of these representative receivers in channels 7-13 was 5.5 decibels poorer than the sensitivity in channels 2-6, and the UHF receivers were only 6 decibels poorer in sensitivity than the VHF receivers in channels 7-13. This, incidentally, surprised me because I had known a little about the tremendous difficulty of producing equipment which would produce a good picture in the UHF band. That point was not touched on directly by Chairman Hyde this morning, but at the time the first 12 channels were released, we could not produce television pictures in the UHF. The art had not developed that far. To offset this 6-decibel loss in sensitivity, the engineers say it is necessary to double the voltage and quadruple the radiated power. Increases of this order were provided for in the FCC's plan.

Second, an increase in the sensitivity of UHF receivers would not make a significant contribution at the present time to the solution of UHF broadcasting problems. It would be equivalent, for example, to increasing the reception area from a radius of 50 miles to one of 55 miles. It would be a mistake, it seems to me, to increase the price of UHF receivers to gain this order of advantage. The engineers tell us that the sensitivity of UHF sets cannot be increased at this time without an increase in price.

Good progress is being made toward bringing greater sensitivity at the same price, but we believe that the sensitivity of present sets is not substantially impairing the growth and development of UHF and that greater sensitivity will not make the difference between success and failure.

There are other factors affecting the quality of UHF sets besides sensitivity. One is the noise level, which is an important factor. But when all these factors are taken into consideration, it may be concluded that UHF receivers being marketed today are better instruments than were the VHF receivers at the comparable stage of development. These are technical matters as to which the committee will receive very detailed information from company representatives who are scheduled to testify after me.

You may be sure that when it is possible to make more sensitive sets, with greater range and less noise, at a price the public will pay, the intense competition of the set industry will bring about the manufacture and aggressive marketing of such sets.

In making its assignment of channels in the UHF band the Federal Communications Commission assumed that the set manufacturers would use the 41.25 standard intermediate frequency which had been recommended to the Commission by RETMA. Some UHF spokesmen have indicated that the failure of some manufacturers to use this standard intermediate frequency in their television receiving sets is making the job of UHF reception more difficult.

This is a problem to which our association has been earnestly devoting its attention for a long time. It is a companion of the problem of spurious radiation from receiving sets. Much committee work and engineering investigation have been conducted under RETMA auspices on these problems. The work led to a RETMA proposal transmitted just 2 months ago today to the Federal Communications Commission involving the establishment of an independent scientific laboratory which would certify receiving sets as being free of objectionable radiation. This would be an entirely voluntary program since the association could not and would not try to bring any pressure or compulsion against any manufacturer.

Under this plan RETMA is sending out invitations to a number of scientific laboratories to bid on the job of conducting tests and making certifications. Manufacturers would voluntarily submit their television chassis for testing and if they passed the tests they would be authorized to display a label on the set certifying that it is free of objectionable interference. That chassis is a plural word, incidentally. They would have to submit 1 out of every 100 receivers, I believe the figure is. In order to earn this label, a set will have to use the 41.25 intermediate frequency. We have strong hopes that this certification laboratory plan will hasten the day of complete uniformity in the use of the 41.25 intermediate frequency.

I think I should add that there are relatively few stations that do not use the 41.25 intermediate frequency. I do not know exactly how many, but it is a small percentage.

Ten days ago the staff director of this committee asked RETMA for information concerning the plans of the set manufacturers for incorporating UHF tuners in color television sets. Our association had no such information because it is our firm policy to confine our statistical services to past and existing fact and never to deal with production plans or other matters affecting future production. The staff director, on behalf of the committee, then requested us to obtain such information for use in these hearings in view of the public interest involved and of the need of this committee for such information. In compliance with this request, we sent a questionnaire to set makers in RETMA on Friday, May 7.

Replies to the questionnaire received by May 18 may be summarized as follows. Let me put it this way, so far as we know, there are 16 companies manufacturing color television today. We have received replies from 15 of those, one of them since we prepared our material for presentation today.

So, out of the 14 companies which we had reports from previous to coming here, this is our report:

1. Of 14 companies currently producing color sets:

Seven reported that they include VHF-UHF tuners in some or all of their color sets.

Two reported that they include VHF-UHF tuners in all of their color sets.

Let me interject again that I am stating that the third one can be verified by telephone. It only came in before lunch and I want to be sure that that was right, and I have not had the response from the telephone verification.

Senator POTTER. What are the three companies?

Mr. McDANIEL. RCA, CBS, and Bendix. Bendix is the one that came in this morning and I am checking on it by telephone.

Two reported that they include VHF-UHF tuners in color sets if ordered by the distributor.

Two reported that they make color sets with built-in provision for conversion to UHF reception in the field.

One reported that it does not offer VHF-UHF tuners in color sets.

Industry production reports indicate that only two companies currently producing color sets failed to reply to the questionnaire by May 18.

Senator POTTER. In other words, there are just three companies that manufacture sets, where all their sets provide for UHF tuning?

Mr. McDANIEL. That is correct, at the present time. There are many, several of these companies that are not marketing the color sets on much of a scale. They are demonstrating them and making them in pilot-run quantities, so that I do not think that the results of the questionnaire at this time are a very strong indication of what they might do when they get into production.

2. Of nine companies who indicated that they are not currently producing color sets but intend to do so:

One reported that it will include a VHF-UHF tuner in some or all of its color sets.

Eight reported that they have made no decision.

3. In addition, four companies indicated that they are not producing color sets currently and may or may not do so in the future. Apparently they have done no thinking on this problem.

Presumably the committee is interested in the suggestion of TV Guide magazine and Senator Bridges that measures be taken to assure that UHF tuners will be installed in all color sets. We have three comments to make on this proposal:

1. If Congress fails to remove the excise tax from sets containing UHF tuners, there is not a great likelihood that such tuners will be installed in all color sets, in my opinion, unless it is required by law. This is because in a free competitive system, especially in an industry so intensely competitive as ours, all possibilities of cost savings that are acceptable to the public will be utilized. Based on experience so far in black and white, it seems clear that there will be some market for color sets without UHF tuners. Needless to say, our industry association would not and could not take any action or permit any discussion at its meetings looking toward an agreement by the manufacturers to install UHF tuners in all color sets. In our opinion, such an agreement might well raise questions under the antitrust laws.

2. If UHF tuners are required in color sets by law, this would probably promote the immediate financial interest of the manufacturers in that it would force the public to pay for a higher priced article and the manufacturers would benefit to the extent their normal profit rates were applied to a higher dollar volume of business.

3. Despite this immediate monetary factor, such a law would mean intervention by Government in the regulation of the manufacture of television sets. Besides being of doubtful constitutionality, it would

be unsound legislation, and our industry would be vigorously opposed to it on principle. We believe that a system of free competition is best for the public in the long run.

The objective of having UHF tuners installed in all color sets can be encouraged, in our opinion, by the removal of the manufacturer's excise tax from VHF-UHF sets, because this would provide an economic incentive to include the UHF tuner in color sets.

Now I will leave the question of receivers and speak of converters for a moment.

Unfortunately, there are no statistics to show how many sets have been converted to UHF reception in the homes of viewers. One trade press editor has estimated the figure at 2 million, but this is only a guess. This, you will notice, is a much higher one than that implicit in Chairman Hyde's statement this morning.

Senator SCHOEPEL. He gives 1½ million.

Mr. McDANIEL. Yes, as I understood him, he estimated between 2 million and 3 million total, including the field conversions and we produced 1½ million in 1953 and several hundred thousand this year, so his estimate will have to be substantially under this 2 million.

The marketing and installation of converters is not an easy or simple job. A tuner is a delicate instrument. The manufacturers have assiduously searched, and I am sure are still searching, for ways to make them satisfactorily at less cost.

The problem of the servicemen in installing the antenna and converter is not a simple one and he complains that the customer does not realize the amount of time necessary to do a good job. Customers in turn complain that the servicemen are poorly trained and careless.

In the nature of the television service, business customers are quick to complain if a television set goes wrong or if a substantial fee has to be paid to repair it. The same is true of the installation of antennas and converters.

Our association has long worked to encourage the serviceman and to promote better training. We have developed a model television training course in New York which has been made available to schools throughout the country. Our members have supplied equipment to training schools to help in service training. We have done much and will do more in the area of consumer education and understanding of service problems.

We know of no easy shortcut to alleviate the serious problems of the UHF broadcaster in the matter of conversion of existing sets. It is indeed a difficult and serious problem.

Three manufacturers of transmitting equipment are scheduled to testify in these hearings. Our association has not gathered from the transmitter manufacturers any information about transmitting equipment for presentation at these hearings. We believe the committee's purposes can be served much better by obtaining the information direct rather than secondhand.

Many proposals have been put forward in recent months for new laws or regulations on programing and network affiliation as measures to assist the UHF broadcasters in overcoming their economic problems. RETMA is not in a position to comment on these proposals. While some RETMA members have network interests and individual broadcasting station interests, RETMA does not represent the broadcasting activities of these members and is not authorized to speak for them on broadcasting problems. We have no rec-

ommendations to make on broadcasting problems or network affiliation policies at this time.

We hope that the Federal Communications Commission will help UHF broadcasters to the fullest extent possible by shifting channels from one place to another or making other refinements in the allocation plan. We believe, however, that a reworking of the allocation plan will not solve the present problems of the UHF broadcasters.

We would object to a freeze on the processing of station license applications. It is too late to go back and re-engineer the general allocation plan. Those UHF applicants who are confident that they have prospects of healthy economic operation of UHF should be allowed to proceed.

While the manufacturers are most seriously concerned that a solution to the UHF broadcasting problem can be found, we have no specific remedies to suggest at this time other than the excise tax proposal, which will be a help but by no means a cure-all. The UHF problem is one which calls for a synthesis of expert information and experienced judgment in several fields, of which equipment research and manufacture is only one. The manufacturers are not in a position to undertake such a synthesis. This is one reason we welcome these hearings. After you have heard the contributions by experts in the various fields, you will then confront a task calling for a high order of legislative judgment.

Whatever other action you may decide to take, we strongly urge that the committee act immediately to put through an amendment to H. R. 8300 removing the excise tax from receiving sets containing UHF tuners as proposed by Senator Johnson.

We shall be happy to cooperate with the committee if we can be of assistance by gathering or submitting further information on this problem which is of such great importance to the future of the broadcasting and set manufacturing industries.

Senator POTTER. Mr. McDaniel, we thank you for your comprehensive statement. Will you be back here tomorrow?

Mr. McDANIEL. Yes.

Senator POTTER. Will there be other representatives from the receiver manufacturers' group?

Mr. McDANIEL. There will be several representatives from RCA, Du Mont and General Electric, and, after you have heard them, if there is other information you would like from us, we trust you will speak to Mr. Zapple and we will be glad to come in.

Senator POTTER. Thank you for your statement.

Mr. CORTONE. Mr. Chairman, unfortunately, we were not able to proceed because we were waiting for a witness and we arranged for Mr. McDaniel to move in.

We do have several additional witnesses for the UHF coordinating committee and we would appreciate it very much if we could be allowed to proceed. I am not suggesting that we proceed right now.

Senator POTTER. I believe it will be best to go through the list and see how we go through that and your witnesses will follow after tomorrow's hearing.

The committee will recess until 10 o'clock tomorrow morning in this room.

(Whereupon, at 4:59 p. m., the hearings were recessed to 10 a. m., Thursday, May 20, 1954, in the caucus room of the Senate Office Building.)

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

THURSDAY, MAY 20, 1954

UNITED STATES SENATE,
SUBCOMMITTEE No. 2 ON COMMUNICATIONS
OF THE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D. C.

The subcommittee met at 10:05 a. m., pursuant to recess, in room G-16 of the Capitol, Senator Charles E. Potter (chairman of the subcommittee) presiding.

Present: Senators Potter (chairman of the subcommittee), Schoepfel, Bowring, Hunt, and Pastore.

Also present: Bertram O. Wissman, chief clerk, and Nick Zapple, counsel for the subcommittee.

Senator POTTER. The committee will come to order.

First I would like to apologize for this moving around from the Capitol over to the Senate Office Building and back.

Yesterday, we had been assured that the caucus room would be available for our hearings today and tomorrow, and then we were notified this morning that another committee had made arrangements for the caucus room 6 weeks ago. So we were evicted.

I am sorry that it happened, but yesterday we were assured that it would be available for us.

The first witness this morning will be Dr. Du Mont.

Dr. Du Mont had a map which is over in the caucus room, but it is being brought over, and when that comes we can either take a recess or they can put it up if it doesn't distract too much from the testimony.

Dr. Du Mont tells me they are prepared to start their presentation now, and then they can use the map when the map arrives.

This room is small, and in order for all to hear I would appreciate it if you would keep your voices down as much as possible, and I would also suggest to the person who is testifying to talk as loudly as convenient, so that all can hear.

I believe we can use the room in here for any overflow that we might have.

Mr. WISSMAN. Yes; that's all right, Senator. It wouldn't work out too well, but if it is necessary—

Senator POTTER. All right, Dr. Du Mont.

STATEMENT OF ALLEN B. DU MONT, PRESIDENT, ALLEN B. DU MONT LABORATORIES, INC., CLIFTON, N. J.

Dr. DU MONT. My name is Allen B. Du Mont, and I am president of the Allen B. Du Mont Laboratories, Inc., with its main office at 750 Bloomfield Avenue, Clifton, N. J.

Our company operates the Du Mont Television Network, and owns three television stations which are located in Washington, D. C., New York City and Pittsburgh, Pa. It also manufactures television transmitters, television receivers, cathode-ray tubes, and cathode-ray oscillographs.

It also has extensive research and engineering laboratories.

This company was the first manufacturer of cathode-ray tubes suitable for television in this country, produced the first cathode-ray commercial television receiver, and was the first to operate a network between its own television stations.

Because of our wide interest in television, we are particularly concerned with the present situation as concerns the ultra high frequency stations. Their success directly determines whether we are to have more than two television networks in this country.

Before getting into the details of the present situation, it might be well to summarize what has gone on previously as concerns this question. The subject of utilizing the ultrahigh frequencies for use in television came to the fore in the 1949 hearings of the Federal Communications Commission.

These hearings were very extensive, resulting in a freeze of the construction of new stations for a period of almost 3 years, and the final determination as to the allocation scheme was not released until April 14, 1952.

In 1949 Du Mont submitted to the Federal Communications Commission a proposed allocation of frequencies which provided for at least four VHF or UHF stations in the top 100 markets of this country. A copy of this allocation proposal is hereby submitted as Du Mont exhibit A.

It was our feeling in submitting this proposal that a number of important objects would be accomplished by its adoption.

For one thing, it would provide equal opportunity to the four networks to compete on an equal basis provided by the allocation scheme and eliminate the necessity of equality by regulation. Second, it would provide a minimum cost to the American public as regards the purchase of television receivers.

As will be noticed in this plan, there is not intermixture of VHF and UHF stations in a single city, so that in the VHF areas the television set owner would only need a VHF receiver, antenna, and lead-in; and in the UHF areas the television listener would only need a UHF receiver, antenna, and lead-in.

We felt then, and we feel even more strongly now, that with the intermixture of VHF and UHF stations in the various cities, it is impossible to have a competitive situation as between the networks in a given area.

In 1949 we were not alone in our thinking, and the testimony of the Columbia Broadcasting System at that time clearly outlines the problem.

I would like to quote from a portion of the final television allocation report, under paragraph 256 (d) in this connection:

* * * a major objective of the Commission is the reasonable assurance of the possibility of a nationwide competitive television service—

and that CBS is genuinely concerned that very real dangers of monopoly inhere in the Commission's proposed allocation.

CBS stated that:

The Commission itself has recognized that for a considerable period perhaps 5 years, perhaps more, a commercial UHF station cannot compete on anything like an equal basis with a commercial VHF station in the same community * * * .

CBS urged that it—

must be obvious that during the not inconsiderable growth period of UHF, network A with UHF outlets in Chicago, San Francisco, and Boston would be under a crippling competitive disadvantage vis-a-vis network B with VHF outlets in these three cities.

Thus CBS argued—

it is quite possible that the Commission's allocation plan will as a matter of practical necessity permit the development during the critical formative years of only two full nationwide competing television networks.

The point that I am trying to make in this connection is that unless there are four competitive television networks the question of ultra-high frequency stations is academic as, if we are only going to have two networks, only a very few UHF stations are required.

For instance, in our present allocation scheme, network A can obtain 88 VHF outlets in the top 100 markets; network B can obtain 67 VHF outlets in the top 100 markets; whereas network C can only obtain 30 VHF outlets and network D only 7 VHF outlets under the same conditions.

We believed in 1949 that in order to prevent monopolistic system of broadcasting, four networks were required. We still feel that way today.

Mr. Ted Bergmann, who is the director of our network, will present facts to show that from a commercial standpoint four television networks can be amply supported by revenue from the advertisers.

Printers Ink, one of the leading advertising trade publications, recently published a preliminary estimate of total advertising expenditures for 1953. This revealed that television received \$688 million in 1953, as against \$663 million for all magazines.

These figures are simply given to show the status of television advertising and to indicate that vast sums are available to support it.

Having only two networks not only has the effect of monopoly in the television broadcasting business, but has the effect of extending the monopoly so that only a relatively small number of large companies can utilize television for the sales of their products. Television advertising in one respect differs greatly from advertising in magazines, newspapers, and so forth.

In a magazine or newspaper, any advertiser desiring space can obtain it as it is only necessary to print additional pages to allow any number of advertisers to appear in the publication. In television, we have only about 4 hours a day of prime advertising time and, if we assume that 8 advertisers wish to present half-hour programs on television per evening, we use up completely the facilities of one network. With a two network setup, therefore, it would be only possible for 16 advertisers to appear per evening. In some cases the advertisers desire to put on hour programs, thereby reducing the number possible to appear.

We have had numerous instances in the past where national advertisers desire to obtain time on television but cannot due to the limited facilities now available.

I would like to point out to the committee that this 1949 plan was turned down by the Federal Communications Commission because of the principles of assignment adopted by the Commission.

In order to salvage as much as possible, we submitted a revised allocation plan which we did not consider as good as our original plan. In the Commission's report of April 14, 1952, you will notice that there are numerous references made to a Du Mont plan, and this second plan is the one referred to.

Even this plan was vastly superior to the plan of the Federal Communications Commission as it provided for a much greater opportunity for four networks to operate competitively.

The Federal Communications Commission's priority in setting up their allocation scheme was as follows:

Priority No. 1: To provide at least one television service to all parts of the United States.

Priority No. 2: To provide each community with at least one television broadcast station.

Priority No. 3: To provide a choice of at least two television services to all parts of the United States.

Priority No. 4: To provide each community with at least two television broadcast stations.

Priority No. 5: Any channels which remain unassigned under the foregoing priorities will be assigned to the various communities depending on the size of the population of each community, the geographical location of such community, and the number of television services available to such community from television stations located in other communities.

In contrast to this, our principles of assignment were based on the following:

(1) To provide television service, as far as possible, to all people of the United States; and

(2) To provide the most services to the people.

We have always felt that the basis on which the FCC allocated stations is not a realistic one.

To take just one item, priority No. 2 states that they wish to provide each community with at least one television broadcast station. It is obvious that something like 75 percent of the allocations they have made will never be used.

They have provided television stations, as they stated in their principles, to almost every city in the United States. For example, in the State of Michigan they have provided 71 allocations and only 25 cities are over 10,000 population. This same holds true in many other States, and they have even provided allocations for villages having only a population of several hundred people.

We know from experience that in order to support a television station, from a financial standpoint, it is necessary to have approximately a population of 100,000 people within range of the transmitter. As there is an average of slightly over 3 people to each home, this would provide, if everybody purchased a television set, a sale of approxi-

mately 30,000 television receivers. However, only about 90 percent of the homes normally purchase television receivers, and this would mean that in an area where 100,000 people lived, there would be approximately 27,000 television receivers.

We also know from experience that the total advertising support will be about \$10 per set per year, which means that under these conditions the television station would have an income of approximately \$270,000 a year. With the figures we have and the experience we have, a television station can be operated under these conditions at a very slight profit.

This is being recited to show how unrealistic the Commission has been in their allocation of frequencies.

The Commission has stated at numerous times that they are not concerned with the economics of the situation. To me this seems absolutely indefensible as most other commissions of the Government regulating railroads, airlines, and so on, consider the economics of the situation of prime importance.

By not considering the economics of the situation, much more valuable frequency space has been used up than was necessary and, instead of allocating on the basis of the largest number of people that can be served, the allocation scheme primarily is based on geography.

It is interesting to note that priority No. 3 of the Commission states that the scheme should provide a choice of at least two television services to all parts of the United States, which to me clearly indicates their thinking that a two network setup in the United States is all that is necessary.

It is interesting to note that as late as several weeks ago one of the Commissions in a speech stated :

I do not believe the Commission can be blamed for those who displayed bad business judgment in trying to move in on the (UHF) channels without making a thorough assessment of the availability of equipment both for receiving and transmitting as well as the economic factors with which they might be confronted in the communities in which they proposed to establish service.

I am firm in my belief, as I was on the day I voted for the sixth report and order, that the Commission made a sound engineering allocation plan designed to meet the twofold objective set forth in the Communications Act of 1934, to provide television service, as far as possible, to all people of the United States and to provide a fair, efficient, and equitable distribution of television broadcast stations in the several States and communities.

The economic problem, as it pertains to sponsorship of programs by the time buyers and advertisers, is beyond the purview of the authority vested in the Commission by the organic act from which it derives its power. There are those who would have us move in this area, but this is a business arrangement that must be settled without interference from the Commission.

It will be noted that the present allocation scheme is justified on the basis of sound engineering judgment. To my mind, you cannot have sound engineering judgment unless you have considered economics. When a bridge is to be built, or a building is to be built, the engineer must not only consider the requirements to be justified but also the cost of accomplishing this. When I went to school there was a rough definition of an engineer, which stated that an engineer was a person

who could do for \$1 what any fool could do for \$2, and I think this definition still holds good today.

The reason the ultra-high-frequency stations are in trouble today, in my estimation, is because of the fact that the Commission has not taken economics into consideration in their allocation scheme, and when they intermix VHF and UHF stations, it is obvious which one is going to come out on top.

There have been numerous statements by various members of the Commission that we should allow the stations and networks to fight this thing out in the good old American philosophy of commercial competition. We certainly agree with this premise wholeheartedly, but it is a difficult situation for some stations and some networks to accomplish this with the intermixed allocation scheme we now have.

It is like putting one person on a bicycle and another person in a jet airplane and having a race between two cities. No matter how hard the person on the bicycle tries, he certainly is never going to catch up with the person in the jet plane, and I think this analogy applies directly to our present situation.

Much will undoubtedly be said about the technical differences, both as concern receivers and transmitters, between VHF and UHF. There is no question that there is considerable difference technically between VHF and UHF but, as we see it, the fundamental problem of the UHF stations is programing. We have studied a number of areas and in many of these areas UHF is providing excellent technical coverage.

Recently I had an occasion to make a study in the Albany-Troy-Schenectady area where there is 1 VHF station and 2 UHF stations. In most locations in this area the UHF stations were providing a stronger and crisper picture than the VHF station.

Yet, when you see what programs are on the different stations, we find that the VHF station is carrying practically all network programs, whereas the two UHF stations only carry occasional network programs.

Mr. Chairman, at this point I should like to offer an article which appeared in the May 6, 1950 issue of Business Week, entitled "No. 1 TV Problem: Thawing the 'Freeze.'"

Senator POTTER. Without objection, that will be made a part of the record.

(The matter referred to is as follows:)

[From Business Week, May 6, 1950]

TELEVISION—No. 1 TV PROBLEM: THAWING THE FREEZE

Major Markets	FCC			Du Mont		
	VHF	UHF	Total	VHF	UHF	Total
NEW YORK	7	0	7	7	0	7
CHICAGO	7	0	7	7	0	7
LOS ANGELES	7	0	7	7	0	7
PHILADELPHIA	3	1	4	5	0	5
BOSTON	4	0	4	7	0	7
DETROIT	3	2	5	5	0	5
PITTSBURGH	2	2	4	4	0	4
SAN FRANCISCO	6	0	6	7	0	7
ST. LOUIS	6	0	6	7	0	7
CLEVELAND	4	2	6	4	0	4
WASHINGTON	4	1	5	4	0	4
BALTIMORE	3	2	5	3	2	5
MINNAPOLIS ST. PAUL	7	0	7	6	0	6
BUFFALO NIAGARA FALLS	3	1	4	4	0	4
MILWAUKEE	4	0	4	5	0	5
CINCINNATI	3	2	5	4	0	4
KANSAS CITY	4	0	4	4	0	4
HOUSTON	4	0	4	4	0	4
PORTLAND	5	1	6	5	0	5
PROVIDENCE	1	2	3	0	4	4

Industry Wants More Channels, Less Mixing

Here's the number of stations that the Nation's top 20 markets would get under (1) the Federal Communications Commission's plan for the TV industry, and (2) Du Mont's counterproposal.

The blackin sections, show mixing of ultra high frequency and very high frequency stations in the same market. The industry argues that this is economic poison, that a UHF station would simply have no audience at all where everyone in town already has a present-day VHF television set.

The industry doesn't underwrite the Du Mont plan, but it approves in principle Du Mont's effort to keep VHF and UHF markets segregated.

The numbers on the chart represent channels allotted to each city—another deep concern of the industry. In more cases than not, Du Mont's plan would increase the allotment. By contrast, the FCC plan allows only 3 or even 2 channels in many major markets.

In a few cases, Du Mont has had to cut a channel or two. But against these backward revisions, Du Mont stacks the advantage of no intermixture. It insists that its plan, though it may hurt a handful of markets, provides a fairer distribution for the Nation as a whole.

The Federal Communications Commission is about to move in on the most vital issue facing the television industry—unfreezing the freeze.

Hearings on color television are now dragging their weary way into the final stretch. This week FCC announced that a new set of hearings will begin on June 5. The subject will be allocations—the vexatious business that brought on the freeze in the first place. (The decision on color supposedly will come sometime in the early summer.)

Overlooked—Trouble is that the furor over color has made everyone forget what the original issue was all about. Color is a very important matter (Business Week, April 1, 1950, p. 19). But it is not nearly so important or fundamental as allocations. For what FCC finally does about allocations and the freeze will decide the overall pattern of TV.

Recently, Chairman Wayne Coy of FCC said he hoped the freeze would be lifted by year's end. His hope, though, left the industry in a politely skeptical mood. The industry cocks one eye at the schedule and notes that before FCC really gets down to business, it must first take up:

Bell System's request for an ultra high frequency band for mobile communications. This would take a chunk out of the spectrum tentatively allotted to TV. Large segments of the industry—including the Television Broadcasters Association—oppose the Bell request vigorously. After that, FCC must tackle—

Technical standards.—In this phase, the experts will have to thrash out the involved problems of interference, station separation, wave propagation, and similar thorny questions. And when that is all over, FCC will finally have to get down to cases with—

Allocation of channels.—And here's where the fun begins. At this point in the hearings, two hundred-odd interested parties will start beating each other over the head to get the channels they want.

Add to this fact that it will take 2 or more years to get the new licensees on the air, and you will see why one industry expert says, "Hell, this is no freeze—it's an ice age."

Everyone wants in.—Basically, the problem facing FCC is simply that there is only so much spectrum to divide up among a list of strongly competitive services—radio, radar, mobile communications, television, ham operators, etc.

Toward the end of the war, FCC found it had a whopping job to handle. Radar, one of the two or three major technological developments of war, had turned out to work best in the higher frequencies; as a result, engineers worked their way up into the spectrum. This opened up the upper stretches of the ultra high frequencies.

At the same time, TV was getting ready to make its public debut. As far as TV was concerned, FCC had two major decisions to make: (1) What part of the spectrum should be assigned to TV? (2) Should TV be given the green light right away, or should FCC wait for further technical developments?

Thirteen less.—The resultant hearings, called by Chairman Coy the most comprehensive in the history of radio, got under way in 1944. During the sessions, FCC decided to get started on TV right away. Since TV's possibilities in UHF had still to be explored, this meant that for the time being at least TV

would be confined to VHF (very high frequency). In 1945, FCC came up with the basic groundwork for a nationwide TV system by handing the industry 13 VHF channels (it later took 1 away again). The Commission figured that would give enough room to provide 400 stations in 140 markets.

But it didn't. By 1948, when there were only about 50 stations on the air, it became obvious that FCC had crowded things much too close. Interference, particularly from tropospheric transmission, which bounced TV signals back to earth miles from where they should have been, became a real annoyance. Hence the freeze, which stopped all further allocations when the tally stood at 110 licenses.

Rainbow chasing.—FCC then went back into a huddle with the industry, mainly with the idea of exploring the UHF band. On July 11, 1949, it came up with a new plan for TV. Just as this was about to go into hearings, FCC took off to "chase colored rainbows," as one industry observer put it. It has been chasing them ever since.

FCC's allocation plan, when it finally gets an airing, will call for the addition of 42 UHF channels to the 12 VHF channels now in use. In the VHF range, station separation will be upped from 150 miles to 220 miles for stations on the same channel, and from 75 to 110 miles for stations on adjacent channels. UHF stations on the same channel will have to be 200 miles apart; on adjacent channels, 100 miles (UHF stations have a shorter broadcasting range). All told, on both VHF and UHF, there will be room for some 2,000 stations in about 1,400 markets.

Compared to the old program, this looks pretty good. But it isn't good enough to keep the industry from complaining.

Intermixture.—In the first place, to shoehorn in all these stations without changing wavelengths already assigned, FCC has resorted to intermixture." This simply means mixing VHF and UHF stations in the same area. Under FCC's proposals, only about 40 percent of the Nation's communities with a population of 500,000 and over would have 3 or more channels unmixed. When you get down to the 50,000-to-100,000 level, less than 10 percent would have 3 channels without mixing.

The industry says intermixture is economic poison. Take Philadelphia, which is earmarked to get 3 VHF channels and 1 UHF channel. It would be suicide, argues the industry, to open a station on that UHF channel. There are more than 435,000 TV sets in operation in Philadelphia today—sets that receive VHF only. Since a converter would cost somewhere in the neighborhood of \$25, the UHF station would, as a result, have almost no audience at all.

Stations at whistle stops.—The second thing about FCC's program that bothers the industry is the number of channels allotted to individual markets. For 165 cities of 50,000 population and over, there would be only 1 or 2 stations. Only 75 cities would have 4 or more channels.

All this worries the industry as much as intermixture. Television people say that FCC went off the track in its proposed allocations. They charge the Commission with being more interested in giving a station to every crossroads than in giving adequate coverage to the major population centers.

The industry is afraid that FCC's failure to provide enough channels in so many cases will stifle competition.

Charge of monopoly.—Du Mont—the only organization that has filed a comprehensive program to counter the FCC's—goes even further in its criticism. It argues that the FCC plan will help create a monopoly, or at least a "dumopoly" in television. If you leave all those markets with only a handful of stations, only 1 or 2 networks will be able to get a look in. These will be the ones that line up and can deliver to advertisers the big markets that have only skimpy coverage. The other nets will slowly be frozen out.

For advertisers, says Du Mont, this could have serious repercussions. Many of them might find it difficult, if not impossible, to get into the big markets. And the public will get a smaller selection of programs.

Du Mont's plan would carve out a larger chunk of the UHF spectrum than FCC's. To begin with, it would give 48 channels to commercial users as against FCC's 42. Du Mont would then add another 12 channels to be parceled out on a first-come-first-served basis to take care of the forgotten man. Besides this, it would set aside 9 channels for noncommercial educational use.

More for all.—On this foundation, Du Mont would rear a bigger structure. Under its plan, nearly 100 percent of the cities with a population of 500,000 and more would have 3 or more unmixed channels. So it goes down the line. FCC would provide only about 30 percent of the cities with 100,000 to 250,000 popu-

lation with 3 or more unmixed channels; Du Mont would see that 80 percent got 3 or more.

Much the same holds true for the number of channels. Du Mont's plan would give 4 or more channels to 155 cities with a population of 50,000 and more—or a little better than twice what FCC proposes.

Du Mont also claims that it has taken into account several interference factors that FCC has not. One of them is the so-called local oscillation of receivers. Du Mont spaces its channels so that this interference won't occur.

Drawback.—But—and it's a big but—Du Mont's plan has one very serious drawback. To create what it considers an optimum program, Du Mont has had to propose that about 30 present stations move from one channel to another. Reason for most of these moves is that the stations are too close to other stations on the same channel—a problem that the industry feels FCC has sidestepped.

In the cases where the change would involve only moving from one low-band VHF channel to another, the cost to the station would be slight. But when you have to shift from VHF to UHF—as you would have to in some cases—it would really run into money.

Even more upsetting would be the shifts where Du Mont would clear VHF out of a city and make a changeover to UHF.

Hardship against good.—Du Mont admits this is a pretty drastic step, but argues this way: There actually will be only about a dozen hardship cases. Match this against the general good of the country as a whole. After all somebody has to get hurt, and it's better that only a few do.

To soften the blow, Du Mont would allow several years for the changeover to go through. What's more, to help station operators in distress, Du Mont for its part is willing to take back its own broadcasting equipment at the depreciated prices.

Whether this argument will sway many telecasters—or set owners—is doubtful. However, Du Mont is willing to compromise in order to save the overall plan.

Can't please all.—Trouble is, at this late stage, there is simply no perfect plan. No matter what FCC does, it is going to bring at least one-half of the industry down on its neck—and hard.

Dr. Du Mont. I would just like to state in connection with this article in *Business Week* that it is a concise summary of the proposition that we submitted in 1949, and you will find pretty much in this article many of the problems that were brought up yesterday that we looked ahead in 1949 to what would happen, and pretty much that has happened in the interim period.

Senator Potter. Doctor, is there any particular reason why Baltimore was to be next?

Dr. Du Mont. We tried extremely hard to take care of that situation, and it was one of the most difficult to take care of in the United States for the number of frequencies available.

The reason for it, fundamentally, is because of the close proximity to the south of Washington and Philadelphia to the north.

It is more or less the greatest concentration of population, as far as television is concerned, and there are just not enough frequencies to take care of it. It was the one exception that proved the rule, and if you study that plan you will find that we have provided at least 4 VHF or 4 UHF stations in 243 markets in the United States.

So, it is really quite an inclusive plan, and then beside that, in the small cities there were a lesser number of stations provided.

We felt then and we feel even more strongly now about that.

As to the paragraph beginning at the bottom of page 2 and continuing to the top of page 3, I might explain just briefly the basis for the figures I gave there:

The way this was worked up, and what is really means, is that there are 7 markets out of the top 100 that have 4 stations. There are 30 markets out of the top 100 that have 3 stations, and so forth. I mean, that's the way that particular basis was worked out.

Mr. Bergmann will show actually in practice how it worked out. In other words, there is some equalizing, and the low will get a few more, and the high will not get quite so many.

Senator POTTER. I was interested in your quoting CBS. Was that in a report CBS submitted to the Commission?

Dr. DU MONT. That is in the official report of the Federal Communications Commission, in which they simply quoted the testimony of CBS, and along those same lines.

Senator POTTER. When was this?

Dr. GOLDSMITH. April 14, 1952.

Dr. DU MONT. Along those same lines, if you look back over the records, you find out that pretty generally most of the people that were testifying agreed that intermixing was a bad thing. The big reason that people were opposed to this plan, where people were opposed to it, was specific cities where it would help them individually to have a different channel.

In other words, they didn't take an overall look at the entire picture for the United States, but were interested in one city to get a better channel.

For further and more ample discussion of the UHF technical problems, Mr. Chairman, I would like to introduce Dr. T. T. Goldsmith, Jr., vice president in charge of research for our company.

I don't know whether the map has arrived.

Senator POTTER. Yes; Doctor, that has arrived.

Dr. DU MONT. We could just bring it in now.

Senator POTTER. Before Dr. Goldsmith presents his statement, I think it would be well if we bring in the map, and then if you gentlemen would care to move in this other room at this time, it might be a little more convenient. We will take a 5-minute recess while they bring the map in, and move into the other room.

(Recess taken.)

STATEMENT OF THOMAS T. GOLDSMITH, JR., VICE PRESIDENT, RESEARCH, ALLEN B. DU MONT LABORATORIES, INC.

Senator POTTER. Dr. Goldsmith, will you please proceed with your statement at this time?

Dr. GOLDSMITH. Thank you, Mr. Chairman.

I am Thomas T. Goldsmith, Jr., vice president in charge of research of the Allen B. Du Mont Laboratories, Inc.

Senator POTTER. Pardon me, Doctor. Because of the crowded condition in the room, in order for everyone to hear the witness, we will have to be as quiet as possible. So, if you will show as much courtesy as you possibly can, I will appreciate it.

Excuse me.

Dr. GOLDSMITH. I have had experience over the last 18 years or so in television, and have been present and acting very actively in a great many of the industry's coordinating plans on all occasions and the growth of television generally; have participated in many of the FCC hearings, and we have tried to work cooperatively with them as to what we can do about this television business.

This is another session in that same endeavor.

We are concerned in these Senate Committee hearings with a serious problem confronting ultra-high frequency, or UHF television throughout the United States.

These 70 new channels recently opened to broadcast television are at a very serious disadvantage with respect to the older 12 VHF channels under the present very complex competitive circumstances.

I wish to touch briefly upon the circumstances which surrounded the establishment of these UHF broadcasting channels in the hope that we can cast light upon the consideration of these current difficulties and help clarify certain possibilities for remedy.

During the past 10 years, United States television has grown from a laboratory novelty to a nationwide communication medium affecting the daily lives of more than 90 percent of the American people. During this brief decade, television manufacturing and broadcasting has attained the stature of a billion-dollar-a-year industry.

This tremendous expansion has not been accomplished without growing pains. One of these, the so-called freeze, resulted in a moratorium on station building which lasted for 3 years. Unfortunately, the subject of color television received extended attention during that freeze, and unduly delayed the lifting of the freeze, which had primarily been instituted merely to determine proper channel allocation practices.

The immediate problem of mutual interference between stations was ultimately solved, a large new group of television channels was added to the existing 12 VHF channels, a new nationwide allocation plan was adopted and television construction once more moved ahead.

Unfortunately, the decisions accompanying the lifting of the freeze contained the seeds which have since grown into an even greater problem.

The purpose of these hearings is to find a solution to this new problem, a solution which will permit further healthy growth of the United States television industry.

We will now review briefly the history of television since the lifting of the freeze, demonstrating the causes and effects of the current troubles, and finally suggesting possible remedies.

We have here, over on the side, a map of the United States containing 320 small lights. A copy of this map is inserted in the bound testimony as exhibit B. By placing a punched card in the switch, we may operate any predetermined set of lights. If no card is inserted, all of the lights light. Here we see the top 320 markets in the United States.

By placing this card 3 in the switch, we can limit the lights to the top 100 markets. Lists of cities that are shown by this card and ensuing cards are inserted in the bound testimony as exhibit C. In the ensuing discussion, these 100 markets will be of principle interest.

These markets have been chosen primarily on the basis of population. However, in certain cases, cities well served by neighboring large cities have been deleted and certain isolated cities have been added. For example, Brockton, Mass., well served by Boston stations, has been deleted, and Madison, Wis., a large market not otherwise served, has been added.

Here we see the top 320 markets in the United States. That takes us down to cities of the order of 50,000 nominal population, and is down where television must exist if you are going to serve most of the people.

By placing this card, No. 3, in the switch, we can limit the lights just to the top 100 markets.

There is a hole punched for each of those cities. That is just the top 100 markets, and we may want to use that card again and again to limit us to the big markets to see what the financial support can sponsor.

Senator POTTER. That will take you down to a population of about what?

Dr. GOLDSMITH. Takes us down to a population of something like 300,000 people in the television-service area.

Now, there is disargeement with a city listing, because television-service area out to 50 miles or so doesn't agree with market surveys as we are currently accustomed to reading them, but it is more practical from a television-broadcast standpoint to consider the service area.

Lists of cities that are shown by this card are inserted in the bound testimony as exhibit C. In the back of the book you have detailed lists of these cities, and they go by card number. For example, exhibit C comprises about half of the back portion of the book there, and a little description at the top of each list points out what can tie with the cards, as well as describe them.

In the ensuing discussion, these 100 markets will be of principal interest.

These markets have been chosen primarily on the basis of population. However, in certain cases, cities well served by neighboring large cities have been deleted, and certain isolated cities have been added further down the line, as mentioned. So we get the top 100 important television markets from a commercial standpoint and a public-interest standpoint.

Now, what is UHF television? As is well known, all television receivers now in the hands of the public are equipped to receive 12 television channels. These are called the VHF, or very high frequency channels, and lie between the frequencies of 54 and 216 megacycles.

With the lifting of the freeze, a new portion of the spectrum was allocated to television broadcasting. The channels therein are called UHF or ultra high frequency and lie between the frequencies, for television purposes, of 470 and 890 megacycles.

The millions of receivers in the hands of the public when the freeze was lifted could not receive the UHF channels without substantial additional investment by the owners, the initial available UHF transmitter power was small relative to the available VHF transmitter power, and UHF receivers were, temporarily at least, inferior in performance to VHF receivers.

Because of these conditions, it was strongly urged by some that a national allocation plan be adopted which would minimize the intermixture of UHF and VHF in any given market.

As an example of what could be accomplished, a nonintermix plan was prepared in 1949, and submitted by Du Mont to the Federal Communications Commission. This plan utilized the 12 VHF channels plus an additional 48 UHF channels at that time on a completely nonintermix basis.

Under this plan, cards Nos. 104 and 3 show those cities in the top 100 markets which would have had 4 or more nonintermixed channels. There were 92 such cities.

The FCC, however, decided during the hearings, upon the advice of some in the industry, that UHF would have a better chance of success if UHF stations were placed in the biggest markets along with

VHF. It was further decided that no operating stations or construction-permit holders would be required to change from a VHF to a UHF channel. Thus, the current plan was adopted. Under this plan, only these cities in the top 100 markets as shown by card No. 105 have at least 4 similar service channels. There are 14 such cities.

The issuance of the FCC's sixth report and order, making possible grants for new stations after July 1, 1952, opened the floodgates. Hundreds of new applications were filed, the Commission speeded up its processing methods and within a few weeks new stations were coming on the air. By the middle of 1953, the rate had reached one a day.

In the sixth report and order the Commission had recognized certain technical inequalities between the UHF and VHF transmissions. It had sought to rectify these inequalities by permitting UHF stations an effective radiated power 10 times as great as was permitted low-band VHF stations.

Unfortunately, the transmitter industry and the construction-permit holders were unable to take advantage of that particular opportunity. No one knew how to build a 50,000-watt UHF television transmitter.

Consequently, the great majority of the UHF stations started operation with a 1000-watt transmitter, which with an antenna gain of 20 could give 1 million watts of effective radiated power. Consequently the great majority had an antenna gain of 20, giving them 20,000 watts effective radiated power. Furthermore, the sensitivity of the UHF receivers was considerably lower than that of the VHF receivers, and finally, they cost more.

We wish to make one point very clear. There is nothing fundamentally wrong with UHF television from a technical point of view. Given the proper incentive, the technical difficulties outlined above will prove transitory. UHF can and in some cases is providing a television service at least as good as that being provided on VHF.

In many areas there had been no television until after the lifting of the freeze. In a few of these, the first station on the air operated on a UHF channel. In these areas, this was television, and it was widely acclaimed. Unfortunately, in most areas, the new UHF stations did not introduce the people to television. Well-entrenched VHF stations, carrying all of the best programs, had been in operation for several years. In these areas, there was little incentive for the public to equip their television sets to receive the new UHF stations.

A vicious circle ensued. Because the UHF broadcaster had no audience, he was unable to obtain the necessary advertising support either nationally or locally to provide attractive programs. Because he lacked good programming, the public had no incentive to convert their receivers. Thus, his audience failed to grow substantially. Today many of these UHF pioneers are in serious trouble. Several UHF stations have already been forced to cease operation and as this hearing shows, many more will follow unless something can be done to eliminate the unhealthy competitive situation now existing.

VHF itself has a frequency spread of 4 to 1 in megacycles. Channel 13, for example, is four times the frequency of channel 2; 250 megacycles to 50 megacycles. Now, the lowest UHF channel is 450 megacycles, and the highest is 216, a ratio of about 2 to 1 in frequency. That means there is nothing wrong with UHF channels as such. They just got here too late.

We have 100 AM channels in the AM broadcasting for the last thirty-odd years. We certainly need 82 TV channels to give a nationwide service; 12 frequencies of VHF is not sufficient alone to do it, and the only part of this spectrum where there is room for television is this UHF. We have to make good use of it.

Unless something can be done, and done very quickly, to eliminate the unhealthy competitive situation now existing, many more UHF stations will be forced to cease their operations.

I would like to interpose a comment there:

The individual stations have a lot to tell you about their troubles, because of the Madison Avenue effect. They don't think the advertiser wants to know they may be in trouble, but perhaps I can assure you, on a collective basis for the whole United States, that there is very serious trouble, and we've got to do something about it. The pressure that has been put on you from other quarters indicates the same thing.

Senator HUNT. The point is I think the people on Madison Avenue now understand the situation.

Dr. GOLDSMITH. We will now illustrate on the light map exactly how serious this situation is.

As of April 15, 1954, a convenient cutoff date for currency of this map, these cities in the United States, as shown by card No. 6, had at least one operating television station. There were 197 such cities or market areas.

So, you can see it is very widespread over the population of the country.

That is only one service.

Senator POTTER. But they have at least one or just one?

Dr. GOLDSMITH. At least one. That is one or more television services in each of these 197 cities.

Now, there are a few beyond this light map, 320, but they are still smaller cities. They perhaps have one station, but this is a significant trend of the whole country, even there.

VHF stations were operating in these cities shown by card 80—that is, VHF television stations—and they could, of course, be received by anyone with a television set—143 cities.

UHF stations were operating in these 87 cities as shown by card No. 7—that is UHF—but their audience consisted only of those people who had gone to the additional expense of converting their receivers or buying new, all-band receivers.

That is the UHF situation today.

Senator POTTER. Are those stations on the air?

Dr. GOLDSMITH. Those are one or more UHF on the air.

Now, you can see here a geographic and probably an economic support spread on a map, which is quite different from the impact you get with a list of cities or with charts that show quantity.

This is a geographic and service area portrayal of what television has, and this is the UHF stations on the air.

Senator POTTER. That is very graphic.

Dr. GOLDSMITH. It is of interest to consider the network alinement of these stations.

The lights and maps present a pictorial idea of geographic distribution, whereas other exhibits we will show later will present in chart form some of the quantitative and economic aspects of station operation and network affiliation.

Past and present network radio affiliations and other factors of economic self-interest have naturally brought the powerful, well-established VHF stations and the strongest television networks together. The result is that in these 62 cities, indicated by card No. 13, which is detailed in the back, in the top 100 markets, one of the large networks has primary VHF outlets—these 62 cities—whereas card 14 shows that in only these 20 cities, in the top 100 markets, does this same network have primary UHF outlets.

This is UHF outlets, on one of the large networks.

It will be noted that there is no VHF outlet now operating in most of these cities.

You can look at a great many of the cities there, and you will find Scranton, Pa., has no VHF. So, obviously it goes to U, and it is one of the top 100 markets.

Tampa, Fla., currently has no UHF on the air, though there were two VHF applicants for which there is multiple application pending.

On the one hand—let's look at 1 of the smaller networks—1 of the 2 smaller networks has VHF primary affiliates in only these 15 cities, indicated by card 17, compared with a large network having outlets in 62 cities, all but 1 of which have at least 3 VHF stations in operation.

In other words, we have gotten into those 15 cities perhaps on a part-time basis, because there are many of these on the air, whereas this same smaller network, as shown by card 18, has primary UHF affiliates in these 24 markets.

The mutual dependence of UHF stations and the smaller networks becomes immediately apparent. Without the UHF stations, these networks would have very few affiliates and without the smaller networks the UHF stations would have no programming.

It is well known that several stations have recently ceased operations.

We will consider only those in the top 100 markets because in these markets additional television stations could be supported.

Now, we have a double-card structure. We can put 2 cards at once and get the product of the 2 cards. In other words, we can have the situation for the entire United States and then put in the 100-station limit and see just those in the top markets.

We will use that double-card technique a little from here on.

Let us first see, by inserting cards 3 and 11, where in the top 100 markets VHF construction permits have been returned.

There is one—only one light comes on. That is a VHF turned in, in the top 100 markets.

There are two stations already operating in El Paso, and this market is, of course, one of the smaller top 100, and that was actually a case where the fellow decided to go in with one of the others. So, one dropped out. There is still VHF service there.

On the other hand, by inserting cards 3 and 12, we find that UHF construction permits have been relinquished in these 16 markets.

It will be appreciated that such cities as Buffalo, Dayton, Indianapolis, St. Louis, could readily support additional television stations.

Sentator POTTER. We lost Buffalo.

Dr. GOLDSMITH. All right. There it is. It is on now.

We have a little problem with the map in making all of the pinball points work.

Commissioner HENNOCK. We had quite a problem with Buffalo.

Dr. GOLDSMITH. But you see these are big cities that can well support additional television services. They failed in UHF because of the competitive situation.

It has been noted that the VHF stations naturally become affiliated with the larger networks. But, in cities where at least two VHF stations are operating these stations are almost invariably affiliates of the two larger networks.

A UHF station coming into such a market must start out with no audience and inferior programming, from both a quality and quantity point of view. Accordingly, the public has little incentive to convert and the audience does not grow rapidly.

Now, card 81 indicates the 51 cities now—that is April 15, 1954—having at least 2 VHF stations operating—51 cities having at least 2 VHF stations operating.

Now, by removing card 81 and inserting card 7, the 87 cities having at least one UHF station are shown.

That is one UHF.

By reinserting card 81—

Senator POTTER. Is that UHF alone?

Dr. GOLDSMITH. No. We will come to that in a moment.

The combination cards will show that story.

By inserting card 81, the V's, two V's, together with card 7, the one or more U's, we see those cities where at least 2 VHF stations and 1 UHF station are in operation. There are only 10 such cities and these are facing extremely strong competition in those 10 cities.

Apparently it is not sound economics for a UHF station to attempt to compete with two VHF stations.

There is a question on Dayton, for example, there.

Some of these stations have begged permission to hold up until maybe this Senate investigation can give them a new lease on life.

So, some of our cities are kept on the list as expecting to go back into business perhaps, but they have shown definite signs of failure by stopping temporarily servicing the public. So, there may be some disparity between the lists that you have.

Let us see what this means in the future.

Card 72 shows that under the allocation plan the Commission has allocated UHF channels to these 288 cities in the 320 markets of the country—the top 320 markets of the country.

Looking at card 69 instead, we see that at least 2 VHF channels have been allocated to these 118 cities. The lights show the cities before the stations are in operating condition. Now, this is a forecast for the future, that is, the allocated conditions if you had full occupancy.

These are the 118 cities which have been allocated to at least 2 VHF channels.

By inserting card 3 along with cards 69 and 72, we find that in the top 100 markets at least 2 VHF and 1 UHF stations have been allocated to these 64 cities.

Unless a competitive picture is radically changed, we may reasonably expect most of these UHF allocations will never be used.

Another illustration showing why we may expect this can be obtained by examining the UHF conversion situation, where people have changed over their sets to receive UHF.

Card No. 96 shows that at least 50 percent of the receivers in these 44 markets are equipped to receive UHF signals, and once again card 81

shows the 51 cities in which 2 or more VHF stations are now operating.

Inserting both cards, we see those cities having at least two VHF stations, where more than half of the receivers are equipped to view the UHF station. There are only two such cities.

Actually, these two cities—

Senator PASTORE. Would you name them, please?

Dr. GOLDSMITH. Duluth, Minn., and Jackson, Miss.

These two cities—Duluth, Minn., and Jackson, Miss.,—are more than 75 percent converted. However, in both these cities the UHF station was on the air several months before the VHF station settled down and got their grants and got on the air. So, the priority of UHF there can pretty well account for those stations still going.

This card shows clearly in those areas where the public can receive at least two VHF stations there is essentially no incentive to convert their receivers for UHF reception.

Jackson, Miss., down there, is estimated to have 17,000 receivers. It has got 2 V's on the air and 1 U on the air, and a city that size—well, there is more in the fringe—we don't know whether the U can really hold out; but in present circumstances those are the 2 cities that fill this bill.

It has been established that relatively few UHF stations are being built where VHF competition is strong.

It has further been established that in areas where VHF reception is available receiver conversion is low.

We will now examine the current UHF stations in the light of VHF competition which they may expect under the allocation plan.

Here, once more, is card 7, which shows the 87 cities now having UHF stations, and this card, No. 9, shows the 8 cities currently having no VHF station closer than 75 miles.

They have got no UHF service from a city that is closer to the center of that station than 75 miles.

In several cases, however, additional VHF channels have been allocated and will ultimately be built.

This card 103 shows all of the currently operating UHF stations which, under the plan, will never have VHF competition closer than 75 miles.

Senator PASTORE. Name that one.

Dr. GOLDSMITH. One light comes on. That is Fort Wayne, Ind. That has no fringe interference, let's say—one city.

Senator POTTER. They have it made.

Senator HUNT. That is monopoly, isn't it?

Dr. GOLDSMITH. There is 1 station on the air in Fort Wayne, and there is heavy competition for the other—2 UHF allocations to that city.

That has a chance of getting going, except that manufacturers would hardly go very far to getting prices down in behalf of one city out of the whole United States.

I think it can be concluded that Fort Wayne is now and will continue to be a good UHF market.

Conclusions: In summary, perhaps some of the most important reasons for the present UHF difficulty are the following:

1. The relative distribution of VHF and UHF throughout the United States does not permit competitive opportunity for UHF operation.

2. The economic factors of television support have not received adequate emphasis in the allocation tables.

3. VHF television had a long head start over UHF television.

4. The public has less than 10 percent of its total of 30 receivers equipped for reception of UHF.

5. UHF stations require excellent programs to encourage set conversion, but advertising support of such programing requires first a high percentage of set conversion—that vicious cycle.

6. UHF apparatus, while rapidly improving, has not reached the stage of technical perfection experienced in VHF, largely due to its much more recent introduction.

I might point out, Senator Potter, we have a great many more cards that analyze other phases of this situation, and Mr. Robert Wakeman, who has very ably handled the map for us, will be here and if you have questions it may just be we have cards that will visualize and clarify for you some of the other points.

Senator POTTER. I appreciate that because we can use it all through the hearing, if it can be made available.

Dr. GOLDSMITH. Well, it will be here for your use.

Incidentally, we used maps of this type with the Federal Communications Commission in the course of the hearings in Washington. We brought 2 16-foot maps down, 1 with the FCC plan and 1 with the Du Mont plan, the 2 side by side, with cards, which showed the whole story, and I think it does aid in assisting in planning.

The 16 maps, incidentally, have the complete status shown around each city. It is big enough to where we have pins that show the existing stations that are allocated, the ones for which applications are pending, the construction permits granted and the channel numbers, and the operating stations, and you can put a variety of cards on there. I think we probably have a thousand or so punchcards to show different analyses factors in television.

I have tried to present some of the technical and allocation factors involved in this complex problem. There are very important economic and public-service problems which face the broadcaster and the network operator which can more readily be discussed by the director of the broadcast division of Allen B. Du Mont Laboratories, Inc., and we should like to call on Mr. Theodore G. Bergmann to give you his report on these matters.

Mr. Bergmann.

Thank you, Senator Potter.

Senator POTTER. Thank you.

STATEMENT OF THEODORE G. BERGMANN, DIRECTOR OF BROADCASTING, ALLEN B. DU MONT LABORATORIES

Mr. BERGMANN. Mr. Chairman, I have some charts. I wonder if we can get them set up?

Senator POTTER. All right.

Mr. BERGMANN. We are ready, Mr. Chairman.

Senator POTTER. Mr. Bergmann.

Mr. BERGMANN. My name is Theodore G. Bergmann. I reside at 113 Seasingtown Road, Manhasset, N. Y., and I am appearing here today in my capacity as Director of Broadcasting of Allen B. Du Mont Laboratories, Inc.

You have heard a discussion of the technical considerations relating to ultra-high-frequency television broadcasting. I would like now to turn to the commercial and public-service considerations, especially as they relate to network telecasting.

On October 20, 1950, we appeared before the Federal Communications Commission during the course of the hearings on the Du Mont allocations plan and made the following statement, and I quote:

Unless there are a sufficiency of channels in the major metropolitan areas which do and can support national advertising, the number of competitive networks will be limited.

Today we are prepared to illustrate to you how events have transpired to prove out this statement, beyond argument.

However, before we do, I think it would be well to examine the national economy in respect to advertising in general and television in particular in order to determine its ability to support 4 outlets in all of the top markets and assure 4 national television networks.

During the past 5 years, or since 1949, we have been a part of a growth of a national advertising medium which has been nothing short of phenomenal. In 1949 national advertising expenditures were approximately \$2.9 billion. That same year national television, consisting of network and national spot expenditures, totaled to \$49.2 million or approximately 1.7 percent of the total national advertising expenditures.

Senator SCHOEPEL. Mr. Chairman, I would like to ask the gentleman a question.

Senator POTTER. Yes, Senator Schoeppel.

Senator SCHOEPEL. Now, in newspaper advertising I presume they have something like a uniform rate. I am asking this question because I don't know anything about your rates—the rates that are charged for television advertising.

Now, have the television advertisers gotten together on a kind of uniform scale of charges for television advertising?

Mr. BERGMANN. Not to my knowledge, Senator. The rates in television are set to be commensurate with the amount of circulation that each station delivers within its own market, and there is no uniformity.

As a matter of fact, some stations, if you examine the rates throughout the country, charge a higher rate for less circulation than do other stations which charge a lower rate for more circulation.

Senator SCHOEPEL. Well, that is what I wanted to get at.

Senator PASTORE. May I ask a question on that point?

Mr. BERGMANN. Surely, sir.

Senator PASTORE. Are the rates higher where you have one channel in the city than where you have several channels?

Mr. BERGMANN. Well, I haven't examined that recently, Senator, but it would be my impression that that is so; yes, sir.

Senator PASTORE. In other words, where there is lack of competition, the rates are higher.

Mr. BERGMANN. That's right, sir.

Senator SCHOEPEL. Do you know whether anybody has made an analysis of these advertising ratios?

Mr. BERGMANN. From what point of view, Senator?

Senator SCHOEPEL. Well, in some of these cities where they have 2 competing networks, or, say, 3 competing networks, I wonder if some

place down the line, if somebody has it, so the committee would have the benefit of that information?

Mr. BERGMANN. I think that is something we could work up for you Senator. I am not prepared with it today.

Senator SCHOEPEL. I understand that.

Senator POTTER. Could you do that, and supply it to the committee?

Mr. BERGMANN. Surely.

Mr. BENEDICT P. COTTONE (counsel for UHF Industry Coordinating Committee). Mr. Chairman, this is Melvin Goldberg, who is the industries economic consultant.

I hope you will forgive the interruption, but it may save some time.

Senator POTTER. All right.

Mr. MELVIN A. GOLDBERG (economic consultant, UHF Industry Coordinating Committee). At the time the original allocation plan was set up, I was working for the Du Mont network, and at that time we did submit to the FCC an analysis of station rates, breaking out those to single station markets, and multiple stations, and there tended to be a higher rate.

It is in direct proportion to the set circulation, but it tended to be a higher rate than for the multiple, and if you wish I can get that data and bring it up.

Senator POTTER. Would you do that?

Mr. GOLDBERG. Yes, sir.

Senator POTTER. Thank you.

You may continue, Mr. Bergmann.

Mr. BERGMANN. In 1953 the total national advertising expenditures increased to \$4.5 billion and national television represented 11.7 percent of the total, or approximately \$530 million.

On the basis of a weighted and conservative projection, it is anticipated that at the end of the next 5 years national advertising expenditures will have increased to slightly more than \$6 billion per year.

The national advertising expenditure projections indicate that advertisers could continue to increase their television budgets and demand for time from 11.7 percent of the national dollar in 1953 to 20.7 percent in 1958, resulting in billings of \$1.25 billion in 1958, for national television.

Now this could be done only if they are to handle such a volume.

Incidentally, these figures do not include local support, which a station garners from its own community, and usually represents 20 to 25 percent of its total.

Senator POTTER. This is just national advertising handled through the networks, I assume.

Mr. BERGMANN. No; it is national advertising handled through the network on a national spot basis. The placement by a national advertiser of programs or station-break announcements in local areas throughout the country.

Senator POTTER. How is that national advertising broken down between the four major networks, A, B and C and D.

Mr. BERGMANN. We are going to come to that, if I may, Mr. Chairman.

Senator POTTER. All right.

Mr. BERGMANN. It might be interesting to note at this point that national radio billings at their peak were \$406 million or approxi-

mately one third of our projection for television 5 years hence. Based on the ratio between advertising dollars and gross national product for the entire country, television's \$530 million in 1953 represented a movement of almost \$25 billion worth of gross national products and services.

In 1958 it is anticipated, if allowed to achieve its full potential, television will be responsible for the movement of almost \$60 billion worth of national products and services.

Senator HUNT. Mr. Chairman, may I ask a question?

Senator POTTER. Surely, Senator Hunt.

Senator HUNT. How much has the radio advertising dropped in the last 5 years? Percentagewise, how much?

Mr. BERGMANN. I believe we have those figures.

Senator HUNT. If you don't have them available, I would appreciate having them later. I would just like to know the exact impact of television on radio broadcast advertising.

Mr. BERGMANN. All right sir. We have them.

Senator POTTER. Do you know whether radio advertising has increased or decreased?

Mr. BERGMANN. My impression of the figures is that it has maintained somewhere between \$300 million and \$400 million. That is national spot and network radio. It hit its peak, I believe, in 1946, of this \$406 million.

Senator POTTER. That is sort of leveling off now?

Mr. BERGMANN. That's right.

Senator PASTORE. And while you are doing that, could you give us statistics on how many radio stations own television stations?

I mean, it interlocks pretty well; doesn't it?

Mr. BERGMANN. It certainly does.

Senator PASTORE. Whatever fluctuations you had on radio, they picked it up on television. It is still about the same ownership, isn't it?

Mr. BERGMANN. There is still a lot of the same ownership. We had examined one network, and found out of the top 100 markets, as we will say here a little later, I believe the figure was—this network was able to clear 80, but 53 of those 80 were radio affiliates of that same network.

Senator PASTORE. Over 50 percent.

Mr. BERGMANN. Yes, sir.

Thus, not only do we have an economy which will be able to support national television at almost 2.5 times its present size but one which will be dependent upon it for the sale of goods representing 12 percent of its total volume.

In order to achieve this promising future and assimilate billings such as those I have described, television must be able to present circulation and availability to advertisers. Both of these are dependent upon a sufficiency of outlets in the major market areas of the country.

It is our firm conviction that one way in which this existence can be assured is through the promulgation of four healthy television networks.

Senator POTTER. Why do you say 4, because there are 4 now? Could it be 5 or 6?

Mr. BERGMANN. It could possibly be more, Mr. Chairman.

Senator POTTER. You say—

Mr. BERGMANN. Four has been a traditional number, as carried over from radio. If these billings build sufficiently, there could even be 5, if there were enough outlets to handle 5.

In accordance with the sixth report and order adopted April 11, 1952, this sufficiency was theoretically provided for by the allocation of UHF channels operating in competition with VHF frequency channels in many of the same market areas. Any station in order to be competitive, regardless of its frequency, must have access to equally attractive program sources.

This becomes an even more acute problem in the operation of a UHF station telecasting in competition with a VHF station where that VHF station has built up an audience prior to the entrance of the UHF station due to the fact that the programing on the UHF station must create an incentive on the part of the local viewers through its attractiveness to spend additional money to convert their receivers and establish viewership.

The greatest source of top-rated, attractive programing has traditionally been the networks. However, the ability of a network to program strongly is directly related to the network's ability to achieve circulation and, consequently, advertiser support.

It stands to reason that an advertiser cannot afford to purchase a \$20,000 weekly program and place it on a mere handful of stations. Program expenditures must be tailored to fit station clearances and be commensurate with the circulation achieved.

This factor holds true for both network and advertiser alike. Neither can afford to maintain programs whose costs are disproportionate to their circulation. This applies to public service program expenditures by the networks as well.

I might explain that the network's source of income results from the moneys from advertisers which it is able to retain after paying its stations, its interconnection costs, and its operating overhead.

If a network is unable to clear stations, this income must necessarily be curtailed. However, the network must still maintain its operation overhead and its interconnection costs which then become disproportionate to its income.

An example is the purchase of interconnection facilities between cities. American Telephone & Telegraph supplies these facilities under Government-approved tariffs which take no cognizance of the station scarcity along the cable routes.

One example is the purchase by the Du Mont network of cable between New York and Chicago. Along this route there are 41 cities which have television outlets. The network is required to purchase 8 hours a day, 30 days a month, in order to maintain a favorable rate from A. T. & T.

The 41 cities when multiplied by the 240 cable hours per month produce a potential usage of this facility of 9,840 hours of station time monthly. However, because of the preponderance of single- and dual-station cities within these 41 cities between New York and Chicago, the Du Mont Television Network can only clear 736 hours monthly, or between 7 and 8 percent of its potential. The cost of the cable, however, remains the same.

In the United States today, we are operating on 2 cylinders of a 4-cylinder engine—at half capacity. The result is that television is only

half able to serve the public interest and contribute to the national economy. In other words, we are living in a 2-network economy when we should be enjoying a 4-network economy.

May I illustrate:

It is axiomatic that a network in order to achieve a real state of health and to interest advertisers, thereby enhancing its ability to program attractively, must be in a position to offer clearance to national advertisers in the top 100 market places of the country.

For the purpose of these illustrations, we have taken the top 100 markets and we will examine them in the light of physical television facilities.

I direct your attention to the chart, and that is reproduced as exhibit D in your book.

Prior to the lifting of the freeze in July of 1952, all networks were operating on hope. We see here if we take the theoretical position that one network was able to achieve the maximum clearance in any single time period which you might select, we find that fortunate network only able to clear time in 58 of the top 100 markets.

In the same time period, due to the fact that 35 of the 58 were markets which contained only 1 station, a second network was able to clear 23 markets. However, 11 of those 23 contained only 2 stations; thus, network 3 could clear only 12 markets, while network 4 had to content itself with only 4 markets due to the fact that network 3's 12 markets contained 8 areas in which there are only 3 stations.

Now, this does not bear a direct relationship to the actual clearances. We are just demonstrating the physical facilities, physical outlets that were available with four networks operating simultaneously.

Senator POTTER. What you are saying there is that network No. 4 at that time could only—had a chance to market when there were 4 stations; is that correct?

Mr. BERGMANN. That is correct.

Senator POTTER. And 3 when there were 3 stations; is that right?

Mr. BERGMANN. That is correct.

At this point the freeze was lifted, and for the first time in 3½ years new stations began to come into existence and we see the picture changing in this form. It is now possible, in any given time period, for network 1 to clear 96 out of the top 100 United States markets.

However, we still have with us the single-station market problem, as you will note. Network 2 can only simultaneously clear time in 65 markets because of the continued existence of 31 single-station markets. Network 3 has a potential of only 24 markets due to the fact that we still have 41 markets in which there are only 2 stations, and, finally, network 4 can clear time in only 8 markets which contain 4 or more stations, but we have added a dimension—UHF.

The clearance of 96 markets is made possible only through the utilization of 23 UHF stations. In order to clear 65 markets our second network finds itself employing 29 UHF stations. To clear 24 markets, our third network must utilize 8 UHF stations, and, finally, our fourth network must employ 3 UHF stations to achieve its 8-market time clearance.

Now, it is interesting to note, and I might say somewhat symptomatic, that the preponderance of UHF employment is in the 1- and 2-station markets, while the 3- and 4-station markets contain a total of only 11 UHF stations. The reason for this situation is obvious.

UHF has a chance for existence only where any one of these following factors occur:

1. The station has no competition;
2. The station's competition is only UHF; or
3. The station's competition is only one other station, regardless of whether it is VHF or UHF. Under the sixth report and order, the Federal Communications Commission has provided for this total operation if all of the allocations were utilized in the top 100 markets.

We now see network 1 capable of clearing time in a total of 100 out of the 100 markets.

In the same time period, network 2 could conceivably clear 100 out of the 100 also, since we no longer have any single-station markets in the top 100.

Network 3 is capable of clearing time at the same time in 79 of 100; and network 4, 53 out of the top 100—but let's look at UHF.

Network 1 must employ only 12 UHF stations now. Network 2, 33 UHF stations, or approximately one-third. Network 3 must use 49 UHF stations out of a total of 79, and network 4, 46 stations out of a total of 53 markets reached.

However, as previously demonstrated it is extremely doubtful under present circumstances whether these UHF stations will ever come into existence to service networks 3 or 4 due to local competition.

Now, up to this time we have been talking in pure theoretical terms based on total allocation and one network gathering unto itself all of the prime clearances with the second, third, and fourth networks ranging down the scale, each one utilizing the leavings of those ranking ahead.

Let's examine the picture as it exists today in actual practice.

Based on a study conducted at our request by one of the leading broadcast research organizations, we arrived at conclusions regarding actual networks based on clearance enjoyed by each of the four operating networks. These results are embodied in this chart. Our conclusions as to whether or not an assignment of a station in the top 100 markets to an individual network was arrived at by weighing the amount of clearance that network achieved during the hours of 6 p. m. to midnight, 7 nights per week, during a typical week.

Each network's clearance was weighed in proportion to its total offerings, and nighttime was chosen because all four networks do operate simultaneously during these hours. Thus, we arrive at the following:

NBC is currently clearing 82 of these top 100, of which 20 are UHF stations. However, an examination of these 20 UHF stations reveals that 15 of them are in single or dual-station markets where we already noted UHF can compete.

CBS is clearing time regularly in 76 of the 100 markets utilizing 20 UHF stations, 14 of which are contained in single- or dual-station markets.

ABC is clearing 51 of the 100 markets but must utilize 31 UHF outlets in order to achieve this clearance.

Seventeen are in single- and dual-station markets, and 14 are in 3 or more station markets and, finally, Du Mont's regular clearance consists of 39 markets with a total of 16 VHF's and 23 UHF's, 12 of which are in single- and dual-station markets.

As a rule of thumb, we might naturally assume since the CBS and NBC program schedules outweigh in values the ABC and Du Mont

schedules, with very few exceptions, in the single- and dual-station markets, ABC and Du Mont must content themselves with delayed and fringe-time clearances, while NBC and CBS enjoy live clearance in preferred time.

Now, the point which is obvious from this illustration is that in order to exist, the two networks whose clearance is limited must be dependent upon the success of UHF in multistation markets.

The manifestation of the clearance problem is clearly illustrated in a study of the networks' billings over the past 5 years.

These network billings bear a direct relationship to the total amount of time clearance enjoyed by each network.

NBC in 1949 billed \$6.5 million and, as a result of its ability to clear stations, has increased its billing to 96.6 million in 1953.

CBS started in 1949 with \$3.4 million yearly and increased to \$97.5 million in 1953.

ABC, with \$1.4 million in 1949, with much less clearance than the previous two networks, has been able to increase its billing only to \$21.1 million.

Du Mont, with \$1 million in 1949, finding itself in a situation more comparative to ABC than to NBC and CBS, came up with \$12.4 million in 1953.

Both ABC and Du Mont, as a result of the billings on this chart have been forced to maintain continual investments in their networks in order to stay alive. Speaking for Du Mont, this investment has been considerable and up to this point there is little chance of its recovery. However, I am certain, if these prospects are changed, both Du Mont and ABC can ultimately show a profit in their network operation.

From these charts we may then arrive at some very definite conclusions:

1. Two networks enjoy 85 percent of the total network advertising revenue. As a result of lack of clearance opportunities, the other 2 networks must be content to divide between them the remaining 15 percent.

2. The 2 networks which are on the short end of the billing are dependent upon UHF outlets for more than 50 percent of their clearance.

3. As a result of lessened advertiser support the two low networks do not have an opportunity to build programing capable of creating circulation through receiver conversion in the intermixed markets. We have seen numerous UHF stations close their doors in markets where competition from two VHF stations carrying the CBS and NBC program schedules, leaving only the ABC and Du Mont schedules to the UHF.

If the situation is allowed to continue as currently, there is no doubt in my mind that the existence of four competitive networks is not possible. If as a result of this situation, two networks are all that survive, the country is then faced with a situation which will manifest itself in the following ways:

1. The viewing public will have available to it just 2 sources of network programing rather than 4.

2. Television stations in all except the top few metropolitan areas will be limited to two in number which must result in an almost complete elimination of public-service programing and local advertising,

for stations are dependent upon the existence of networks in all but the largest population centers.

3. The existence of only two networks will create unfair competition in almost every national consumer product industry in our country. If manufacturer A can achieve time on 1 of the 2 existing networks and his competitor, manufacturer B, is frozen out, manufacturer B must attempt through the purchase of other less potent advertising media to offset the competitive advantage afforded manufacturer A as a result of television's tremendous selling impact. We have already seen manifestations of this monopoly situation at CBS and NBC as described in the advertising-trade press. If I may quote a trade-press item published Wednesday, April 28:

The situation is such at NBC-TV and CBS-TV today that major clients with shows already to go are practically begging for time that is unavailable.

The article goes on to mention four of America's largest advertisers who are unable to spend their money on network television. One of these advertisers was quoted in Advertising Age of April 19, 1954, as saying:

We were just kicked out and there is nothing we can do about it.

When asked about moving to ABC or Du Mont, this advertiser stated that they "have plenty of time and programs, but they don't have the stations."

We have many such instances, and they are becoming more frequent every day.

4. If the viewers in this country are ultimately reduced to dependency upon a two network system in as powerful a means of communication and dissemination of public information as television has proved to be, not only will they be denied their rightful opportunity to be served by this medium but a duopoly will exist which must place in the hands of a few individuals control of opinion and thought dangerous to the entire country.

A fine example of this point has been afforded us right at this moment in the Senate hearings which are being conducted by your eminent colleagues into the Army-McCarthy controversy. The two lesser networks are the only means by which millions of Americans saw their Government in action as it was transpiring in a most crucial moment in our history; and this was being afforded only to the few who live in States where station facilities exist in numbers necessary to the existence of four networks.

The public interest and the national economy can only be served by the institution of a truly competitive network system of telecasting.

Thank you for your attention. May I now turn the testimony back to Dr. Du Mont?

Senator POTTER. Before you leave, Mr. Bergmann, do you have any views on the bill introduced by Senator Bricker?

Mr. BERGMANN. I have read the bill, Mr. Chairman, and it is my feeling that possibly this is one way of getting at the problem.

Dr. Du Mont, in his testimony which follows mine, indicates what those ways are, and I think you will be able to see how they fit into Senator Bricker's bill.

Senator POTTER. Thank you.

Senator PASTORE. Let me ask you a question, Mr. Bergmann: Does the pending bill remedy this problem that you have presented?

Mr. BERGMANN. You are referring to the Bricker legislation?

Senator PASTORE. No.

Mr. BERGMANN. Senator Bricker—

Senator PASTORE. No; I am referring to S. 3095.

Senator POTTER. The Johnson bill.

Mr. BERGMANN. It could possibly, but I am afraid not in its present form, Senator.

Senator POTTER. Well, what would you do to it?

Mr. BERGMANN. Well, as I told the chairman, Senator, we have a proposal which allows two types of systems to be instituted, one of which is an incentive system on the part of the networks to improve this situation on their own, without regulations, if this bill can be amended in such a way as to permit that type of incentive system for the networks in the acquisition of multiple, or more stations, actually.

I think that will be a little bit clearer, as you see in these plans, as they are developed, and will follow the tenets of the bill a little more closely.

Senator POTTER. Dr. Du Mont will give us the recommendations that you have in this problem.

Dr. DU MONT. That is right, sir.

Senator POTTER. Any other questions?

All right, Dr. Du Mont.

Mr. BERGMANN. Thank you, Mr. Chairman.

Dr. DU MONT. Mr. Bergmann has given a vivid description of the network picture. UHF broadcasters, generally, are also in economic distress and their situation is getting worse. Hence, speed in finding a solution in this is imperative.

Their lack of audience is the result of the lack of programing of sufficient quantity of audience appeal to attract viewers who will spend the necessary amount of money to equip themselves to receive their signals.

Topflight competitive network programing is the key to relief of the situation. Four strong networks are essential to place VHF and UHF broadcasters on an equal, competitive footing. That is not possible under the present plan of channel allocations and conditions which stem therefrom.

Briefly, the situation is this:

1. We have two strongly entrenched national television networks and two relatively weak networks.

2. We have a group of strongly entrenched, high-power VHF television stations and a group of relatively new low-power UHF stations.

3. Economic self-interest has promoted the affiliation of the VHF stations with the two stronger networks.

4. The weak UHF stations must affiliate with the two weaker networks or forego network programing.

5. The two weaker networks are not in a position to strengthen their programing to competitive stature because of the inability to reach established audiences in the key markets of the country.

6. The present situation breeds itself so that the strong are becoming stronger, and the weak are becoming weaker.

7. Establishment of UHF broadcasting on an economically competitive basis requires strengthening of the two weaker networks.

It is apparent that television broadcasting has reached the point where, without some Government intervention, it will shortly become the property of two networks and a relatively few powerful VHF stations, and there will be, in effect, a television broadcasting monopoly. It is also apparent that under such conditions, there will be a strong trend running toward monopoly in distribution of the products of industry.

In our original allocation proposal, equal competition was provided for by a proper allocation of frequencies. We do not think it practical at this late date to go back and correct this to any great extent.

We would much prefer to see a fully competitive national television system developed without Government intervention, but at this stage that doesn't seem possible.

We do not know that we have the absolute answer to the problem, but we have three suggestions which seem to hold greater possibilities than any others we have heard about.

It can be demonstrated that under present conditions, the market which is one-hundredth in national rank can just support four television stations. A healthy network requires access to the top 100 markets. In the development of our suggested plans, it has been assumed that each of the 100 top markets will ultimately have 4 television stations. This will require no drastic changes in the existing allocation plan. In many cases where fewer than four channels have been allocated, the common practice of building a station assigned to an outlying town as close as possible to the major city will solve the problem. In a few cases, it may be desirable to move a channel for which no application has been made from a neighboring town to the major city.

It has been assumed further that the two stronger networks will have first choice of the stations, and that the VHF stations will have first choice of the networks within a given market. Both of these choices must, of course, be made within the rules of the plan under consideration.

The principal aims of the three plans to be discussed are threefold:

1. To increase the stronger networks' programming time on the UHF stations, and;
2. To increase the weaker networks' programming time on the VHF stations, and;
3. Finally, to place VHF and UHF on an equal, competitive footing.

Attainment of these aims will result in conversions and purchases of receivers which will find all viewers equipped to receive all signals.

We have called our first suggestion plan A. It requires that each of the networks make primary affiliates of certain UHF stations. For accomplishment of the results sought, a list of the top 100 markets by rank should be established, and the 4 networks would be required to take turns in affiliating UHF stations exclusively wherever less than 4 UHF stations exist in any 1 market.

The chart shown here, which is also shown in our bound testimony as Exhibit J, illustrates the result of plan A under the condition of full occupancy. Each of the vertical bars represents a network. The top section of each bar represents the top 25 markets. The central section represents the second 25 markets. The bottom section represents the remaining 50 markets. The red indicates VHF affiliations and the blue denotes UHF affiliations.

The chart shows that all 4 networks will have primary affiliates in all of the top 100 markets. It also shows that there will be many primary UHF affiliates in the top markets, of which approximately half, or 95, will be affiliated with the 2 strong networks.

Thus, immediate relief will be provided for these UHF stations and, by increasing widespread conversion, will promote the welfare of all UHF stations.

The formula is simple, but may require legislation to bring about such Government regulation of networks.

Our suggested plan B provides a formula which calls for a degree of regulation as applied to stations. In essence, the formula would be in one example:

Each station must relinquish on demand of a network 25 percent of its networking class A time, 25 percent of its networking class B time, and 25 percent of its networking class C time to the network which makes the demand. No station shall make any type of rate discrimination between networks.

In practice, the formula would work out like this:

1. In a market of 3 VHF and 1 UHF stations, the 3 VHF stations automatically will be primary affiliates of 3 of the networks. On demand of the fourth network, each of the stations would be required to carry the fourth network's program for up to 25 percent of the networking time.

Obviously, the 3 networks which have had 25 percent of their time preempted on the VHF stations will place their programs on the UHF station. The result then would be that a UHF station would have 25 percent of its networking programs from each of the 4 networks.

2. In a market having 2 UHF and 2 VHF stations, each of the 4 stations would carry network programs from the stronger networks for half of their networking time and programs from the weaker networks for the other half of their time.

3. In a market with 1 VHF and 3 UHF stations, the VHF station would be found to be devoting 25 percent of its networking time to each of the 4 networks, and each of the UHF stations would devote 75 percent of its time to 1 of the networks and 25 percent of its time to the fourth network.

4. In markets where only VHF or only UHF stations exist, each of 4 stations will automatically become primary affiliates of 1 of the networks.

The chart shown here, which is also shown in our bound testimony as exhibit K, discloses a fairly even distribution of both UHF and VHF among four networks. Two networks, A and B, have a slight VHF advantage in the first 25 markets, but in the other 75 they are just about even.

The result of the operation of this suggestion would be more and better programs to UHF stations and more and better outlets for the weaker networks. The formula is relatively simple and is believed to require only the statement of regulation and formula to be included in licenses issued by the Federal Communications Commission to every television station.

Plan C is unique in that no Government regulation is required. It is an incentive plan.

Under the present multiple-ownership rule, several interests have acquired their limit of five owned and operated stations. The four networks either have their limit or are in the process of obtaining them.

Such profits as have materialized to date in television broadcasting have stemmed from the operation of stations to a large degree rather than from network operation.

The expense involved in producing and distributing television programs makes network operation either a losing proposition, or if any profit is realized it falls far short of being commensurate with the investment necessary to the operation. Networks in general are dependent on their wholly owned stations to assure profit or to reduce their losses.

Accordingly, an owner of five stations which does not operate a network enjoys an extremely profitable operation, whereas the networks which provide the programs have extreme difficulty in making a profit. Therefore, plan C makes a differential between a network and the operator of multiple stations.

The plan provides for an amendment of the multiple-ownership rule which might be stated as follows:

A qualifying network will be permitted to have an additional wholly owned television station for each group of seven primary UHF affiliations maintained, provided that:

1. One of each group of 7 UHF affiliations thus maintained shall be in one of the top 25 markets by national rank;
2. Two additional of each group of 7 UHF affiliations thus maintained shall be in the group of the top 50 markets by national rank;
3. Four additional of each group of 7 UHF affiliations thus maintained shall be on the top 100 markets by national rank; and
4. No network shall be permitted to own more than 11 stations under the provisions of this or any other rule.

For the application of this rule, it would become necessary to define a "network" and establish the rules for qualification as well as to establish administrative procedures for regulating the maintenance of affiliations.

Under plan C, all networks would profit through the acquisition of valuable properties while UHF stations would profit through the maintenance of primary affiliations with networks. The weaker networks would profit through the availability of affiliations with stations having established audiences, and the UHF conversion of the Nation's receivers would be accelerated.

The chart on the easel, which is also shown in our bound testimony as exhibit L, illustrates the probable eventual lineup on the plan. It should be pointed out that in connection the ultimate distribution is not so universal as in plans A and B. On the other hand, it would successfully promote major network affiliations for many UHF stations and provide access to enough VHF stations to give the weaker networks exposure they must have in major markets if they are to survive.

One of the advantages of the plan appears to be in the speed with which results could be accomplished. It is believed that competition would force all of the networks to acquire their maximum number of stations as rapidly as possible. This would result in very quick establishment of primary affiliations for 168 UHF stations.

It is noteworthy that these results can be accomplished under plan C with no governmental regulation either of the networks or of the television stations.

In submitting these suggestions, we know there will be some who will object to any one or to all of them. Obviously, some will be deprived of preferred positions which they now enjoy. But in con-

clusion I would like to point out the situation must be leveled out by Government action or we shall wind up with a noncompetitive television system falling far short of the public's needs and well along the road toward monopolies in the distribution of consumer goods.

In conclusion, I want to say that we are most appreciative of this opportunity to present our views to you and of your interest in the problem. We hope your deliberations will be productive of the much-needed results.

Thank you.

Senator POTTER. Doctor, is it your contention that the two smaller networks' future rests in the future of UHF?

Dr. DU MONT. Absolutely; yes, sir.

Senator POTTER. If I understand your suggestion, the first suggestion was that the top 100 markets would be—the allocation would be rotated?

Dr. DU MONT. That is right. For instance, if you start with No. 1, New York City, and then you go down the line, I believe the first city that you hit that only has three VHF stations—that's Philadelphia—one network would take that. Then you would go down the line, the next station would be, say, Boston. That would be another network, and you would rotate so it would be equal to all networks.

In other words, one would take—one network would take in one market circulation.

Senator POTTER. What is the normal procedure in contracting for networks? How long are you contracted for?

Dr. DU MONT. Two years only.

Senator POTTER. Only two?

Dr. DU MONT. You are not allowed to make contracts for over 2 years. There may be some amendments that would have to be made in the regulations that the FCC has at the present time, because certainly you wouldn't want a network to make a deal with a UHF station for 2 years, getting his additional V station, and then drop him. You would have to put the regulations in to be fair and protect the thing.

Senator PASTORE. Would you give us an example, Doctor, as to how your plans would help, let's say, ABC and Du Mont?

Dr. DU MONT. Which plan do you mean? Any one of the plans?

Senator PASTORE. Any one of the three.

Dr. DU MONT. Well, if you take the first plan, which is the one we were just discussing, it would give us the necessary outlets so that we could spend the same amount for programs as the top two networks. We can't spend the money now for the programs because we can't feed it to enough stations.

You've got to figure out your cost per program and the cost per station, and any one of these plans would allow us to run on, you might say, an even track with the top two networks.

Now, we originally tried to do it, and we, incidentally, spent \$100,000, believe it or not, in investigating this allocation scheme—this 1949 and the later allocation schemes—because we would have liked to have seen it done without any Government regulation.

You had 4 tracks, and 4 people could run on those tracks, but it was decided otherwise, to intermix UHF and VHF.

But any of these 3 plans insofar as the 2 networks are concerned, would even the thing up very, very much.

Dr. GOLDSMITH. Four networks.

Dr. DU MONT. Four networks, I mean.

Senator POTTER. Isn't it true—

Dr. DU MONT. And give you a chance for these UHF stations to have some support, and be successful—

Senator POTTER. It would give you the same circulation.

Dr. DU MONT. As the other people.

Senator POTTER. As the other ones.

Dr. DU MONT. That is right.

Senator POTTER. And thereby you could get national advertisers.

Dr. DU MONT. That's right.

Senator PASTORE. It would naturally entail NBC and CBS giving up something; wouldn't it?

Dr. DU MONT. It would entail NBC and CBS together.

Senator PASTORE. Would they have to give up any VHF stations?

Dr. DU MONT. They would not have to give any owned and operated stations up; no. Not in the third plan.

They would simply, as it is now, the top two networks, as you saw from those charts of most of the V's, and very few U's, the other networks have a lot of U's and very few V's. It would equalize that.

In other words, to put it very bluntly, it would mean that effectively each network would feed the same number of VHF stations and the same number of UHF stations.

In other words, you are doing by regulation what could have been done by allocation.

Senator SCHOEPEL. What you are saying, though, now, is: You limit the entire country to four networks.

Dr. DU MONT. It could be worked out for more than four. We have used this an as example. We don't say you can only have four networks.

Senator SCHOEPEL. That is the thing I am glad to have you get in the record.

Dr. DU MONT. Yes.

Senator SCHOEPEL. Now, next: Would that not involve some agency determining rates, where you say there should be no discrimination in rates?

Dr. DU MONT. It would, in some of the plans it would, and in some of the plans it would not.

In other words, plan C—

Senator SCHOEPEL. Yes; that's right.

Dr. DU MONT. Which is the incentive plan, would not necessarily require that.

Senator SCHOEPEL. But A would.

Dr. DU MONT. I think A would, and B might. I think there is a good chance A and B conceivably might have to have some regulation of, what do you call it? Rates and rules; whatever you call it.

Senator SCHOEPEL. Well, some place down the line it would seem to me that in the interest of the overall public effect that obviously this thing is going to have to come to some kind of determination of a rate structure.

Dr. DU MONT. Well—

Senator SCHOEPEL. If you make some of these shifts.

Dr. DU MONT. I think it may lead to that, invariably. You have other Commissions, like your ICC, and the railroads. When a rail-

road runs between two towns and gets a franchise, they have to take both passengers and freight.

Senator SCHOEPEL. That's right.

Dr. DU MONT. Many of them would like to eliminate passengers. Well, this says if you run a network, you have to have UHF and VHF. Now, at the present time they wouldn't like to have UHF. Once UHF is built up in a couple of years you wouldn't need that regulation, the thing would go along because you would have your UHF stations established.

Senator POTTER. Is there any definition, by law, of "network"?

Dr. DU MONT. I don't believe so.

Mr. COTTONE. Yes, sir.

Senator POTTER. What is your definition?

Mr. COTTONE. There is one.

Senator POTTER. What is your definition?

Dr. DU MONT. I don't know that I can give a good one, offhand, but fundamentally it is an organization that feeds programs to a number of stations. That is the way we look at it; provides service, sustaining programs, commercial programs and public-service programs to a reasonable number of stations.

Senator PASTORE. The thing that I am trying to settle in my own mind, thinking about your plans, and I don't profess to understand them too well—I am asking the question that hasn't been answered yet:

Do NBC and CBS have to give up any contracts that they now have with VHF stations in order to put your plan through?

You have been talking about advantages. Now, I want to get on the side of disadvantages. I want to see where the opposition is going to come from.

Dr. DU MONT. I think that is undoubtedly true, NBC and CBS would have to give up some of their contracts with VHF stations and place them with UHF stations.

Senator PASTORE. In other words, they would have to come down in order to allow you to go up.

Dr. DU MONT. That's right.

Senator PASTORE. In other words, in order to create this equalization that we are talking about.

Dr. DU MONT. Yes; I think that is true. But ultimately, as I explained, when you build U's up, then it would be just an interim situation, when the U's are built up.

Senator POTTER. Then it would be enough for all networks.

Dr. DU MONT. That's right; then you would not have the problem.

Senator SCHOEPEL. But, looking at it from a strictly equitable viewpoint, wouldn't we or some agency that might attempt it, either by legislation or executive direction, have to provide some safeguard for the protection of valid, arms'-length contracts?

Dr. DU MONT. Oh, I think so; yes.

Senator SCHOEPEL. Yes. And there would have to be a time element in there.

Dr. DU MONT. That is right; you couldn't put it in effect immediately, as it is now you can't make a contract for longer than 2 years, so they are all automatically running out every day, you see. So they are not all set forth for a specific time. When a station goes on the air you usually make a contract, so they are all running out at various times.

Senator PASTORE. Would we be abridging any contracts in the carrying out of these plans?

Dr. DU MONT. It would all depend on how the law would be set up. If you waited until the contract ran out before you provided them with the U, you wouldn't be abridging any contracts. If you make them break contracts immediately, you would, although most of the contracts—I am not too familiar with the contracts—but they do provide the cancellation of some of them at a very short period. Is that correct?

Mr. BERGMANN. I wouldn't say the majority of them do, Doctor.

Dr. DU MONT. Some of them.

Mr. BERGMANN. Some of them do.

Dr. DU MONT. Yes.

Senator SCHOEPEL. I would like to ask one other question here. I'm like Senator Pastore here. I don't know very much about this, but we are playing with some legislation in here that is going to affect a lot of folks.

Dr. DU MONT. Sure.

Senator SCHOEPEL. Have you in your research department given any thought to the legislative approach to this with reference to the bills now before us?

Dr. DU MONT. We have given some thought to it.

The bill of Senator Bricker, which allows the Federal Communications Commission to take into consideration a network jurisdiction, which they had not before, I think would implement these plans. It would allow the Commission to set regulations that could set these plans into effect.

Senator POTTER. They would have to do that. You would have to pass a bill such as Senator Bricker's.

Dr. DU MONT. That's right.

Senator POTTER. If a plan such as your plan is involved.

Dr. DU MONT. Conceivably my plan C would not require it, but I am certain that plans A and B would. The bill of Senator Johnson's, which provides, if you give up a V, you can have two U's, and so forth, like that, my feeling is it doesn't help any, because certainly a person that has a V doesn't want to give it up for two things that are maybe worth 10 cents. I mean that's simply the emphasis in the wrong direction on that.

There would be no incentive for a network to give up the V's, and go to U stations with the present situation.

Senator PASTORE. May I ask you another question:

If we adopted any one of the three plans that you suggest this would be a terrific boon to the stockholders of ABC and Du Mont; wouldn't it?

Dr. DU MONT. Well, it could conceivably be; yes, sir.

Senator PASTORE. Terrific; wouldn't it?

Dr. DU MONT. Well—

Senator PASTORE. You could almost envision that stock going up 300 percent.

Dr. DU MONT. Well—

Senator SCHOEPEL. We shouldn't start that.

Dr. DU MONT. I am not an expert on that. I couldn't say.

Senator PASTORE. I mean it would be envisioning a terrific profit; wouldn't it?

Dr. DU MONT. No; I would't say that it would. As I pointed out here, I think the impression is that networks are very profitable operations. They are not. We lose money on our network, and a lot of money on the network, and I believe that is true of some of the others. You can get those figures, of course, which we can't get—the other fellow's figures, from the Federal Communications Commission. So you can determine that.

Here the networks are pretty much responsible for television in this country, because they have put the programs out that have been interesting enough for people to buy service, and yet the networks make relatively a small percentage of profit as compared with what the stations make.

Senator POTTER. Does IBC make money from the station, rather than the network?

Dr. DU MONT. Without seeing the figures, I would say that is true, and their profits come from the operation of the stations and not the network. And you can take some people like Westinghouse and Storer, and so forth, that have five stations, and contributing nothing to the programing, and they do very, very fine, the people that just own stations; the network business is not a paying proposition, and never has been.

So, when you say a "terrific rise," that way I think it would have some effect, but after all, the operation of the network of any of the companies you mention is relatively a small percentage of the total operation of the company.

As far as we are concerned, we have 6 divisions; 1 is the network division, and that is not the largest division we have, and that applies to the other people, too. So it would have some effect.

Senator PASTORE. Is there any plan that you can think of that would cure this problem without taking anything away from any of the stations who do not now have contracts?

I'm getting into the practical aspect of this, now. I mean you can imagine—

Dr. DU MONT. Well—

Senator PASTORE. As you sit there, the resistance—

Dr. DU MONT. Let me say this:

Plan B, which provides for only taking a percentage of the time away from any station, would be the least affected, as far as taking away any contracts. In other words, as it is now, a network feeds a station its program and under that plan they would feed it only 75 percent, but it would get a feed from another network, and I would say plan B would have the least effect on stations than networks.

There would be relatively little hurting of anybody.

Senator PASTORE. In other words—

Senator SCHOEPPPEL. Would it be true now, in answer to the question posed here by Senator Pastore, that there would be considerable, if not heavy, investments put in on the part of the two minor networks to accomplish this?

Dr. DU MONT. That's correct.

Senator SCHOEPPPEL. So it obviously wouldn't be construed to be anything like a windfall?

Dr. DU MONT. That's right.

Senator SCHOEPPPEL. You would have to have a responsibility attendant some place—

Dr. DU MONT. Correct.

Senator SCHOEPPPEL. To be able to do this; would you not?

Dr. DU MONT. That is right.

I think plan C, as I see it, would not take anything away from anybody, to speak of. In other words, plan C provides that the networks can have an additional station if they feed so many U's, so in effect what you are doing is helping somebody and not hurting anybody particularly.

In other words, it is an addition. If a network can have a VHF station that they can make money on, they have to agree to feed seven UHF stations to order to help him. So there wouldn't be much damage to anybody there. You would simply be—if you want to call it that—subsidizing the network; it wouldn't be a Government subsidy, but you would be giving him some more money so he could afford to carry seven UHF stations.

Senator PASTORE. Well, could the major networks service more UHF without giving up some VHF?

Dr. DU MONT. Probably not some in the major plants at the present time.

Senator POTTER. You don't anticipate NBC or CBS will come in and support this program; do you?

Senator PASTORE. Of course not.

Dr. DU MONT. I hadn't particularly thought so, but I can conceivably see where they would be much better off in the plan C than they are now.

In other words, with the additional UHF stations it may well be NBC and CBS would be making more money than they are making now.

Senator POTTER. Without studying.

Dr. DU MONT. And, of course, the public would be getting the benefit of four services throughout the country.

Senator PASTORE. In other words, it is your considered opinion you can't actually accomplish the public good in this case unless some sacrifices are made by the two large networks.

Dr. DU MONT. Except for plan C; I don't think there is any sacrifice for the two major networks in plan C. I really don't.

Senator PASTORE. I don't want you to be redundant, but would you explain plan C to me again in simple terms?

Dr. DU MONT. In simple terms?

Senator PASTORE. What does it do?

Dr. DU MONT. It is simply this: At the present time the networks can only own five stations. That's where they make their money. We can't make enough money on the stations to take care of our losses on the network, and that is true of some others, too.

If you allow a network to have 6 VHF stations instead of 5 stations, forgetting that sixth station the network has to agree to supply 7 UHF stations with primary affiliation, so it makes it possible for the UHF station to operate and be prosperous.

It makes it a chance for the network to make a little more money than they are making now.

Senator POTTER. Isn't that true that program would put the networks just further into the operating business?

Dr. DU MONT. It would put the networks so that they had more stations than they have now, approximately double the number, but

if you let it go the way it is going, in effect you are going to have to have two networks that just control every station. Whether they control it directly or not, they are going to be taken over, or go out of business.

Senator PASTORE. In other words, we have to create a new monopoly to break an old one.

Dr. DU MONT. Well, it is a lesser—

Senator POTTER. Increase it from 2 to 4.

Dr. DU MONT. Let's say it is less of a monopoly than we have now.

Senator POTTER. I was interested in your proposal No. 2. If I understood you correctly, you say if a community had, for example, 3 VHF stations and 1 U, the U would take 25 percent of the time?

Dr. DU MONT. You would get 25 percent feed from all 4 networks.

Senator POTTER. In other words, say there was ABC and CBS and NBC—

Dr. DU MONT. Yes.

Senator POTTER. Were affiliated with the V's.

Dr. DU MONT. Right.

Senator POTTER. And Du Mont with the U's.

Dr. DU MONT. Right.

Senator POTTER. I believe you would get 25 percent ABC time on your station, your U station.

Dr. DU MONT. U.

Senator POTTER. You would get 25 percent CBS time and 25 percent NBC time.

Dr. DU MONT. And then we would feed 25 percent to the other 3.

Senator POTTER. It would seem to me there might be a practical problem there. There is a difference in the—you have some valuable time, and you have less valuable time.

Dr. DU MONT. Well, we proposed in this to have it allocated with the three time periods. There's an A, B, and C time, that should be 25 percent of each time to make it fair to everybody.

Senator POTTER. Do you have that type of breakdown now?

Dr. DU MONT. Yes; that is the way it is broken down now. This would take care of it. B is a little bit more complex to set up than A or C, but it does have some advantages. It is a very difficult situation.

Senator POTTER. Yes.

Dr. DU MONT. We could say reallocate, and you would have solved the problem, but you have an investment of 12 or 13 billions of dollars in the hands of the public, any they would have to go out and spend \$50 to \$75 in order to get any pictures.

Senator POTTER. Doctor, the basis for all of your proposals is that it would give the U's better programing, competitive programing.

Dr. DU MONT. That is correct.

Senator POTTER. Do you think that is sufficient incentive to warrant the people to convert their sets, or to pay the additional cost for sets?

Dr. DU MONT. We believe so; yes. Definitely.

And we think it has been proven in—we can recite, and we could go over and submit additional information where good programs have existed, generally speaking the U's have been able to prosper.

There are just 1 or 2 instances in the United States that I know of where they have geographic—a geographic situation that makes it a little difficult, but it is sort of the exception that proves the rule.

Senator POTTER. Any other questions?

Senator HUNT. Doctor, what's your conception of the duty and the function of a government in this terrifically important—in this important industry?

Dr. DU MONT. I think the function of the Government is to see that the people of the United States get the best service they can get, and if any of these plans do not improve the service to those people, I say you shouldn't even consider them, but we feel to allow the people throughout the United States to have a choice of 4 programs, rather than 2—4 different viewpoints—to a certain extent, to allow business to have access, not just a few businesses, to this medium, we think it is in the public interest, and we certainly don't recommend anything be done to help out a couple of networks or UHF stations if it is not for the benefit of the public.

Senator HUNT. Do you think the Congress has been lax or over-energetic in legislation with reference to television?

Dr. DU MONT. I don't know of much legislation to my knowledge that has been put through recently concerning television. I know very little that's gone through that has had much of a bearing on it. I think it's grown very rapidly and I don't think, generally speaking, Congress has been cognizant of the problem that is involved there.

I think this FCC decision was made, and I don't think Congress knew the effect of it, generally, and they allowed it to go along.

I think if they had been in close touch with that, they would have corrected that before it went out, and we would not have the situation we have today.

Senator HUNT. Do you think television is approaching the status of telephone, and other utilities?

Dr. DU MONT. Well, it's certainly a different class of service than telephones, and I wouldn't say it's exactly approaching the telephone business yet.

Senator HUNT. That is a part of your industry.

Dr. DU MONT. What is that?

Senator HUNT. The telephone is a part of your industry, and a very great part.

Dr. DU MONT. Well, you are talking of the electronics industry.

Senator HUNT. I am thinking about A. T. & T.

Dr. DU MONT. Well, they are sort of separate; apart from the rest of the industry. There you have decided to supply just one service to everybody, and obviously the Government has to regulate that.

Previously, in television, theoretically you have had a choice of a large number of services, but with the situation existing it's narrowing down to a few.

Senator POTTER. A. T. & T. isn't operating in a competitive market.

Dr. DU MONT. No; they are not in a competitive market. We are in very much of a competitive market, and I certainly would rather see it done without Government regulation than with, if possible, and some of these plans do provide for that.

Senator HUNT. Without Government regulation, you feel there is some hope, some prospect, that the FCC will get around to doing it by regulation?

Dr. DU MONT. I would say this: I think if the Commission, if they had some guidance and general principles, might very well act and do something about it. We have had a situation in the industry where the FCC and the industry generally have not seen eye to eye.

If you go back to this mechanical color decision that the Commission put out, about 99 percent of the industry was against it. The Commission was for it. They put it out. It was a flop, and finally it was changed here recently, and the thing that changed that was a committee of Congress that investigated it, made recommendations to the FCC. In a very short time they put it out the way the industry thought it should be put out, for the benefit of the public, and now we have a chance to go ahead with television.

You had the situation in this allocation hearing. If you look back in the history of it, you will find, generally speaking, that the industry was in favor of not having the intermixture.

The other networks went along on it, and there were very few people that wanted to see it intermixed, but the Commission decided to go ahead on it.

In other words, I have been appearing before the Commission from 1927 up to date, and up until, oh, around 1948-49, they always gave a lot of consideration to industry opinion.

We had a situation with the FCC for 3 or 4 years, where they called all of us a bunch of burglars, and thieves, and wouldn't listen to us at all. Now that is the honest fact, down there. The situation has changed within the last year or two. But we had certain Commissioners in there that fortunately are not now there. We had a rough time, and they would not listen to the industry. They just felt their decisions should be arbitrarily opposite from what the industry requested. That is my personal view of it.

Senator HUNT. Does the FCC offer any hope of a solution at this time to your problems?

Dr. DU MONT. From the recommendations made yesterday, I would say no. They are all very minor. They are just pinpoints. They would not help the situation, in my estimation.

Senator HUNT. I take it from your comments you feel it is time for Congress to step in again.

Dr. DU MONT. I feel it is definitely time for Congress to step in again, to look into it, and assure itself of what the situation is, and make recommendations, and I'm certain the FCC would be very happy to take those—would act on them, and this thing would be cleaned up in a hurry.

Senator SCHOEPEL. I would like to ask this question at this stage of the testimony.

There has been some reference in here to a freeze. Do you have some comment to make on that?

Dr. DU MONT. Well—personally, the freeze we had before was extremely damaging to the industry, and I don't think an awful lot would be accomplished by putting a freeze in.

I frankly don't. The idea is to put the freeze in so they can reallocate, and I think it is just out of the question for that to be considered. I can see a slight reallocation, but we talk about reallocating throughout the country—you are going to damage the public if you do that, and they are the people that really have the investment in this.

In other words, there are 30 million receivers in this country that cost the public between \$10 billion and \$12 billion. There are about 382 stations which, according to the figures, run less than a half a million each. So you are talking about an investment of \$12 billion as

against an investment of say, \$200 million, and certainly the public is to be considered.

Senator SCHOEPPPEL. That should be the first consideration.

Dr. DU MONT. Absolutely.

Senator SCHOEPPPEL. Because of the overall weighted cost.

Dr. DU MONT. That is right. It is on the public's side in this thing.

Senator SCHOEPPPEL. It is on the public's side.

Dr. DU MONT. That's right.

Senator POTTER. Any further questions?

Senator SCHOEPPPEL. I have no further questions.

Senator POTTER. Dr. Du Mont, I wish to thank you and your colleagues for a very graphic and excellent presentation, and the committee will stand in recess until 2:30.

(Whereupon, at 12:22 p. m., the committee recessed until 2:30 p. m., of the same day.)

AFTERNOON SESSION

(The subcommittee reconvened at 2:30 p. m., pursuant to recess, Senator Schoeppel presiding.)

Senator SCHOEPPPEL. The committee will come to order.

I understand that Mr. Paul L. Chamberlain, general manager of broadcast equipment, General Electric Co., is the next witness.

Let the record show your statement will become a matter of record before the committee and you proceed in any way you desire to deliver it, sir.

STATEMENT OF PAUL L. CHAMBERLAIN, GENERAL MANAGER OF BROADCASTING EQUIPMENT, GENERAL ELECTRIC CO.

Mr. CHAMBERLAIN. Thank you.

I would first like to mention that Dr. Baker, the general manager of our electronics division, has asked me to express to the committee his sincere regrets that long-standing prior engagements made it impossible for him to be here today, and he has asked me and two of my associates to appear on his behalf.

Senator SCHOEPPPEL. That is quite all right.

Mr. CHAMBERLAIN. I appear here today as a representative of a television equipment manufacturer. My testimony will be limited to a discussion of UHF broadcast equipment, and the technical problems which have a bearing upon UHF broadcasting. I will be followed by two of my associates who will discuss the technical aspects of UHF receivers and UHF tubes.

For the information of the committee members, the General Electric Co., one of the pioneers in the television field, manufactures television broadcast transmitting and studio equipment, television receivers, picture tubes, and receiving tubes. The company conducts an extensive research program in the entire area of communications, including television, through the facilities of the famed General Electric Research Laboratory in Schenectady, N. Y., and the Electronics Laboratory in Syracuse, N. Y.

Through the work of the scientists in these laboratories, and our extensive engineering organizations, General Electric has made many important basic contributions to the television art in a number of

areas, not the least of which is the ultra-high-frequency area. Some of these contributions will be brought out in the course of my testimony.

It is my hope that I can place before the committee today, in as brief a form as possible, an evaluation of the broadcast-equipment problems in the UHF field because these problems have a distinct bearing on the UHF situation as it now exists. I feel that only with a full understanding of these problems is it possible to draw sound conclusions for any course of action which might be taken to find a solution for the disheartening UHF dilemma and prevent not only economic catastrophe for many station owners, but also maintain for the benefit of all citizens the extremely valuable national resource that is the UHF broadcast band.

Television is a highly technical field and, in discussing equipment or the state of the art, it is sometimes necessary to speak in technical language. If, for this reason, I do not at any time make myself clear to the committee members, I would appreciate your asking me to interpret this technical language.

The problems which face the combined television and broadcast industries today in UHF are not entirely new. The same or similar problems existed in the introduction of other new communication services to the public, including AM and FM radio and VHF television. There are technological problems and economic problems. The technological problems, I can assure you, will be solved, but not without the expenditure of considerable research and engineering time and funds.

My company alone, has invested over 360,000 engineering man-hours and over \$3,600,000 in engineering alone to make possible acceptable broadcast service and reception in the UHF band.

We, and other elements in the industry, have made good progress to the point where UHF broadcasting technically is almost, but not quite, competitive with VHF broadcasting. There still remain some handicaps to be overcome and developmental work to be accomplished before we can reach the maximum allowable power ratings for UHF stations as established by the FCC.

If I may draw a simple analogy, UHF broadcasting is to VHF broadcasting like endeavoring to carry on commercial farming on the slopes of Mt. Everest, up toward the timberline, as compared to farming in the valley. As we move farther up the radio spectrum, we're moving farther up the mountain where new equipment, new methods and new techniques must be developed. Equipment alone is not the answer. This must be combined with the intelligence, the aggressiveness and the ability of those using the equipment.

First, if I may, I would like to draw one general conclusion concerning television broadcasting. Since we have a financial stake in broadcast stations to the extent that we do not receive full cash payment for transmitters, studio equipment, and antennas we supply to broadcasters, we have been more than interested observers of the difficulties some stations are encountering. In our judgment there are a number of elements which control the success or failure of any broadcast station. One, of course, is the broadcast equipment itself, its ability to function properly and transmit a signal of sufficient strength over a selected area. This I will discuss in some detail.

Of equal importance are those factors which control the success or failure of any business, under our free enterprise system: financing,

product, market, and management. Lacking just one is enough to place a station in trouble.

I cite these facts and conclusions for one purpose only—to stress that broadcast stations are governed by the same factors which govern success and failure of any business, and although they have some problems unique unto themselves, there may be deeper and underlying causes for some of their difficulties.

Now in turning to the technical story of UHF broadcast equipment, I believe the committee is acquainted with the fact that there are technical factors which govern the reception of a good UHF picture in any given location.

These are:

1. The transmitted power, that is, the effective radiated power from the transmitter and antenna system of the broadcast station.
2. The general propagation characteristics at the transmitted frequency.
3. The distance from the antenna to the location of the receiver.
4. Special terrain characteristics.
5. The receiving antenna.
6. The transmission line between receiver and antenna.
7. Receiver sensitivity and noise factor.
8. General or localized interference problems.

Any one of these factors can affect the creation of a good picture in the home of the set owner and it is an oversimplification to charge the transmitter or the receiver with failures in the absence of detailed information on all these points; and, of course, it must be remembered that even if the picture is technically perfect, but doesn't interest anyone, the whole effort is a failure.

The first basic technical problem is that UHF requires much higher effective radiated power or ERP as compared to VHF to attain the same degree of coverage of a given area. As an example, figure No. 1, attached to the copies of my statement shows a chart of the District of Columbia and surrounding areas. Assuming the same location for a VHF and a UHF station, with the same antenna height of 500 feet for each, 5 kilowatt ERP is needed for primary coverage out to 10 miles by the UHF station as compared with 1.6 kilowatt ERP for a VHF station.

To extend the primary coverage out to 32 miles would require 1,000 kilowatt ERP for the UHF stations and 200 kilowatt ERP for the VHF stations.

This need for higher power for UHF stations was of course recognized by the FCC in establishing the higher power maximums for these stations. The General Electric Co. early recognized the developmental problems involved and was the first to make available UHF broadcast equipment producing more than 200 kilowatts ERP, or UHF transmitter power of 12 kilowatts.

As an illustration of the complexity of this problem, I would refer you to figure 2 which shows three electron tubes. The first is a common receiving-type tube generally employed in your radio and television receivers at home. The second tube is a transmitting tube capable of delivering 10 kilowatts in the high channel VHF band, that is, channels 7 to 13. The third tube is the klystron used to develop 12 kilowatts of UHF power. The 10 kilowatt VHF tube is a design introduced about 2 years ago and consequently represents

the state of an art for which industry has been actively designing equipment since before World War II.

The klystron, which stems from a radar development of the late war years was not considered for television application until 1948, and a final product was not available for transmitter design until 1952 even under a highly accelerated engineering development program.

The usual time cycle for design of a new transmitter following transmitting tube development is 1 full year, and normally another full year is required for manufacture of the first unit.

We were able to compress transmitter design and manufacturing from 2 years into less than 1 year and to ship the first 12 kilowatt UHF transmitter in December of 1952.

The photograph marked "Figure 3" shows one of these transmitters. As an indication of size this equipment is 21 feet 6½ inches long, 83 inches high, 34 inches deep and weighs, with its power supply and cooling equipment which are externally located, over 6 tons.

It must be recognized that the transmitter is only one of the essential equipments of a broadcast station. Additional design and development was required for antenna, coaxial transmission line, waveguide, and such transmitter accessories as filterexers, demodulators, sweep generators, harmonic filters, aural station monitors, and visual station monitors. These are all specialized pieces of equipment necessary to operate a UHF transmitter in accordance with FCC requirements.

The filterexer, for example, is a device which shapes the transmitted visual signal in accordance with FCC requirements, and, in addition, permits the mixing of the aural and visual signals so that both can be transmitted from the same antenna. A comparable device to the UHF filterexer as transmitter accessory equipment is the VHF diplexer.

Figure 4 illustrates one type of VHF diplexer and a UHF filterexer. The filterexer is the one on the left. It looks like a plumber's nightmare.

The difference in complexity of the two designs is immediately apparent.

Another significant point of comparison between VHF and UHF is evident in the spread of frequencies for each service. In the case of VHF, the frequency spread from the lowest to the highest channel is 162 megacycles. In the case of UHF, the spread of frequency is 420 megacycles. Consequently the UHF equipment involves considerably more adaptability, or as an alternative, different designs must be offered for different ranges of frequency within the UHF band. This is particularly evident in the klystron where six different designs are necessary in order to supply a klystron transmitter for any channel the customer might be assigned.

Basically, and very briefly, this describes the technical problems faced in the development of UHF broadcast equipment. Another and separate phase of these problems was the amount of technical education necessary. When the freeze was lifted by the FCC in 1952, 2 short years ago, there were not more than 20 broadcast-transmitter engineers throughout the United States familiar with the design problems and characteristics of UHF. Presently there are not more than 400 maintenance operating and servicing personnel qualified in the UHF field, as compared with the 5,000 to 6,000 which ultimately may be required.

In the face of these problems, here essentially is what we have been able to accomplish. General Electric has developed, produced, and marketed a complete line of UHF transmission and studio equipment. We were able to deliver the first 12-kilowatt transmitter less than 6 months after the first CP was issued by the FCC. We have delivered 44 UHF transmitters in all, of which 34 are 12-kilowatt transmitters. We have equipped 100 percent of all stations operating with more than 5 kilowatts of transmitter power and more than 90 percent of all stations over 1 kilowatt. We have developed antennas capable of transmitting up to 1,000 kilowatts of ERP, the maximum authorized by the FCC.

Senator SCHOEPPPEL. If you do not mind an interruption—

Mr. CHAMBERLAIN. No, sir.

Senator SCHOEPPPEL. I take it your company has practically furnished all of the equipment in this new field; is that right?

Mr. CHAMBERLAIN. The high-power equipment, Senator?

Senator SCHOEPPPEL. Yes. That is what I have in mind—the high-power equipment.

Mr. CHAMBERLAIN. The bulk of the transmitters in the field today are operating on a transmitter of 1 kilowatt and an effective radiated power of 20 to 25 kilowatts, depending upon antenna gain and transmission-line losses.

It might be enlightening to the committee if I give an exact timetable covering the development of this UHF broadcast equipment. General Electric began development of UHF television-transmitting equipment in October 1948, following by less than 1 month indication that UHF allocations were being considered by the FCC. Initial development was centered on producing a basic 100-watt exciter unit, and on investigation of circuitry and tubes for power levels of 1 kilowatt and 5 kilowatts.

Our investigation indicated the desirability of a klystron tube approach for the higher power levels, so we approached Varian Associates in November of 1948 regarding development of such a tube.

Senator SCHOEPPPEL. What do you mean by Varian Associates?

Mr. CHAMBERLAIN. Varian Associates is an organization in California primarily headed by two brothers by the name of Varian, who hold, I believe, either directly or on assignment, most of the patents on the klystron type of tube. They are two extremely able engineers and physicists who have been the mainstay, you might say, of klystron development.

In March of 1949 we entered into a contract with them for the development of a 5-kilowatt tube. Not until April 1951, did our experience with the 5-kilowatt tube indicate that power ratings of 12 kilowatts, or even higher, were practical. We then made the decision to direct our work to the development of this 12-kilowatt klystron. This, with the four-bay antenna, would permit the maximum ERP then contemplated.

In April 1952 the FCC issued its sixth report which contains the new rules governing television-broadcast stations in which it was announced that the maximum ERP for UHF would be established at 1,000 kilowatts.

We immediately began an investigation of the possibility of reaching this maximum allowable ERP. Based on the receipt of the first development model of 75-kilowatt klystron, currently promised for January of 1955, we estimate production delivery of a 60-kilowatt

UHF transmitter could be made by spring or summer of 1956. This is based on an estimated accelerated transmitter design period of 9 months and an accelerated production cycle of 6 to 9 months. This schedule also is predicated on satisfactory commercial acceptance of transmitters of this rating and could be amended if the market outlook changes.

I recite these facts, not with any feeling of braggadocio but as a foundation for the statement that the broadcast-equipment industry in general, and General Electric in particular, has utilized every available bit of engineering and research talent to provide successful UHF broadcasting equipment to the broadcast stations. I feel it has been a significant engineering achievement without which UHF broadcasting would not have advanced to the point it has reached today.

I would be the first to admit that we did not attain the above-listed achievement without errors or without difficulties. In no accelerated program dealing with highly technical and complex equipment could a 100-percent performance record be expected. In effect, we wrapped up an engineer with each of the early transmitters shipped. But we did the same with the first VHF transmitters, back after the war.

Then we not only wrapped up the engineer, but we also had them make out their wills before they left since they might be too old or too confused to do so when they got back. I can now report that every one of the installations are providing normal or above-normal service. The shakedown cruise is over, and the equipment has been proven capable.

So there may be no misunderstanding concerning our investment in UHF, I would like to point out to the committee that we have invested far more than the 360,000 engineering man-hours or \$3,600,000 in research and development covering items such as tooling and things of that sort.

Because of our background of VHF experience we recognized that few if any new stations would become howling financial successes immediately they went on the air. We knew from experience that many would lose money until they had built up—primarily by good programming—sufficient demand for their service that the public would invest in television sets capable of receiving their signals, and had established an audience that made it attractive for advertisers to purchase time. We knew that this would not be an easy nor a brief task in many areas. We have arranged comparatively long-range financing for these station operators to ease the burden of their launching a successful operation. Total value of our shipments of UHF equipment to CP holders is over \$10 million. Outstanding at the present time, that is, late last month, is over \$7 million. Let me point out that the financial risk is not that of the station owners alone, but that equipment manufacturers too have a sizable stake in the success or failure of UHF. But even if the station is eminently successful, the equipment manufacturer receives only the contract price with no added bonus for the risk he has taken.

If I may sum up briefly, I believe that the General Electric Co., as one of the major broadcast equipment manufacturers, has rendered an outstanding technical service to the broadcast industry in carrying out at considerable financial risk an accelerated program of development and manufacture of UHF television broadcast equipment. I believe also that, because of this contribution, the state of the art, that is, UHF technology, is well developed, and within a short time, probably by early 1956, we will be able to make available transmitters capable of

the maximum ERP presently authorized by the Federal Communications Commission.

But I want to stress that at this moment, and for some months past, UHF transmitting equipment is available to broadcasters which will enable them to transmit an adequate signal. We can make available to any of the low-power UHF stations 12-kilowatt amplifiers that will raise their effective radiated power to the limits now imposed by the state of the art—in other words, to approximately 250 kilowatts ERP. Several broadcasters have already raised transmitting power from 1 kilowatt to 12 kilowatts by adding a 12-kilowatt amplifier—and, incidentally, we can deliver within 30 days of receipt of order.

I would like to interpolate one little thing here, if I may, Mr. Chairman.

Senator SCHOEPEL. Yes, sir.

Mr. CHAMBERLAIN. And that is some people who are not engineers do not have a true concept of the difference in received signal with variation in transmitter power. If we can assume for a minute a UHF station using a 1-kilowatt transmitter, with a given antenna height and a given antenna gain, and consider that as 1 unit of received signal at the receiving point, then by going to 12 kilowatts of transmitter power, everything else being equal, the received signal at any given point will be 3.4 times as strong; by going to 60 kilowatts and assuming the same conditions otherwise, the received signal will be 7.7 times as strong as from a 1-kilowatt transmitter.

Senator SCHOEPEL. Now, will that affect the receiving sets that can be operated on both of these methods?

Mr. CHAMBERLAIN. Yes, sir.

Now, I might make 1 other comparison, for the benefit of those stations presently operating at the 12-kilowatt level: If everything else remained the same and they went to 60 kilowatts, then the received signal, if it were considered as a unit of 1 again at the 12-kilowatt level, with a 60-kilowatt amplifier, would be about 2.26 times with 60 as it would be with 12.

Senator SCHOEPEL. Would that then affect these sets that were advertised as or capable of receiving both of these types of broadcasts?

Mr. CHAMBERLAIN. Yes, sir.

That will be covered in more detail by the next speaker, who will give you additional information.

Senator SCHOEPEL. You will pardon some of these questions in a purely elementary way, and don't make the fatal mistake, as far as your acting chairman is concerned, that he knows anything about this thing. So, the more you can get it in lay language and in an understandable way, the more it will be appreciated by us when we go into this record, I assure you.

Mr. CHAMBERLAIN. Senator, we appreciate the questions and the opportunity to try to clarify anything that is in doubt.

The approximate 250 kilowatts of ERP mentioned above is based on an omnidirectional antenna pattern. For certain special market geography it is possible to directionalize the helical antenna to achieve effective radiated powers of 400 to 500 kilowatts ERP from 12-kilowatt transmitter power in certain specified directions.

Senator SCHOEPEL. Now, what do you mean by that?

Mr. CHAMBERLAIN. An omnidirectional antenna is one that radiates a substantially equal signal in all directions. In other words, here sits the antenna and the territory around it is the one you want to cover. With an omnidirectional antenna, the signal being sent out a given distance, terrain being discarded, will be approximately the same in all directions from the antenna.

A directional antenna is one that has been purposely distorted in such a way that more of its energy is radiated in a desired direction than in a less desirable direction. For instance, if you had an antenna here to cover Washington and the station and the antenna were located other than at the center of the population, you might want to get more of your energy into the heavily populated areas. That is practical within certain limits. In other words, you beam it a little like a searchlight, shall we say, purposely changing the construction of the antenna.

We can't make any more power. We can only direct the power that is presently there.

Incidentally, that is the only reason we use the term "effective radiated power" rather than "transmitted power." We take what power is available, direct it where it is most useful.

This is accomplished by attaching horizontal stubs to certain turns of the helices. These excited radiators desirably distort the circular horizontal field to give the increased gain in certain directions as desired by the customer.

In conclusion, there exist some technical limitations in the higher frequencies, built-in disadvantages, they might be called, but the engineering and research talent of the industry has overcome most of these handicaps.

From a technical viewpoint UHF broadcasting equipment is a cogent example of the ability of American industry to open up new frontiers of knowledge in a brief span of time and make the benefits of our increased technology available to the public.

Senator SCHOEPEL. I would like to ask you something here with reference to Dr. Dumont's plan—not on whether you agree with the plan or not, but the thing I was wondering about, as I listened and forgot to ask him, was this: Assuming that some of those plans would be feasible and proper or, in the wisdom and judgment of everybody who has to deal with it, would approach some kind of solution, would it still not entail a readjustment of practically the major portions of all of these sets now out to be able to fit into those programs by the enlargement of the UHF?

Mr. CHAMBERLAIN. The adjustment of the receivers?

Senator SCHOEPEL. Yes; the receivers.

Mr. CHAMBERLAIN. Well, again you will get more information from the next speaker.

Senator SCHOEPEL. All right.

Mr. CHAMBERLAIN. Certainly if you were going to have a universal television service, in which certain program services are available only through UHF or only available at UHF at certain portions of the time, then you will not bring that to full fruition until all receivers or essentially all are converted to receive the UHF signals as well as VHF signals.

That is part of the crux of the matter, I believe, as far as the economic success of the broadcaster is concerned.

I didn't intend to get into this end of it, but certainly the old story of the hen and the egg applies as far as UHF broadcasting is con-

cerned. People, we believe, will convert to UHF when there are programs on UHF that they want to see and hear badly enough.

Advertisers, I believe, will buy time on UHF when they consider that UHF is rendering a circulation service, an economical circulation service.

So, the problem is to get the hen and the egg to arrive somewhere near simultaneously.

SENATOR SCHOEPEL. I don't mean to monopolize your time here, but you are more than an ordinary expert in this field, and your company—probably other companies—have done a world of research, and you are not doing this without some idea of getting reimbursement by reason of increased sales. That is the good, old American system.

MR. CHAMBERLAIN. We have hopes.

SENATOR SCHOEPEL. Now, is this a fair question to ask you—and if you have any enlightenment, I would really like to have it because it goes to the public side of this thing—do you feel you are making rapid strides in developing new techniques and applications or apparatus that could be utilized by a majority of the good standard sets to make this conversion?

MR. CHAMBERLAIN. Again it is a receiver problem, and the next speaker will touch on it in more detail.

SENATOR SCHOEPEL. All right.

MR. CHAMBERLAIN. But my honest opinion is we already have apparatus that is entirely adequate to do what you are speaking of.

SENATOR SCHOEPEL. I see.

MR. CHAMBERLAIN. I think there are economic and programing factors that are really the important things here.

SENATOR SCHOEPEL. I am inclined to agree with you, from what little I have heard about it.

MR. CHAMBERLAIN. My testimony is to nail down, if I can, the thought, as far as the apparatus is concerned, at either the transmitting or the receiving end, and they are both equally important—they are a part of a system—that as far as that portion of this problem is concerned it is reasonably well under control—not perfect, but reasonably well under control. I think there are some other things, and I think many in the room probably would agree with me, that are nowhere near under control.

SENATOR SCHOEPEL. Senator.

SENATOR BOWRING. Nothing more. Thank you.

MR. WILLIAM A. ROBERTS (counsel for Allen B. Du Mont Laboratories and Du Mont television network). Senator, my name is William A. Roberts. I am counsel for Du Mont.

SENATOR SCHOEPEL. Yes, sir.

MR. ROBERTS. In regard to your earlier question you said you would have addressed to Dr. Du Mont were he still here—

SENATOR SCHOEPEL. Yes, sir.

MR. ROBERTS. Which had to do with the question of whether any one of his three plans would require any or great change to the major portion of television sets now on the market, thus making them capable of receiving UHF, it would not for these 2 reasons: The first 2 plans do not contemplate changes in any place where you already had 4 VHF stations—as, for example, New York, Chicago, Los Angeles, cities with great occupations of sets, great penetration of sets. Of course, they would not have to be changed there because you would have no compulsory effect on programing.

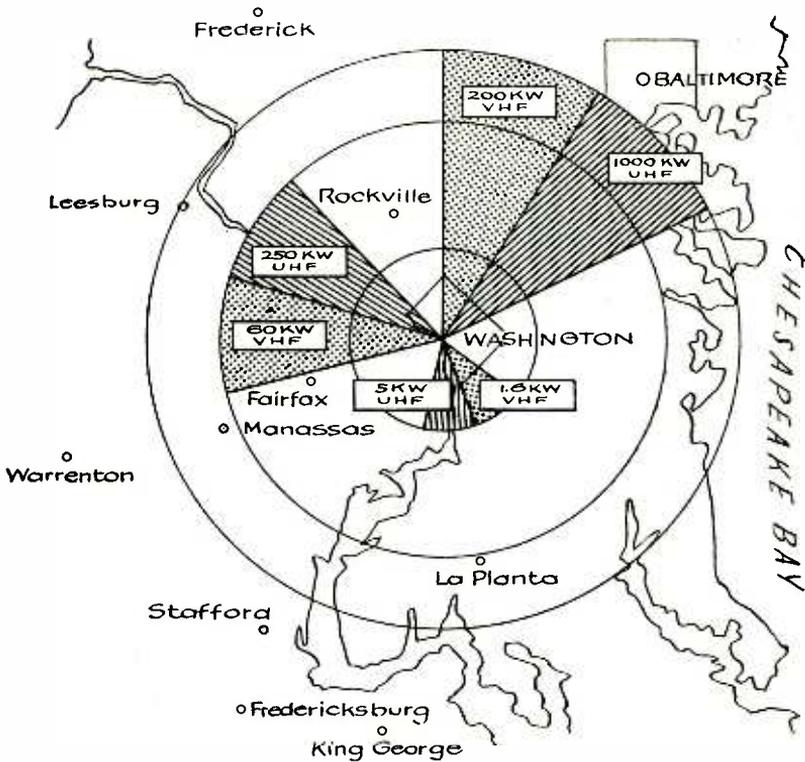
Now, with respect to the cities where you promote or enlarge the population of UHF receivers, obviously they would have to have UHF changes; but that would be a relatively small proportion of the entire present number of sets in the hands of the public.

Senator SCHOEPEL. That is most helpful. I appreciate getting that into the record. I think it may have some informational value.

Let me say thank you, sir, for your presentation here, which will be most helpful, and the exhibits attached to your statement will be made a part of the record at this point.

(The exhibits referred to are as follows:)

Comparative Coverage of UHF & VHF



GRADE A COVERAGE MILES	UHF ERP KW CHANNELS 14-83	VHF ERP KW CHANNELS 7-13	RATIO UHF/VHF	TOWER HEIGHT FEET
32	1000*	200	5:1	500
24	250**	60	4:1	500
10	5***	1.6	3:1	500

* Maximum power allowed by FCC

** Maximum power possible at present state of the art (12 KW Transmitter with 5-bay antenna)

Senator SCHOEPEL. If there are no further questions now of this witness, we will proceed now with Dr. L. R. Fink, who is manager of the engineering, radio and television department of the General Electric Co.

Your statement, sir, and exhibits will become a part of the record, and you may proceed as you wish.

STATEMENT OF DR. L. R. FINK, MANAGER OF THE ENGINEERING, RADIO, AND TELEVISION DEPARTMENT, GENERAL ELECTRIC CO.

Dr. FINK. Thank you, sir.

My name is Lyman R. Fink. I am manager of engineering for the radio and television department of the General Electric Co.

Senator SCHOEPEL. I want to ask you— and I know you have been doing it—not to throw us into this wall with your voice, but I take it some of these interested folks back here would like to hear what you have to say; so, if you would speak up I think it would be appreciated by the folks in the back of the room.

Dr. FINK. Thank you, sir, and I will appreciate a suggestion if you find it lapsing a little bit.

Senator SCHOEPEL. All right.

Dr. FINK. My purpose in appearing here today is to present the story of the UHF receiver from a technical and from an economic viewpoint. I will touch upon the preparations the General Electric Co. made during the freeze for introducing UHF receivers and the progress that we have made in UHF reception since commercial broadcasting started. I believe it will be clear to you as the story develops that the acute competition existing in the receiver industry has provided assurance, and will continue to provide assurance, that the UHF customer will always get his choice of the best UHF performance and cost that the technology will allow. This same keen competition also provides assurances of maximum effort toward improving that technology.

It is appropriate in such a hearing as this that we should examine the performance of the receiver manufacturer. He was faced with a major problem of providing a new service to the American public. He faced the challenge of providing that service with the conflicting requirements of the best possible product performance at the lowest possible cost.

As I said, this is a highly competitive industry. The manufacturers in this industry are engaged in an intensive struggle to earn a profit in a buyer's market. Under these circumstances even the smallest cost factor at the manufacturer's level can assume critical importance.

The desire shared by most large corporations to be responsible industrial citizens implies an obligation to give the public the best possible products and services at the lowest possible cost, but the down-to-earth profit motives in a competitive economy positively demand that we do so.

In almost every consumer product there is available to the customer a free choice of performance level. It is entirely proper that this be so, for he should not be required to pay additional money for performance he does not need. This practice, for example, is found in almost

all consumer goods lines, from clothing to automobiles, from foodstuffs to homes. This is equally true with UHF-equipped receivers.

While our company elected to offer the maximum performance we know how to provide at any reasonable price, others offered a choice of lower performance UHF circuits at lower prices. In general, the lower-cost solutions were capable of completely satisfactory performance in the stronger signal areas. It should be recognized, too, that throughout the industry UHF performance improved rapidly with the technology. Thus, for example, an average UHF receiver built late in 1953 performed better than a neighboring receiver built early in 1953.

It is my personal conviction that an excellent job has been accomplished with an exceedingly difficult problem.

We began our work on UHF receivers in 1948. Our early work consisted almost exclusively of engineering development directed toward having continuously at hand a converter design which could be used for receiving UHF as soon as broadcasts became available. We first put in production a VHF receiver equipped for field or factory conversion as early as 1950. In 1951 we manufactured and made available to our distributors a quantity of several hundred UHF converters, model UHF 101.

I have here a sample of that early model T converter

You will note this was before the allocation was released. We did not know how the channels would be numbered. So, the scale is graduated in megacycles, in frequency, instead of channel number.

Senator SCHOEPPPEL. What would that have cost me if I had bought one?

Dr. FINK. I am coming to that here.

Senator SCHOEPPPEL. All right.

Dr. FINK. It would have cost you \$49.95.

This was done prior to the time that the FCC released its allocation plan and was done for the purpose of educating the factory and field representatives. This action demonstrated that our receivers then in the hands of the public were capable of receiving UHF through such means. As a point of interest, the engineering investment which we had in UHF conversions as of this point of time, prior to the release of the FCC's allocation plan, was of the order of tens of thousands of man-hours.

As of the date of the action by the Commission in lifting the freeze and releasing its allocation plan we were in this position from the standpoint of the receivers:

(1) Every GE receiver in the hands of the public was capable of receiving UHF broadcasts through the use of UHF converters.

(2) All of our receiver production incorporated the 41-megacycle intermediate frequency which had been adopted by the Commission as an integral part of its UHF allocation plan.

(3) Several different designs of converters had been given extensive field tests both on the experimental broadcasts made available by NBC in the Bridgeport area, and on the broadcasts of the General Electric experimental station at Syracuse.

(4) Several hundred of the model UHF 101 converters which we had built were still available for sale to the public—and here I answer your question directly, Senator—at a price of \$49.95, which, incidentally, represented a very substantial manufacturing loss.

(5) An improved and simplified design was undergoing tooling and was planned to be in production in time to meet the first commercial UHF broadcasts.

(6) A very significant portion of our total engineering effort in television-receiver design was directed toward the development of improved UHF reception means. Part and parcel of this work was the continuing coordination with and pressure on component vendors for improved components suitable for UHF purposes, including particularly oscillator tubes and converter crystals.

Before proceeding to the story of our actions subsequent to the lifting of the freeze, it may be appropriate to explain some of the problems unique to the UHF receiver, including some details on the types of conversions which could be and were, in fact, utilized.

The committee members will recognize, as Mr. Chamberlain pointed out, that the introduction of UHF as a consumer service represented a major technological stride. From the standpoint of the new components and the new disciplines required for mass production of a successful product for UHF this step forward was technically difficult. Many alternative solutions to the problem had to be explored by every major competitor in the industry and quite a large variety of solutions were brought forth to be tested in the market place. Not only were we as a company developing several alternative designs, but we also were assiduously testing the offerings of many vendors in this field, including some competitors.

The problem facing the set manufacturer at that time might be summarized thus:

(1) The time at which the freeze would be lifted was completely unpredictable.

(2) The time at which a significant amount of commercial UHF broadcasting would be in place was even more unpredictable.

(3) The pace of technological progress was such that the manufacturer could expect that any new design on which he undertook to tool up would probably be obsolete before advisable production was realized.

(4) Until a significant fraction of the manufacturer's output was to be sold in areas where the customer would need both VHF and UHF service, neither the customer nor the manufacturer could afford to pay the considerable premium required to fully equip every set for both services—and this situation, of course, applies even today.

(5) The portion of the television set most influenced by the addition of UHF is the tuner or head end, as it is called. The manufacturer's problem was to modify or add to his VHF head end in such a manner as also to receive UHF.

Now, in the hope that it might contribute to an understanding of the UHF receiver story, I have brought examples along of some of the choices available for doing this:

(a) Some head ends of the turret type were designed so that a VHF turret strip could be removed and a UHF turret strip substituted.

I have here such a turret-type head, with the strip ready for removal, which can be removed, and the VHF can be removed and a UHF strip such as this substituted.

Senator SCHOEPPLE. What would that cost?

Dr. FINK. This, sir, I am not familiar with in detail. I use this for illustrative purposes. I believe in the UHF form it costs the manu-

facturer in the neighborhood of \$15 or so. The UHF strips, I believe I was told, ran around \$12 or \$15, something like that.

I am sorry that is not authoritative data.

Senator SCHOEPEL. Thank you. We understand.

Dr. FINK. (b) A separate 1 or 2 or multiple-station converter could be added to the set either internally or externally. The UHF stations could be preset on such a converter according to the channels on the air where the set was to be used.

Here is an example of this type, where you can preset the stations, and this converts the UHF to a VHF signal to go then into the conventional VHF.

Senator SCHOEPEL. And what would the cost be on that—some approximation of the cost?

Dr. FINK. I believe, sir, that was in the order of \$20, plus the installation charge in case it was not already in the set; and again if that figure is important to you, I will be very glad to verify it accurately.

Senator SCHOEPEL. I just wanted something in the record indicating the probable range of cost.

(c) Alternatively, a so-called continuous tuner could be added to the set either internally or externally.

Here is an example of such a tuner, covering in this case all of the UHF channels.

Senator SCHOEPEL. Would that be comparable in cost as you mentioned a while ago?

Dr. FINK. Roughly comparable. These were different chronologically in time, and costs do change with time, but the same order of magnitude applies; yes.

I think I should correct that to say the cost to the consumer was quoted, I believe, yesterday, and perhaps fairly accurately.

Senator SCHOEPEL. Yes.

Dr. FINK. The range, as you recall, was from 20 to 60, averaging around 30 or 40.

Combinations of these various alternatives also offered certain advantages.

Now, all of these choices had to be evaluated in terms of the estimated percentage of UHF sets to be built, the cost added to every set to use them on every set, and most importantly the current and expected performance to be achieved by each scheme.

Let us review now the program which we have followed since the lifting of the freeze on July 1, 1952.

When the freeze was lifted we immediately released production on the best design of converter available in our laboratories. Production on this unit commenced about coincident with the first commercial UHF broadcasting at Portland, Oreg. The unit was made available not only as an integral, built-in part of our then current line of sets, but also as a kit which could be added internally or externally to every VHF set we had built.

As the UHF broadcasting picture unfolded and as technology in components and circuits advanced, we have continually refined and improved our UHF offerings. Normally we have introduced new VHF chassis only once each year; but in 1953 we introduced three different UHF designs, each a step ahead of its predecessor.

In our latest 1954 offering, the premium for UHF service is as low as half what it was in our early sets, while the performance in terms

of ability to receive a satisfactory picture on UHF has been improved several-fold.

We continually have offered our distributors and dealers the best UHF receiving equipment we are able to make and, except during the starting rush, in whatever volume they were willing to order.

It may be of some interest that, as Commissioner Hyde and Mr. McDaniel told you yesterday, during 1953 the industry shipped about 20 percent of their sets equipped for UHF; in our own case, approximately 22 percent of our total 1953 production was equipped for UHF as it left the factory; enough UHF kits to field change an additional 8 or 10 percent were shipped. Since early last fall, our working inventory of UHF equipped sets in the field has been proportionally very much higher than VHF only sets.

Now, where do we stand as of May 1954?

Our company still has a major engineering program in the UHF receiver field both as to sets and as to components. We are offering the UHF customer much more for his money than ever before. We are continuing in the race against competition to make our UHF performance the best that the technology will allow. Every television model we produce is available either with or without UHF and every VHF only set we ship can easily be changed in the field to add UHF. We are rapidly approaching the time when a UHF set will give as good a picture as a VHF set under equivalent signal conditions.

I would like to illustrate our progress with some photographs we have made for this purpose. These were made in our laboratories under controlled conditions simulating as nearly as possible the average TV reception obtainable with VHF and that obtainable with UHF, both when it first went on the air in late 1952 and currently.

But first, if you will pardon the distraction, I would like to digress into a somewhat technical vein.

It was mentioned earlier that the receiver noise factor is important to satisfactory reception, and I would like to clarify this, sir.

When your radio is between stations or on a distant station, you sometimes hear atmospheric static and receiver noise. This receiver noise is generated in the set and is characteristic of electric circuitry. In a television picture the noise signals, instead of being heard, appear as what is commonly called snow. The engineers still refer to it as noise.

Senator SCHOEPPEL. That is what is happening to my set. I can testify you are right on that.

Dr. FINK. The weaker the signal, the higher proportionately is the noise generated by the set. If the signal is strong, noise generated by the set is negligible.

Engineers have devised methods of measuring the noise-generating capacity of a receiver and speak of this as a noise factor.

One of the problems of receiver designers is to make that noise factor as low as possible while still keeping the cost of the receiver also as low as possible.

There are many important design problems in UHF receivers, but the noise factor is the only really fundamental technical limitation that we have faced.

The noise factor commonly is computed in decibels, called db's and the noise factor for UHF receivers has been and still is considerably higher than for VHF receivers. The history, however, is one of rapid

improvement. The industry average last year has been reported at 20 to 24 decibels, with General Electric UHF receivers closing the year at 16 to 20 decibels and currently running 12 to 16 decibel. Some further can be expected.

Now in the chart we have indicated the quality of picture obtainable under the conditions I mentioned earlier. We have simulated a receiver noise factor of 6 decibels for VHF, which is good current practice, and which was also available in the best VHF sets in 1952. That, you see, is in the first column, the VHF column.

The second column shows a noise factor of 12 decibels which is rated as good to excellent performance at the present state of art of the UHF.

In the third column we have simulated a 24 decibel noise factor, which is only slightly worse than the average UHF performance through the industry in late 1952.

In the first row we represent a strong signal such that the set-generated noise or snow is masked and an excellent picture is obtained regardless of high noise factor.

You will note the picture is equivalent both in the VHF and in the early and late UHF receivers.

In the second row we have an indeterminate signal, strong enough to override noise in the VHF set, but one in which UHF at its present technology suffers slightly by comparison.

Perhaps from your distance you cannot quite see that. There is some snow in that center picture.

The earlier UHF sets were somewhat worse off—on the right—but still giving a definitely usable picture.

In the bottom row we have a weaker signal, giving a somewhat noisy VHF picture—in the lower level.

A correspondingly weak signal at UHF would give a rather poor picture even today and a scarcely usable picture in 1952—in the lower right-hand corner.

This, of course, simply means that the simulated 1952 set is beyond the useful range of transmission, or that its receiving antenna would have to be improved, or the transmitted power should be increased.

I should hasten to point out at this point that we have presented here a rather hypothetical situation which implies that all the other factors mentioned earlier by Mr. Chamberlain, factors which contribute to differences between VHF and UHF reception are made equal, and equal signal voltages are delivered to the receiver terminals.

As I mentioned earlier, the noise factor is the fundamental limitation that the set manufacturer has been fighting. No TV set manufacturer can be complacent with the present performance level, but certainly, as you can see, very gratifying progress has been made.

What I want to leave with you gentlemen is this: Building a technically good UHF receiver at a price the consumer is willing to pay has been a momentous task and is a continuing task. The result of our work has been that the customer has had continuously available a choice of UHF receivers capable of performance up to the limits of our known technology. The receiver is not a real limitation to the growth of ultra-high frequency.

Thank you, sir.

Senator SCHOEPEL. Thank you very much, Dr. Fink.

Senator Hunt, do you have any questions?

Senator HUNT. How does the sale of your UHF sets compare with the VHF?

Dr. FINK. The sale of UHF sets compares with the VHF a little less than the ratio I mentioned earlier. Last year we built 22 percent UHF and the sales were somewhat below 22 percent. So, at the close of the year we were heavy in the field in UHF compared to VHF. Our working inventory was disproportionately high in UHF.

Senator HUNT. Then you run something like 4 to 1?

Dr. FINK. A little more than that, sir; yes.

Senator HUNT. That is all I have.

Senator SCHOEPEL. Senator Bowring.

Senator BOWRING. I just want to compliment you and the people who have appeared before you that you make it possible for a layman to have any grasp of it at all. I am really surprised I have any feeling of knowing what you are talking about.

Dr. FINK. You are very kind. Thank you.

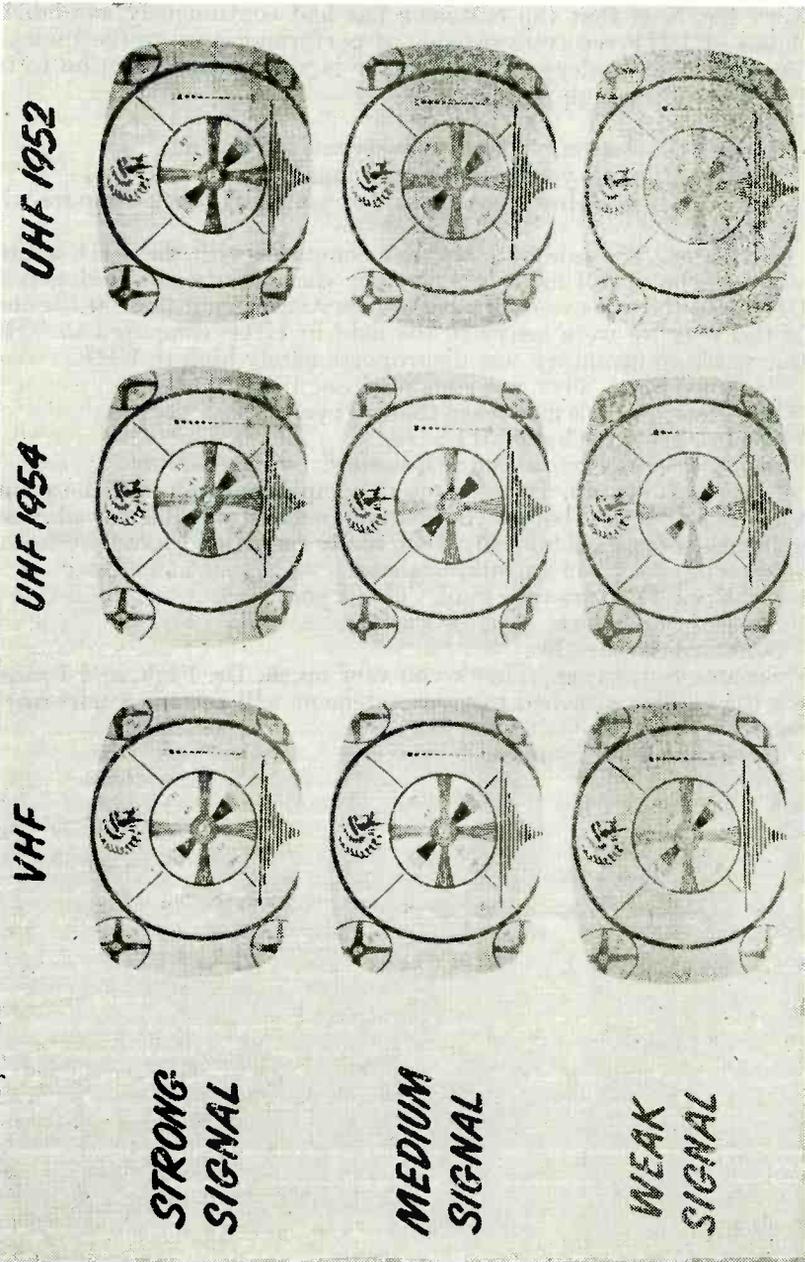
Senator SCHOEPEL. Senator Pastore.

Senator PASTORE. No.

Senator SCHOEPEL. Thank you very much, Dr. Fink, and I might say the exhibit attached to your statement will become a part of the record.

Dr. FINK. Thank you, sir.

(The exhibit referred to is as follows:)



Senator SCHOEPPPEL. The next gentleman testifying will be Mr. Haase, manager of development engineering, receiving tubes, also of the General Electric Co.

Now, your statement will become a part of the record and your exhibits, so far as reproduction is possible, and you may proceed in any manner that you desire, sir.

Mr. HAASE. Thank you, Senator.

Senator SCHOEPPPEL. The floor is yours. Proceed.

STATEMENT OF ALLEN P. HAASE, MANAGER OF DEVELOPMENT ENGINEERING FOR RECEIVING TUBES, GENERAL ELECTRIC CO.

Mr. HAASE. My name is Allen P. Haase, and I am manager of development engineering for receiving tubes of the General Electric Co. As manager of development engineering, my responsibilities include the development of certain tubes for application in UHF-TV receivers. The General Electric Co. is one of the major manufacturers of electronic receiving tubes and is one of the primary sources of new tube developments. Last year we manufactured over 100 million receiving tubes and in the last 2 years we have introduced approximately 30 percent of all of the new tubes developed in this country.

For many years we have supplied tubes for application in radio and TV receivers, military and airborne equipment, computers, industrial-control devices, and other electronic apparatus. Our customers include nearly all commercial receiver manufacturers.

We have been engaged in the specific development of receiving tubes for UHF-TV applications for approximately 5 years.

The history of tubes designed to operate at these frequencies goes back to World War II when we engaged in the development of radar receivers. For the higher frequencies at which radar devices operated, some of them within the present UHF-TV frequency range, it was necessary to develop special tubes. This was done by the use of techniques that could best be described as brute-force methods when performance meant lives and cost considerations were secondary. The so-called lighthouse tubes were developed for these applications and were capable of operation at frequencies as high as 2,000 megacycles.

I have here a light house tube of the type that was used at that time. There was a family of these tubes developed for radar purposes.

Acorn tubes also were developed during this period and were capable of operating to frequencies of hundreds of megacycles.

Here are Acorn tubes of that type. Notice the complex construction.

As you can see from the construction these tubes were difficult to produce, were expensive and yielded performance far below our present standards.

For higher frequencies of operation the receiving type klystron was taken from the laboratory and adapted to manufacturing techniques that were in existence at the time.

The UHF detectors that were used were generally crystals of the silicon type and their performance left much to be desired. Here, again, the brute-force method was used and 2 or 3 percent yields were common.

This early history is cited to indicate our wartime experience with receiving devices in the present UHF-TV frequency range. Right after the war, FM broadcast service was established in the 88 to 108 megacycle region. This was the first widespread public use of high frequencies and underscored the inadequacies of tubes and production methods available at that time; and it might be of interest to note that at about this time the miniature tube construction was just becoming well accepted by the industry.

Efforts were made to improve the performance of tubes for FM and with circuit improvements, performance to a frequency of 200 megacycles was attained.

By mid-1948 we had developed special tubes for airborne communications equipment for the Armed Forces that could oscillate and amplify efficiently at 500 megacycles.

At the FCC hearings in 1948, there was general agreement that the area from 470 to 890 megacycles should be used for black-and-white television on the present standards; namely, a continuance of the present standard of television carried over into these ultra high frequencies.

In the fall of 1948 our engineering organization was reorganized at its present location in Owensboro, Ky., and work was started to develop a UHF oscillator tube which could be produced efficiently in large quantities for application in UHF-TV receivers. This tube, the first of the group specifically designed for UHF-TV receivers, was designated the 6AF4 and was made available to receiver designers in October of 1949.

We have a display on the left—on your right—which shows those tubes that we will be referring to.

The oscillator tube, 6AF4, is at the left of that display, and is shown as 1949 oscillator.

Prior to the development of this tube, designers could look only to makeshift methods for obtaining the signal energy at UHF frequencies needed within the receiver in order to obtain operation. This involved using harmonics of an oscillator operating at lower frequencies and proved quite undesirable from several viewpoints. To summarize, none of the tubes in production at that time were suitable for UHF-TV applications as oscillators or amplifiers, and the special-purpose devices made during the war were prohibitively expensive or inadequate in performance to justify their use.

In order that the committee may have some understanding of the problem, it might be well to point out the reasons why vacuum-tube technology at UHF frequencies is different from that which had been known previously. In order to present the basic concepts without resorting to complex technical terminology it will be necessary to greatly simplify the explanation.

The basic problems of UHF tube design are: (1) Transit time effects; (2) circuit constants; and (3) performance/cost ratio.

The most simple high vacuum tube which will amplify received signals is the triode. This consists of a three-element tube, and I believe we have a diagram here which will illustrate this.

In the center of the tube is a black object, a cathode, which emits electrons.

Surrounding that cathode and supported by those two red electrical wires we show in the cross-sections a grid which is used to control

the flow of those electrons; and surrounding that, the blue object there, is a plate or an anode, which collects the controlled electron stream.

Now, in the space between the cathode and the grid electrons can be controlled by the grid, while in the space between the grid and anode no grid control is possible.

Electrons leaving the cathode travel at a relatively low speed toward the grid; and when the distance between the cathode and the grid is large, this journey requires a relatively long time.

At low frequencies of operation the voltage applied to the control grid changes slowly and an electron is able to complete its trip from cathode to the anode side of the grid before the control-grid voltage changes appreciably. However, as the frequency is increased, the voltage applied to the grid changes more rapidly and electrons which started away from the cathode may not be able to travel outside the influence of the control grid before its voltage changes causing them to return to the cathode.

This means that controlled electrons are not received by the anode of the tube and that no amplification is possible by that device at these high frequencies. For instance, near the low-frequency end of the present UHF television band, 500 megacycles, 1 complete cycle or oscillation of the radio-frequency signal occurs in two-billionths of a second.

It might be well to note here the statement which has been printed is in error. It reads two ten-millionths, but this happens in two one-billionths of a second.

This means that 500 million times every second, and nearly a billion times per second at the high end of the band, the electrostatic field between grid and cathode makes a complete cycle of reversals.

This description of the transit-time effect is far from complete but should serve to indicate that one of the requirements of a UHF tube is that the physical distance from the cathode to the grid must be small.

Considering the second item, circuit constants, we are all used to thinking of a piece of wire as a conductor which is used to connect different parts of a circuit together. In our vacuum tubes wires are used to connect the active electrodes, the cathode, grid and plate, again, to the external circuit elements which make proper operation possible. At low frequencies these wires within the tube are just such conductors, but at ultrahigh frequencies this is no longer the case. At UHF these wires have relatively high inductive reactance, just as do the coils which make your radio work at low frequencies. Moreover, the total inductance which can be used at UHF may be several times less than that contained in only the leads of a regular receiving tube. Thus, another requirement of UHF tube design is that this lead inductance must be kept very low by some means if any of the circuit which the designer is to use is to be located outside of the vacuum tube. Unless this circuit is available to the designer, the receiver cannot operate properly.

These two factors dictate that the size of the tube must be limited. Other factors, such as standing wave voltage distribution on the active elements, interelectrode capacitances, cathode coating uniformity, operating temperature, plate dissipation, stability, and mechanical strength must all be considered.

In terms of cost, many of these requirements impose demands which can be satisfied only by the use of expensive materials, and the tube

engineer must arrive at an economical balance of efficient materials utilization and manufacturability against electrical performance.

Since 1949, when the 6AF4 design was made available to the industry, many improvements have been made in terms of its construction and performance, and the sketch which I have here and the cross-sectioned specimens which you have before you gives you some idea of the present construction of that tube.

Notice the extremely small control grid-to-cathode spacing.

That is the dimension on the lower right which is outlined in red.

You can see the extremely small control grid-to-cathode spacing and the small diameter wire which is used for these control electrodes.

To give you an idea of the physical size of this wire, consider that an ordinary human hair is approximately three one-thousandths of an inch in diameter, whereas the wire which is wound on the grid is approximately one one-thousandth of an inch in diameter.

That is the dimension shown in the upper left and outlined in red.

Also, consider that approximately 200 of these wires are stretched across every inch of the length of the control grid.

The spacing between the control grid and the cathode is much less than the thickness of an ordinary piece of paper. We are sure that you can appreciate the production problems that are inherent in manufacturing such a device.

In the UHF TV receivers under development during 1949, this oscillator tube provided energy to a crystal mixer. No RF amplifier tubes, other than the costly and difficult to apply lighthouse and acorn tubes were available.

Development work was initiated in 1950 to produce an RF amplifier tube which would operate with significant amplification at these high frequencies and would have a suitably low noise figure to be of use in TV receivers. In addition, development was being carried on to provide an improvement in performance reliability and other operating characteristics of the 6AF4 oscillator tube.

By 1950 the miniature tube was the standard of the vacuum tube industry and so a combined theoretical and experimental study was undertaken to determine the possibility of applying this physical structure to the needs of the amplifier and improved oscillator problems.

Considerable attention was paid to the factors involved in connecting the active elements of the vacuum tube to the external circuit elements, and it might be well to point out again that at these frequencies a considerable portion of the active external circuit is normally taken up by the leads within the tube.

Under my direction circuit work and vacuum tube research and development engineering was undertaken on a task force basis. The work of our group was reported at the 1952 IRE national convention and was published in detail in the January 1953 issue of the Institute of Radio Engineers Proceedings which was devoted to UHF TV.

Reprints of those publications which indicate the scope of our investigations are attached to our statement as well as copies of the Engineering and Application data for the commercial tube types 6AJ4 and 6AM4 which resulted from our efforts.

These types were made available to receiver manufacturers in the fall of 1952 and at the time of their announcement represented a considerable performance improvement over then current systems in terms of power gain and noise factor at the UHF frequencies.

The two tubes to which I refer are located as 1951 detector and 1951 amplifier, 6AJ4 and the 6AM4, respectively.

The crystal to which I referred is shown as 1951 detector, and that is that little brown object in the middle there.

The cost of adding these tubes to a receiver was, of course, considerable and in any receiving system placed on the competitive market the cost-performance ratio must receive serious consideration.

During the time that these tubes were being developed, considerable work had been done by crystal manufacturers in an effort to improve the performance of their products.

When the circuit development work had been completed for the commercial application of these tubes, the performance of crystal mixers was such that at the high end of the UHF TV band—that is around a thousand megacycles—very little noise figure advantage was obtained.

At lower frequencies the tubes presented a real advantage, and at least one manufacturer has included a tube mixer in his UHF head end.

To date only limited use has been made of the 6AJ4 RF amplifier tube by commercial manufacturers of TV receivers. It has been our objective to improve upon the performance of this amplifier tube, and considerable progress has been made in that direction in cooperation with the designers of UHF head ends.

In 1953 still another miniature type triode amplifier tube was introduced to these designers, and a highly efficient miniaturized version of the Planar lighthouse tube, known as the GL6299, was made available for possible future application.

The Triode type to which I refer is indicated as the 1953 amplifier, and the GL6299 is shown as 1955 with a big question mark.

This latter tube, the GL6299, is not yet in large-scale production, but does represent the present standard by which all other RF amplifiers are judged. It might be interesting to consider that the price of this tube alone is \$55 and, therefore, it can hardly be considered for commercial application in entertainment type devices at this time.

From our standpoint, this has been a continuous development program. Today crystal detector units provide the primary method of converting UHF signals to the intermediate frequency signals at which TV receivers operate. As to the future we can anticipate almost immediate application of a new tube type which we have developed and which is similar to the tube shown on the display as 1953 amplifier. This tube, operating with highly developed circuitry, should provide an improvement in performance over presently available head ends. In addition, we are currently developing new devices which should provide additional improvements in receiver performance and which should be available to commercial users at a reasonable price.

Performance measurements have been made on various manufacturers' tuners to establish comparative gain and noise factors as a gage of performance. It has been our experience that there has been a marked improvement in both in the past year.

A year ago average figures might show about 25 decibel noise factor, whereas this year the average would be from 18 to 20. The best commercial units are considerably better than that, perhaps an improvement of 6 decibels might be possible between the average and the best unit.

Dr. Fink has mentioned these figures previously.

We have found that if we utilize the best practices applying the best tubes and optimum circuitry, we can measure noise figures at the high end of the UHF band less than 7.5 decibels. This noise factor would be roughly comparable to that which is realized in a standard VHF receiver today. However, it should be noted that a receiver capable of tuning all UHF channels and employing these optimum practices might well be expected to cost the consumer \$175 to \$200 more than presently available sets. Based on my own knowledge of the situation with respect to early VHF-TV receivers, the trend in UHF performance is comparable.

I would like to emphasize that the problem of achieving comparable performance in UHF receivers has been immensely more difficult. The progress we have made was only attained by building upon the stepping stones of VHF developments and by an optimistic approach and dogged determination to conquer the tube and circuit problems I have mentioned.

I would be hopeful that the committee members may have as much faith as I do in the ability of the electronics industry to solve any specific technical problem which is placed before it. That ability has been well demonstrated in both war and peace. It is impossible, of course, to establish a timetable for research and development, but amazing strides have been made, and will continue to be made in the more effective utilization of the radio spectrum.

Senator SCHOEPPPEL. Thank you very much, Mr. Haase, for your testimony, and your explanations which you have given us the benefit of.

The exhibits which you have attached to your statement will become a part of the official records of the committee.

Senator SCHOEPPPEL. I notice, in just looking at the witness list, in the absence of your chairman, who has been in attendance at another executive session of another committee and who will return as quickly as that is over, we have a number of witnesses here. We would like to get as many of them heard today as possible. Those who might feel disposed to summarize and, of course, have their entire statement filed, we will, of course, be happy to have them do that.

I mention that only in the manner of expediting the hearing and hearing as many of the witnesses today as we possibly can.

As I understand, Mr. Watts is the next witness. He is executive vice president of Radio Corporation of America.

Mr. Watts.

Let me say to you gentlemen who have testified: Thank you very much for your contribution here today. You have been most helpful.

Mr. Watts, we will let the record show that your entire statement officially becomes a matter of record, and you may proceed.

**STATEMENT OF W. WALTER WATTS, EXECUTIVE VICE PRESIDENT,
RADIO CORPORATION OF AMERICA**

Mr. WATTS. Thank you, Senator.

My name is W. Walter Watts, and I appear in behalf of Radio Corporation of America. I am executive vice president of RCA in charge of electronic products, and my office is at 30 Rockefeller Plaza, New York City. At the outset I would like to express RCA's appre-

ciation to the committee for permitting RCA to give testimony in this investigation of the status of UHF television broadcasting. We know that substantial problems exist at this time in connection with the development of the UHF and we believe that the committee's present investigation, to ascertain the fact regarding that development, is a healthy and constructive step.

My statement will not be directed to economic matters relating to programing and network affiliation of UHF broadcasters, but will be concerned primarily with RCA's development of the UHF as a technical service, and with apparatus which RCA has engineered and made available for use at the UHF.

Mr. Joseph C. Hellernan, vice president of the National Broadcasting Co., a service of the Radio Corporation of America, is scheduled to testify later in these hearings concerning economic aspects of UHF broadcasting and I will not anticipate that testimony.

RCA already has a very substantial stake in the success of television broadcasting at the UHF. We know of no other organization which has devoted as much money, as much time and as much engineering effort to the development of the UHF band. RCA has been engaged in development work in the ultrahigh frequencies for more than 20 years. To date, RCA has spent more than \$16 million in bringing UHF to its present state of technical development. This expenditure involved the utilization of more than 1,800,000 engineering man-hours by RCA scientists and engineers.

In 1948, when the Federal Communications Commission instituted hearings on opening up the UHF band to television broadcasting, RCA and NBC installed a complete UHF television system operating in a 504- to 510-megacycle channel at the Wardman Park Hotel in Washington.

In 1949 RCA and NBC built and began operation of an experimental commercial-type UHF broadcasting station at Bridgeport, Conn. This was the first UHF station ever to broadcast commercial television programs on a regular schedule.

In 1952 RCA equipped and installed the first commercial UHF television station to go into operation, station KPTV, affiliated with the National Broadcasting Co., in Portland, Oreg.

According to statistics issued by the Radio-Electronics-Television Manufacturers Association, about 8½ million television receivers were manufactured by the entire industry during 1953 and the first quarter of 1954. During this period more than 23 percent of the television receivers manufactured and sold by RCA had UHF tuners built in at the factory. The average for the rest of the industry was about 20 percent.

For the first quarter of 1954, almost 28 percent of the television receivers shipped by RCA had UHF tuners built at the factory. During the same 3-month period, the average for the rest of the industry, as reported by RETMA, was 23 percent.

In addition, every RCA television receiver which does not have a UHF tuner built in at the factory is easily adaptable to UHF in the field.

RCA sells efficient and reasonably priced UHF tuners and selectors designed for these sets and the RCA Service Co. is available to install these tuners in RCA receivers.

RCA has just completed the manufacture of its first 4,000 commercial color television receivers. Each of these receivers was equipped at the factory with a UHF tuner.

We are proud of our record of pioneering and leadership in research and in manufacture of UHF television transmitting and receiving equipment, and we believe that our record gives us more incentive to continue to work for the success of television broadcasting at the UHF than any other organization. For this reason, we are particularly gratified that this committee has indicated interest in the future of UHF broadcasting.

To obtain an adequate understanding of present technical problems at the UHF, some historical background is appropriate to place present events in proper perspective. Accordingly, I will briefly review some of the pertinent historical facts relating to the development of the UHF band.

The search for space in the radio spectrum to accommodate the constantly increasing number of radio services has been going on since shortly after the invention of the three-element electron tube in 1906. Before the appearance of that tube, radio communications were limited mainly to point-to-point contact between ship and shore stations. The need for more spectrum space for this purpose was not critical and radio traffic congestion, when it did exist, could be blamed more properly on the crude apparatus in use rather than on any real scarcity of available wavelengths; but the coming of the versatile electron tube opened up a wide variety of uses for radio signals, many of them far removed from the original marine wireless applications.

Prior to the early thirties, the UHF portion of the spectrum—that is the portion of the spectrum from 300 to 3,000 megacycles—was a no-man's land exhibiting formidable obstacles to those who attempted to examine and utilize its widespread areas.

Actually, however, these obstacles were not unexpected. For many years substantial technical problems had been anticipated whenever the theory of wave propagation at high frequencies was examined by scientists; but, because the possibilities in this portion of the spectrum were admittedly tremendous, the UHF became a challenge to scientists and engineers despite the magnitude of the problems to be faced.

Senator SCHOEPEL. Might I interrupt you there, sir?

Mr. WATTS. Yes, sir.

Senator SCHOEPEL. That is the bell I was afraid of, Mr. Watts.

We will take a recess until we can get back, and we hope we will not be too long.

Mr. WATTS. Thank you, sir.

(Whereupon, at 3:56 p. m., the hearing was recessed and reconvened at 4:09 p. m., Senator Potter presiding.)

Senator POTTER. The committee will come to order.

I am sorry it appears we are running this in shifts but, as you probably know by now, we have a lot of duties that take us away from time to time. I wanted to be here as much as I could during the hearings but it always happens that an executive session where a vote is needed has been taking my time.

I am informed that Mr. Watts was in the middle of his statement when the vote came, and if you would care to finish your statement, Mr. Watts, it will be fine.

Mr. WATTS. Thank you. I shall continue, sir.

Early technical progress was disappointingly slow. Electrons, which were easily controlled when generated for tests at the lower frequencies, were obstinate and not easily regulated at the UHF. Tubes that functioned well at lower frequencies were practically useless in the higher region. Components and circuits, which had been devised for frequencies up to 300 megacycles, could not be depended upon to function at higher frequencies.

The first receiving-type electron tube to operate successfully at the UHF was a unique acorn tube developed by RCA engineers in 1933. The production of this tube was an important factor in breaking the logjam which theretofore had held up development at the UHF.

Also, in 1933, RCA engineers working in laboratories at Rocky Point and Riverhead, Long Island, produced 2 UHF transmitters which would operate on 462 megacycles with a power of 6 watts. After preliminary local tests, communication was established between the two towns. Existing tubes were adapted to novel circuitry and special antennas were developed to radiate the signals.

Later, when a 100-watt transmitter was developed, steps were taken to study the effect of greater distances on UHF transmissions. A small portable receiver and antenna were devised and mounted in an automobile to permit signal tests at greater distances from Rocky Point.

The experience and data obtained as a result of these early tests, particularly as they related to the sending of signals over the terrain involved and the relation of output power to reliable communications, marked an important step forward.

In 1941, RCA and NBC engineers built and operated the first radio relay of a television program picked up at a remote point and relayed by use of the UHF. An NBC mobile television truck at Camp Upton, Long Island, picked up scenes of Army recruits in training, transmitting the resulting signals by microwave to a tower near Hauppauge, Long Island, a jump of 17 miles, thence to a second relay at Bellmore, Long Island, 22 miles distant, and finally direct to New York City, another hop of 28 miles.

In April 1945 an experimental two-way UHF circuit was placed in operation between Philadelphia and New York City. Two relay points for the 82-mile span were selected, one 37 miles from New York and the other 26 miles from Philadelphia. Hundred-foot towers were erected at the repeater stations with experimental equipment housed in enclosures on each tower top. The power used in tests of this circuit was approximately one-tenth of a watt.

In 1950, RCA designed and manufactured microwave equipment for the Pennsylvania Turnpike. Utilizing 960 megacycle apparatus, the system as now operated employs 13 UHF relay stations to pass the signals from one end of the 327-mile highway to the other.

Shortly after the completion of the Pennsylvania Turnpike system, RCA worked on the planning, design, and manufacturing of a UHF microwave system for the New Jersey Turnpike.

Dependable interconnections between various field headquarters of the Allied air forces in central Europe were established by an extensive UHF radio relay system also engineered and installed by RCA.

The versatility of this system was demonstrated in 1953, at a time when winds and tides caused disastrous floods in the low countries of northwest Europe. When telephone communications broke down,

some of these NATO units were rushed to Holland and functioned successfully until normal telephone lines could be rebuilt.

I have briefly outlined these various diverse facets of work by RCA engineers in the UHF preliminary to discussing our work specifically directed to television broadcasting at the UHF. I have done this because, in considering and evaluating the present status of UHF television broadcasting, it is important to remember that, only a short time ago, any radio use of the portion of the spectrum above 300 megacycles was not commercially feasible. Only within comparatively recent years has it been possible to utilize the UHF band commercially.

As a result of constant pioneering research, the commercial utilization of the UHF spectrum has continually been expanded; but it would be a mistake to assume that there is not substantial room still left for additional technical development of apparatus for use at the UHF frequencies and for improving service at those frequencies.

It is to this end that RCA has in the past made, and continues to make, substantial investments; and we believe that no other organization has made contributions remotely approaching those made by RCA engineers and scientists in this field.

Work at the ultrahigh frequencies undertaken, for example, to perfect point-to-point microwave service develops experience and skills useful in television broadcasting at the UHF. Conversely, development work in broadcasting at the UHF develops experience and skills which may be utilized in other applications employing UHF frequencies. With increasing knowledge of the performance of electrons at the UHF, it thus becomes possible to obtain more effective utilization of these frequencies.

It took television, however, and the great incentive to expand television as a postwar service to the public, to bring the higher frequencies to the forefront as a broadcasting service.

Because a television signal takes about 600 times as much space in the spectrum as a standard sound broadcast signal, the Federal Communications Commission early realized it would have to find additional spectrum space into which the rapidly growing television service could expand.

In 1945 the Commission tentatively set aside the UHF band from 480 to 920 megacycles for experimental television broadcasting.

As part of its report of May 25, 1945, providing for this allocation the Commission stated:

The Commission repeats the hope * * * that all persons interested in the future of television will undertake comprehensive and adequate experimentation in the upper portion of the spectrum. The importance of an adequate program of experimentation in this portion of the spectrum cannot be overemphasized, for it is obvious from the allocations which the Commission is making for television below 300 megacycles (VHF) that in the present state of the art the development of the upper portion of the spectrum is necessary for the establishment of a truly nationwide and competitive television system.

RCA and NBC had already been engaged for years in research and development work on problems affecting the UHF. For this reason, they were in a position promptly to respond to the Commission's challenge.

Although prior to 1946 there was comparatively little television broadcasting experience at the lower frequencies and no television

broadcasting experience at frequencies above 70 megacycles, by early 1946 RCA and NBC engineers were ready for preliminary field tests. By midsummer of that year, a 67.25 megacycle transmitter and a 288 megacycle transmitter had been developed, built and installed by RCA and NBC engineers in the Empire State Building in New York.

Both transmitters fed omnidirectional antennas above the roof of the Empire State Building. These were complete broadcasting systems insofar as the television components were concerned. A comprehensive series of tests of the signal broadcast by these transmitters was then undertaken by RCA and NBC engineers. Experimental model receivers were spotted at various points and field measurements and observations made to acquire information on the variation of propagation as a function of different terrain conditions and to show the magnitudes and differences of multipath effects at the two frequencies.

Despite severe multipath and shadowing conditions created by the tall buildings in Manhattan, it was nevertheless possible to obtain usable pictures in most locations.

Further development of directional receiving antennas specifically adapted for use at the UHF was undertaken and these antennas were found of substantial value at the higher frequencies.

Later in 1946 additional observations were made of broadcasts at a frequency of 490 megacycles and, by 1947, it became possible, with knowledge and experience obtained in the previous tests, to extend the frequencies used up to 910 megacycles.

The RCA tests showed the necessity of increasing the radiated power with any increase in frequency. Accordingly, our engineers designed and installed high-gain unidirectional antennas on the 87th floor of the Empire State Building. In addition, new and improved models of UHF transmitting equipment were designed and installed. Although not of broadcast caliber, these transmitters served to extend the propagation studies through the UHF television range before better transmitters were available.

As a result of the intensive work carried on in connection with these experimental transmitters we learned more about shadowing effects resulting from terrain obstacles and the need for increased power at the higher frequencies.

Senator POTTER. What is meant by "shadowing effects"?

Mr. WATTS. If there is a building in the way of the signal, immediately behind the building, you may not be able to receive it on the UHF.

Senator POTTER. I see.

Mr. WATTS. And with the multipath effects, on the other hand, behind the building, you may be able to see the signal reflected over another building.

That is one of the characteristics of the UHF.

Senator POTTER. Do they have that problem with VHF?

Mr. WATTS. To a certain extent, but not to the same magnitude.

It became apparent that it would be necessary to make appropriate changes in then existing concepts of the UHF and that direct comparison to, or equivalence with, the VHF was not appropriate.

Our tests and surveys also indicated that it was doubtful that a UHF station would serve as many viewers per dollar expended as a VHF station. Nevertheless, it was also apparent that UHF could be so

developed that, under proper conditions and with adequate apparatus, it could render service to the public as a broadcasting medium.

In 1948, we had made plans to operate a complete experimental 500 megacycle television broadcast system atop the Empire State Building in New York. Our objectives were to gather field data for a commercial broadcast system operating at the UHF and to gain experience with the installation and operation of UHF home receivers.

When, in May of 1948, the FCC announced it would hold public hearings to obtain information on possible utilization of UHF frequencies in the 475 to 890 megacycle band for television broadcasting, we decided it would be preferable to establish operations for our test in Washington. Accordingly, we installed a complete television system operating in a 504 to 510 megacycle channel at the Wardman Park Hotel. Fifty home installations of experimental-type UHF receivers were made throughout the Washington area to check the results of these transmissions. In connection with the home receiver installations, we designed and constructed home receiving antennas adapted to UHF reception and UHF converters to be attached to existing VHF receivers.

With antennas on the WNBW tower radiating the same program at both the UHF and the VHF, it was possible for us for the first time to compare results at the UHF and at the VHF under similar conditions.

At each installation, receiver terminal voltages for the UHF and for the WNBW channel 4 transmission were measured and compared. Here again, analysis of the data corroborated the conclusions reached as a result of previous tests—significantly higher radiated power would be required at the UHF to establish broadcast service comparable to the existing service at the VHF.

This led to the development by us of high-grade omnidirectional transmitting antennas. One of the natural consequences of the increase in radiated power requirements was to seek more advantageous distribution of the radiated power and this, in turn, led to further experimentation.

As a result of the information obtained from the Washington tests, we decided we were ready to go ahead with a test of a commercial-type UHF station. Accordingly, land was purchased by us at Stratford, Conn., near Bridgeport, for the first test of a commercial-type UHF television broadcasting station.

The Bridgeport area was selected because its terrain was typical of many other locations in the United States where UHF might be called upon to supply a television-program service.

On February 8, 1949, the National Broadcasting Co. applied to the Commission for a construction permit for an experimental station and, on May 4, 1949, the permit was granted. The project was rushed to completion by RCA and NBC engineers.

On December 29, 1949, the first commercial-type UHF television broadcasting station in the world, KC2XAK, went on the air using the band of ultrahigh frequencies between 529 and 535 megacycles.

Two weeks later, on January 19, 1950, this pioneer station inaugurated regular UHF television-program transmission on a 5-day-a-week schedule.

From 9 in the morning to signoff time in late evening, the Bridgeport experimental station rebroadcast programs picked up from

WNBT in New York by means of a 2,000-megacycle microwave relay direct from the Empire State Building.

Later a second transmitter, operating on 850 megacycles, was also installed by us at Bridgeport to permit a study of transmission and antenna techniques at the upper end of the UHF band.

We also built and distributed among local residents 50 receivers equipped to receive both UHF and VHF and 50 UHF converters for attachment to existing VHF receivers. These instruments were placed in homes in and around Bridgeport at locations selected by RCA and NBC engineers. Technicians of the RCA Service Co. installed and serviced these sets.

To supplement the data derived from reports of viewers in whose homes UHF sets had been placed, RCA also equipped a mobile unit to make additional tests. Our mobile unit was installed in a truck and included sensitive instruments to measure both signal strength and interference. By laying out and following radials, the mobile unit with its crew of six covered the entire area of the station's effective range.

Regular reports were made by the personnel of the experimental broadcasting station, by the persons in whose homes receivers and converters had been installed and by the technicians who comprised the crew of the mobile-unit truck.

For the first time it was possible to obtain results of a practical test of UHF broadcasting under conditions approximating those of commercial operation.

The data derived were analyzed and prepared as an exhaustive report, copies of which were filed with the Federal Communications Commission. In addition, RCA and NBC engineers published the data in technical papers so that all segments of the television industry would have access to the information.

RCA and NBC assumed the full responsibility for, and the expense of, planning, conducting, and reporting these activities.

For more than 2 years experimental UHF television broadcast station KC2XAK served as an electronic guinea pig for the entire radio and television industry.

The experiment was costly but the station's facilities and the experience our engineers obtained as a result of the experiment were offered to competing electronics manufacturers for tests of their own equipment.

Representatives of the FCC and of virtually every electronics manufacturer came to Bridgeport in order to learn the newest developments in UHF and to test UHF receivers.

The data we collected from the 2-year operation were made available to the FCC, to the industry, and to American broadcasters.

The Bridgeport experiment resulted in obtaining substantial additional important information, much of which would not otherwise have been available to the industry. For example, the experiments demonstrated that the propagation pattern permitted the use of specially shaped vertical antenna patterns and the possibility of serving a specified area with constant field strength and improved efficiency was found to be feasible.

During the period of operation of the station at Bridgeport, the signal was recorded at the David Sarnoff Research Center at Princeton, N. J., about 90 miles away. This recording and a similar re-

cording at Riverhead, Long Island, were undertaken at the request of the Federal Communications Commission.

Our studies led us to the conclusion that tilting the antenna would permit the station to adapt its signal to meet the requirements of its individual locality and terrain and distribute the radiated power more efficiently throughout the desired service area. This, in turn, eventually led to further development of the RCA Pylon Antenna for UHF television. This slotted cylinder-type antenna, although remaining vertical, can readjust electrically to provide the same effect as would be obtained by mechanically tilting the antenna structure.

At the same time, and particularly in view of the higher power requirements which were now seen to be inevitable for UHF television broadcasting, work continued on improved types of power tubes. These types included tubes capable of greater power output which higher frequencies required, such as the 6181 developed in 1951. The 6181 was a forced-air cooled power tetrode for UHF television service capable of a synchronizing level power output of 1,200 watts at 900 megacycles.

Work also continued on new types of tubes for UHF receivers designed to solve the unique problems posed by reception of television broadcasts at the UHF.

One of the previous witnesses went into that in some detail.

Special monitors for UHF stations, UHF coaxial transmission lines and components and UHF wave guides and components also received concentrated attention.

New types of receiving antennas appropriate for the home were devised by our engineers and installed and tested by technicians of the RCA Service Co.

Although by the end of 1951 the Commission had not yet taken final action in opening up the UHF band to commercial television broadcasting RCA, in response to the Commission's challenge in allocating portions of the UHF band for television, already had made it possible for broadcasting to commence at the UHF whenever the Commission deemed such action appropriate.

On April 14, 1952, the Commission issued its new allocation of UHF frequencies setting aside 70 UHF television channels occupying the band between 470 and 890 megacycles.

The first commercial UHF station to go on the air following this Commission action was Station KPTV in Portland, Oreg., installed and equipped by RCA and owned by the Empire Coil Co.

Learning that our experimental Bridgeport station had completed its assignment, the owners of the Empire Coil Co. contacted RCA to obtain the Bridgeport facilities and have them shipped to Portland.

A crew of RCA engineers started dismantling the Bridgeport station on August 18, 1952. Manufacture of a new UHF antenna was expedited and delivery of accessory equipment made to Portland. A group of RCA engineers and technicians traveled with the transmitter and other equipment by train, plane, and truck and, once on the site, immediately commenced reerecting the units.

In only 30 days from the close-down in Bridgeport, the KC2XAK transmitter, now carrying the commercial call letters KPTV, went on the air at Portland, the first commercial UHF television station ever to be put in operation and the first television service to be made available in that community.

Anticipating that Portland's residents, previously outside the range of any television station, would crowd to retail stores for receivers, RCA rushed substantial quantities of UHF receiving equipment to that city; other manufacturers did the same. The shipments included receivers with built-in UHF tuning facilities and converters to enable VHF receivers to pick up the signals from the Portland station. With the Bridgeport experience to guide them, RCA Service Co. personnel were on hand to install receivers and converters and supply the necessary service.

The day after station KPTV broadcast its first signal into Portland, RCA began a thorough field survey of the Portland area to obtain additional information on the performance of UHF receivers under operating conditions.

This information, in turn, was collated and analyzed to form the basis of a series of studies on the Portland operation which were released by RCA to the Commission, to prospective UHF station owners, and to competitive manufacturers.

The first four production model UHF television transmitters were shipped from the RCA plant in Camden, N. J., on December 19, 1952. From that time on UHF television transmitting and receiving equipment has continued to be turned out in substantial quantity by RCA.

There are now 75 RCA 1-kilowatt UHF transmitters in use. More than half of the UHF television stations in operation are equipped with RCA transmitters and they are giving good service.

In this connection we were gratified recently to read comments, filed April 13, 1954, in an FCC proceeding, by Radio Columbia, the owner of station WCOS-TV at Columbia, S. C. Station WCOS-TV is equipped with a standard RCA 1-kilowatt transmitter.

A report filed by the president of station WCOS-TV with the Commission states that the present RCA transmitter installation provides an effective radiated power of 8.32 kilowatts in a horizontal plane and the location of the transmitter is such, with respect to the city of Columbia and the size of the city, that the FCC minimum field requirements are not only met but exceeded.

These factors, according to the WCOS-TV comments, are such that the station is in a position to say that its present installation enables it:

* * * to give highly satisfactory local coverage and generally satisfactory rural coverage to 40 miles or more. That this is true is shown by the fact that the last survey in the city of Columbia indicated that in excess of 86 percent of the television receivers were equipped to receive UHF.

Comments also were filed with the Commission in the same proceeding by the Piedmont Broadcasting Corp., licensee of Station WBTM-TV, which provides UHF television broadcast service to the Danville, Va., area. Station WBTM-TV uses an RCA 1-kilowatt UHF transmitter.

Attached to the WBTM-TV comments was an affidavit by Edward C. Gardner, vice president of the corporation, stating in part that:

The public response by communications to station WBTM-TV since the commencement of operation has been most gratifying from a coverage standpoint. Within the city of Danville, the comments have been enthusiastic with respect to the quality of the signal received, and there have been no complaints of failure to receive WBTM-TV service in Danville by reason of receivers located in dead spots. In addition, there have been communications from persons living in communities as far distant from Danville as 65 miles complimenting the station on the service which has been rendered.

In many communities a transmitter with a rated power of 1 kilowatt may with present antennas give an effective radiated power of from 15 to 20 kilowatts and render good service.

The sole consideration is by no means the rated power of the transmitter. Among other factors which must be considered are terrain, antenna system characteristics and antenna location and height.

Often an adequate signal can be obtained more effectively and economically with a properly contoured high-gain antenna and a relatively low rated power transmitter than with a transmitter of higher power rating and a less effective antenna. In addition, a high-gain antenna having a properly contoured pattern not only can provide a good signal over the principal community to be served, as is the case with WCOS-TV and WBTM-TV, but also may have the effect of extending and improving coverage in other areas.

As of the middle of last month RCA had 29 firm orders on record for 1-kilowatt transmitters.

Senator PORTER. Do I understand by this that it is not necessarily the power of the transmitter that makes the good signal, that your antenna has a great part to play in it?

Mr. WATTS. That is correct.

Senator PORTER. From your knowledge of the present UHF stations, are antennas normally put up properly and efficiently?

Mr. WATTS. Yes; they are all using high-gain antennas of one kind or another, and the point we are trying to make here is the fact that UHF stations have been restricted by the development of our two relatively low powers and have not yet been able to provide powers up to the limit allowed by the Commission is not, in itself, the limiting factor in the success of the UHF.

The RCA 1-kilowatt transmitter has been so designed that it can serve to drive a 12-kilowatt amplifier. We have designed such an amplifier for those who desire higher power and we now have on hand 47 orders for 12-kilowatt amplifiers.

It is expected that the first of these amplifiers, designed to operate on any UHF channel, from channel 14 to channel 83, will soon be ready for delivery. When used in conjunction with the presently available RCA high-gain UHF pylon antenna, this transmitter and amplifier combination will be capable of providing effective radiated power of from 200 to 300 kilowatts.

We are also developing a new UHF high gain, high power antenna having a power gain ranging to values in excess of 50. This antenna, when used in combination with our 12-kilowatt transmitting apparatus, will provide effective radiated power of from 500 to 600 kilowatts, and is a long step toward the 1,000 that the Commission has allowed.

Two decades of intensive UHF tube development by RCA engineers and scientists were climaxed in March of this year with the introduction of the most powerful beam power tube ever developed, the RCA-6448.

In color and black and white television service the RCA-6448 can deliver a synchronizing level power output of 12,000 watts at 900 megacycles. Development of this tube promises increased economy, efficiency, and simplicity in UHF television broadcasting.

RCA also has been a leader in the manufacture and promotion of UHF home receivers. It is RCA policy aggressively to promote the

sale of UHF receivers. As a result, the percentage of UHF receivers leaving our factory is well above the average of the balance of the industry.

For the first quarter of 1954, the latest period for which industry-wide UHF receiver statistics are available from the Radio-Electronics-Television Manufacturers Association, 23 percent of the television receivers manufactured and shipped by others in the industry were equipped at the factory for UHF reception. During the same period almost 28 percent of the receivers manufactured and shipped by RCA were factory equipped for UHF reception. Accordingly, the proportion of UHF-equipped receivers shipped by RCA in the first quarter of 1954 was almost 22 percent higher than the proportion of UHF-equipped receivers shipped by the balance of the industry.

Our policy is to make and sell as many UHF receivers as our dealers can sell. In this we are governed by public demand.

We have made substantial efforts to promote the sale of factory-equipped UHF-VHF receivers in all areas in which UHF television broadcasting is available. On the other hand, inasmuch as there is a price differential between UHF receivers and VHF receivers, because of competitive reasons we are not in a position to require our distributors to supply UHF-VHF receivers exclusively in areas in which UHF receivers are available.

In our shipments of various types of receivers, we are and must be governed by what the public is willing to buy. Naturally, we hope that the public will continue to buy a substantial number of receivers UHF equipped at the factory. The fact that we have shipped a greater proportion of factory-equipped UHF receivers than the industry average shows that our promotion of this type of receiver has been hard hitting and successful.

Since January 1953, all models of RCA Victor television receivers have been available factory equipped for UHF. In addition, every current RCA VHF receiver is designed that, if the purchaser initially buys a VHF receiver and later desires UHF, a UHF tuner can readily be internally installed.

RCA also sells a number of types of external selectors for use in UHF conversion.

The RCA Service Co. is available in most television markets to make the necessary alterations to adapt receivers for UHF.

Recognizing the need for informative material on the theory and application of ultra-high frequencies, the RCA Service Co. in 1952 prepared a booklet entitled "Introduction to UHF Television." Material from this book was presented in the form of lectures to 117 groups of service technicians. More than 8,000 men who were interested in the new upstairs field of radio attended. Upward of 65,000 copies of the booklet have been distributed throughout the industry.

A detailed study of the applications of RCA Victor instruments to UHF reception was compiled and presented as another lecture series. Entitled "Technical Aspects of RCA Victor UHF Receiving Equipment," the talk was given at 78 meetings attended by 5,700 technicians representing various segments of the industry. Nearly 40,000 copies of this lecture in printed form have been distributed as an aid to UHF development.

From 1931 to 1945, members of RCA's engineering and laboratory staffs were authors of 65 articles on the subject of UHF in general, and specifically on theory, circuits, components, and systems.

From 1946 to the end of 1953, articles on these and allied subjects totaled about 150.

The indexes of technical papers on UHF written and contributed to periodicals by RCA engineers that are available are impressive. These technical papers embody much of the basic research and development work which have proved fundamental in the advancement of UHF.

Publications written in nontechnical language for the information of the public have been equally a part of RCA's forward-looking plans for promoting UHF.

"UHF—What It Means to Television * * * And to You" was a 24-page pamphlet distributed gratis to schools, libraries, and to individuals. It related the history of UHF, the characteristics of UHF as they varied from VHF, and pointed out the increased television program service that UHF would provide for the Nation's viewers.

Another pamphlet, "UHF Questions and Answers," was prepared by RCA as an aid to television dealers in supplying information sought by the public. Phrased in simplified form, the data covered the field in question-and-answer form for fast assimilation by the reader. Three hundred and fifty thousand copies of this publication have been distributed by us.

Contributions have been made by many branches of the RCA to development of the UHF, and I do not wish to take time today to discuss each of these other than merely to refer to the general type of work which RCA has done.

In our work on the development of UHF transmitting and receiving equipment, RCA and its subsidiaries have invested more than \$16 million in engineering development. This includes more than 1,800,000 engineering man-hours.

The RCA Laboratories participated in the development of high-power UHF tubes, UHF black and white and color television transmitters, tests of UHF propagation, UHF field intensity recording, and research into UHF receiver and UHF selector development.

The RCA tube division has developed 18 transmitting tube types and 23 receiving tube types specially adapted for use at the UHF.

The RCA engineering products division has utilized the transmitting tube developments by the tube division in engineering transmitters specifically designed for operation at the UHF. Likewise, our engineering products division has developed antennas specifically designed for use at the UHF, monitors, UHF coaxial transmission lines and components, and UHF wave guides and components.

The RCA Victor home instrument division has worked on the development of UHF receivers and selectors and tuners for the purpose of adapting VHF receivers for UHF reception.

The RCA Service Co. has developed UHF home receiver antennas, UHF-VHF all-weather transmission lines, and measuring techniques for UHF components. These items have helped to make it possible for VHF receivers in the field to be satisfactorily adapted for reception at the UHF.

Simplified UHF test equipment also has been developed by the RCA Service Co. and area surveys have been conducted in such places as

Bridgeport, South Bend, Portland, Wilkes-Barre, York, Trenton, Norfolk, New Castle, Reading, Augusta, and Asbury Park. The results of these surveys have been made available to the entire television service industry in order to enable it to be in a position to provide the best possible UHF reception on all makes of receivers.

The fact that there may be some limitations inherent in television at the UHF as compared with VHF obviously did not deter RCA in its pioneering. In fact, these limitations have served as an incentive to our engineers and scientists to work harder in an effort to provide the best possible service at the UHF. As a result, although there are various respects in which broadcasting at the UHF does not equal VHF, we believe that the UHF has been so developed that today, under most conditions and with proper apparatus, it can render satisfactory service.

Senator SCHOEPPPEL. I would just like to ask at that point: I notice up there at the top of page 29 the great Midwest, outside of South Bend, was neglected. Do you figure that was satisfactory?

Mr. WATTS. Portland, Oreg., sir—

Senator SCHOEPPPEL. I mean in the Midwest. That is the Pacific coast.

Mr. WATTS. I think that had something to do with the way the station went on the air. No slight was intended, I assure you.

We are continuing our exploration and experimentation at the ultra-high frequencies in an effort to build on and to improve the knowledge and experience which we already have and which we have made available to the industry.

On April 26 of this year the Federal Communications Commission granted an RCA application for special temporary authority to conduct experimental field tests of a new method to extend coverage of UHF stations to shadowed areas. This system utilizes a low-power auxiliary transmitter developed by RCA engineers. The newly developed equipment will be installed near Vicksburg, Miss., in cooperation with station WJTV of Jackson, Miss.

That, I believe, Senator, is somewhere in the Midwest.

An auxiliary transmitter installed some 30 miles from the WJTV main transmitter is expected to provide improved service for areas in which reception now is shadowed by geographic elevations.

Plans for a full-scale field test of the new system have been formulated and exhaustive measurements of picture quality and other factors will be made available to the industry as these tests progress.

The Vicksburg experiment is one more example of our determination to explore every engineering avenue in an effort continually to improve service available at the UHF.

A few days ago, on May 10, Federal Communications Commissioner George E. Sterling participated in a symposium on UHF held by the Washington section of the Institute of Radio Engineers. In the course of his remarks he said:

* * * I think that you, as engineers, will agree with me that the pioneer experimental work done by RCA and NBC at Bridgeport, Conn., plus the successful operation of some UHF stations, give ample demonstration that it is possible to provide high quality TV-broadcasting service on UHF channels.

RCA has already made what it believes to be a greater investment in time, effort, and money than any other organization in the future of UHF.

It was the history of broadcasting at the VHF that, for most television broadcasters, years passed before their investment became profitable.

It took a pioneering spirit and determination to continue to operate VHF stations in the early days of television broadcasting.

We see no reason why those who today are pioneering at the UHF should expect that their path will be easier in this comparatively new field than was the experience of VHF broadcasters.

That concludes my formal report.

I would like to enter into the record a copy of a broadcast division technical magazine that we put out every other month, which has in it UHF's success story, the development of a new UHF television wave guide, and another story on WFTL-TV rounds out a year of successful UHF-TV broadcasting.

Senator POTTER. Without objection, that will be incorporated in the record at this point and will be made part of the official files of the committee.

Mr. WATTS. That concludes my statement.

Senator POTTER. Mr. Watts, what do you think about the possibility of tailoring the operation to meet the needs of the community rather than just setting a minimum standard?

Mr. WATTS. Tailoring?

Senator POTTER. Yes. Is that logical?

Mr. WATTS. Well, I think that will follow as a natural result of the development of the art.

I don't think anybody is going to put the thousand kilowatts on at the UHF or 316 kilowatts at the VHF to cover a town or an area, service area, that can be covered with substantially less power. That seems not to be good economic sense, and I would think, as we have found in AM broadcasting and in existing television broadcasting, you will find—

Senator POTTER. The move to take care of the needs?

Mr. WATTS. That is correct.

Senator POTTER. Senator Schoeppel.

Senator SCHOEPPEL. No further questions.

Senator POTTER. Thank you.

Mr. WATTS. Right.

Senator POTTER. Mr. Roberts.

Mr. ROBERTS. Yes, sir.

Senator POTTER. I might announce that we will conclude after Mr. Roberts' statement and, in order to hear as many witnesses as we can tomorrow, I will announce now we will start at 9: 15, in this room.

STATEMENT OF WILLIAM A. ROBERTS, GENERAL COUNSEL, ULTRA HIGH FREQUENCY TELEVISION ASSOCIATION

All right, Mr. Roberts.

Mr. ROBERTS. My name is William A. Roberts. I am the senior partner in the law firm of Roberts & McInnis, in the Desales Building in Washington, D. C.

My early engineering and legal professional career was primarily directed in matters affecting the regulation of utilities and transportation companies.

For the last 25 years, I have been associated with the communications industry, and since 1938 I have been counsel for Allen B. Du Mont Laboratories and later for the Du Mont television network.

A very substantial part of my practice has been in representation of States and cities and consumer interests, and I served for 6 years as special assistant corporation counsel and people's counsel for the District of Columbia.

In this proceeding, I am testifying as general counsel of the Ultra High Frequency Television Association, a nonprofit corporation of the District of Columbia, formed in the fall of 1953 by a substantial number of ultra high frequency television broadcasters and licensees.

Senator POTTER. How does this association differ from the UHF coordinating committee?

Mr. ROBERTS. The UHF coordinating committee represents a very considerably larger number of the broadcasters who have come together with the members of the Television Broadcasters Association primarily for the purposes of this hearing. That is the group Mr. Cottone is working with.

Senator POTTER. In other words, you have people who belong to your association who are still members—

Mr. ROBERTS. Yes; who are still members of the coordinating committee, and I have, myself, worked with the coordinating committee a great deal, as they have with me. There are, however, some differences or variety in our presentation, which has a broader coverage with respect to the UHF than does the coordinating committee.

This organization was originally equipped with a technical staff for comprehensive study of the difficulties affecting the use of the ultra-high frequencies in television and for the purpose of seeking remedial action. Original founding members contributed \$5,000 each toward this organization. The rate of contribution proved impossible to most of the industry—and the staff, incidentally, has disappeared.

Mr. Goldberg, who will testify, was executive secretary and was the economist for the committee up until some short time ago. He will testify for the coordinating committee.

So, you can see the sources are much the same.

I have appeared in all the major television proceedings before the Commission of an industrywide nature since 1938 and conducted the Du Mont presentation in the allocation proceeding.

In this instance, my testimony is to be taken as the official report of the Ultra High Frequency Television Association and my own personal views, although the statement has been completely coordinated with all of the operators in the industry who have evidenced interest, and particularly with the coordinating committee formed for the purpose of presentation in this proceeding before the Senate.

A list of our present members and of other operators who are associated with the association in this proceeding is appended to the copy of my testimony which I am handing to the reporter.

With certain limitations on engineering subjects, I will be available for questioning on the regulatory, economic, or legal phases of the industry's problems.

This is a very condensed version of the report, and I will be glad to depart from it at any time.

The question: Let us examine first the problem before us and define the scope of UHF's present difficulties. The basic issue before the

Senate subcommittee with respect to the regulation of television broadcasting is that it must make recommendations looking toward the creation and assurance of a truly nationwide actually competitive television system in the United States. More specifically, the subcommittee will examine into the question of whether or not the ultra-high-frequency channels of the radio-frequency spectrum have been properly and efficiently utilized.

The position of the Ultra High Frequency Television Association takes the position that immediate action is absolutely necessary for the preservation of free communication by television under the commercial system presently in use in the United States. If such immediate action is not forthcoming, the public interest, convenience, and necessity will suffer irreparably in that there cannot exist a truly nationwide competitive television system.

POINTS OF RELIANCE

(1) The television medium: Television is the most powerful medium of mass communication yet devised. However, under present Government regulation it is on the way to becoming part of a monopoly of communication.

Unquestionably democratic government cannot tolerate a private monopoly of communication. At the other end of the scale is inevitable Government ownership and the death of commercial competitive independence in the television field.

The subcommittee must assist in charting an administrative course between these extremes, a course that is at the same time healthy with free enterprise, yet not conducive to monopolistic control.

(2) VHF channels are inadequate: It is a practical impossibility to provide adequate television outlets for either sustaining service or commercial programming on the 12 available VHF channels.

At this stage of the debate the subject, I think, requires no additional proof. The Commission and everybody else in the industry agrees it is impossible to serve the country with the 12 VHF channels.

(3) Difficulty of adding V channels: While 1 or 2 more VHF channels may be added by ousting other radio services from parts of the spectrum, the total would still be far short of the minimum number required. Furthermore, the addition of 1 or 2 new VHF channels would necessitate a new type conversion of millions of existing television sets and, as in the case of UHF, would entail economic difficulty in establishing service on the new channels. In and of itself, the addition of 1 or 2 VHF channels is not a solution.

The proposed channels could be that which was designated as channel 4½ which, as explained to you by the Commission, fell in the middle of the television spectrum, or it could be the first channel of the FM, which would be 6½.

In the case of the 4½, you have to move everything up 2 megacycles, which means that all those presently assigned at channels 5 and 6 throughout the country would no longer serve the public.

The portion of the public which already has receivers adapted to those channels 5 and 6 would have to adapt their receivers and modify them.

The statement was made that possibly that could be secured by a serviceman's adjustment. We have had the statement made to us, as

a result of long canvass of the numerous manufacturers and a good deal of laboratory workers, that is not always true, that it might require more service adjustment than the slight change of 2 megacycles in the tuning.

When you get to channel $6\frac{1}{2}$, which is at the bottom of the FM channel, you have difficulty getting that spectrum, which is very badly needed, anyway. The FM people want it. There are certain governmental and commercial users which find it more desirable than other places in the spectrum, and the use of that $6\frac{1}{2}$ generally would mean, of course, you would have to revise all existing receivers, both all-channel receivers and VHF channel receivers, except a very few continuous tuning receivers, so as to pick up the new $6\frac{1}{2}$ channel.

So, you would have a conversion problem affecting whoever got moved to that frequency.

Senator POTTER. You would have to convert most of your sets?

Mr. ROBERTS. You would have to convert practically all the sets.

Very few sets in the tens of thousands of sets were ever built so they had continuous tuning all the way through, from the lower band of the VHF channels up through to the UHF channels.

Now, in that connection, I point out this discussion of two additional channels has to do with an effort to get a complete television system by adding more VHF channels.

Another method of adding VHF channels, above the top half of the VHF band, in joint service with various governmental agencies, has been suggested, in which you could probably obtain, by duplicating Government service, some 10 or 12 additional VHF channels.

We had hearings as early as 1940 and 1941, which demonstrated that even 22 channels would not be adequate, and you have seen the statement made in this record that you can't even take care of the entire competitive needs of the country with even 70 channels.

So, let's dismiss as foolish the suggestion you can get a true competitive system of television by using all VHF.

UHF is the only universal service.

In the present compromise, the joint use of VHF and UHF channels even if allocations were ideal, is less satisfactory than an entirely UHF service for which receiving and transmitting equipment could be standardized throughout the Nation. Such an all-UHF system could result undoubtedly in a marked superiority in freedom from noise, interference, and in economy of construction.

I will say in that connection—those are very condensed words again—that we who are primarily interested in UHF are very well satisfied that UHF can have freedom from external noise—for example, natural noise like lightning—

Senator POTTER. Airplane.

Mr. ROBERTS. Airplane, and so forth, is not as important a factor in UHF.

Senator POTTER. I was interested here in your statement as to economy of construction. I had assumed it cost more.

Mr. ROBERTS. Well, we have, to the extent of our ability, through being in the industry before and our contact with the consulting engineers association, with which we try to work as closely as we can, and the manufacturers, knowledge in the laboratory, certain facts about UHF, which indicate that to be the case once you get past the developmental stages. For example, a UHF antenna is a very small

thing compared to a 12-bay VHF antenna, and when you are up at the top of a thousand-foot tower that makes a lot of difference from the standpoint of wind pressure, and other matters of that kind.

There are certain factors about UHF which could some day lead to actual economies, although at present it may have some larger costs.

Technical development: Propagation characteristics and a time-consuming delay in development of equipment hamper technically UHF broadcasters in competition with VHF, but in time, these technical disadvantages can and will be overcome.

They have principally to do with questions of the power, perfection of apparatus, and development of new designs.

In that connection, I might comment on earlier testimony in this fashion: It has been suggested that perhaps a thousand-watt transmitter was a pretty good thing for a UHF operator. Let's not be misled. The Commission put 1,000 kilowatts in there because they knew we needed it and, while you can get by and get a good signal on a thousand-watt transmitter, it puts you in the same category as a 250-watt station, with kind of a second-class or secondary citizenship.

That is what we are here to fight against. We don't want the thousand-watt transmitter.

In its recent action, the Commission did propose the elimination of the VHF transmitters below 5 kilowatts. That is still pending. We oppose this action because in the small markets at the present time, with the present UHF economy, the small UHF operator can't afford to keep changing the size of the transmitter every 3 months, as often as higher power continues to develop, from 1 kilowatt to 3 kilowatts, 12 kilowatts, 25 kilowatts, and 50 kilowatts. There isn't enough money in the world for the UHF operator to crawl up this chain until he gets to the maximum power.

As far as the suggestion which has been made with respect to high-gain antennas, of course, gain which is acquired by closing the signal down vertically so you are serving a useful part of the area where people are, not the sky, is a very desirable thing, and it is much more easily attained in UHF as compared to VHF operations, by the way. Higher gains can be obtained. On the other hand, if you cut the signal down until it is a mere disc or slice, you run into other difficulties of UHF which might leave valleys unserved and raise other problems that are quite serious problems.

You can't resolve your problem entirely with gain. You have got to have power.

So, the UHF operator wants that power and would like to spend his money once for it, not get it by progressive steps.

I might answer a question at that point. A question was asked as to the limitations of closing in—the closing down part—you asked it, Mr. Chairman, reducing power in the sense of serving a smaller area for smaller communities.

The limitations were not put on there to effectuate the minimum limitations of service. That was a different limitation. That was put on with respect to the signal. The power of the signal was set at different minimums for communities of different populations.

The minimums we have described, in effective radiated power and distance, to be covered, were maximum limitations, consistent with the Commission's political and geographic theory of allocation, so you could get as many stations in the country as you could, taking into

account interference on cochannel or adjacent channel and certain other technical factors of interference in the country.

Those are maximum limitations, and can be seriously affected by the point Commissioner Hennock mentioned—the mallocation of transmitters at variable distances away from the cities they were supposed to serve.

So, maximum limitations become a farce if you can move 50 miles out with your tower, for example.

Those are the kinds of things I am talking about, discussing temporary disadvantages of UHF, and our complete conviction you can give a beautiful signal, just as good as anything VHF can give on VHF, and you can serve the public just as well when you have the other elements overcome.

I might add, in connection with the virtues of UHF small-power stations, I haven't noticed any networks owning as their owned and operation station any UHF stations. They seem to prefer a VHF station of maximum power.

Despite discouraging results to date, any assurance of the continued and expanding use of UHF would expedite development of new and particularly higher powered transmitting equipment for use in the UHF band.

In the judgment of the association, the development of both receiving and transmitting equipment for ultra high frequencies has been seriously retarded by a lack of confidence on the part of manufacturers in the future of UHF, and its availability awaits, in a large measure, only adequate assurances of the continuation of UHF broadcasting on a national basis.

On the one hand, there has been plenty of reason for the manufacturer to be somewhat alarmed at the effect of the UHF operator in the recent period. Part of that has been brought to our attention through actual failures of people, and those who have CP's won't go into operation—some of my clients just won't go into operation—they have got CP's—because they are confronted with 1 or 2 V's, and they know they can't hope to put anything in it and have a hope of getting something out of it.

Now, that doesn't mean they want to get out of television. It means they don't want to lose a million dollars. They want to get a half break.

I might say in that connection there have been some discouraging statements about UHF made by people in high governmental authority not so long ago, statements in connection with the advisability of being UHF. There have been some very discouraging statements made by people engaged in the advertising business and people who happen to own a lot of "V" stations, and those discouraging statements have affected the advertising business, and you can discover who those advertisers are by looking at the trade press and seeing whose agents advertise, "We handle VHF only."

That is a very encouraging thing for a man who is trying to run a "U" station, on the other side of this encouragement-of-morale fence, when you think of the operators who went into UHF.

I call your attention to the hearings of the Commission in the allocation proceeding. After that lengthy proceeding, with much difference of opinion, many, if not most, of the UHF operators who went into that service did so because they read in the Commission's report

they could do it safely. The great Commission had said there would be plenty of power soon. The great Commission said this business of intermix will give us lots of good receivers, and individual Commissioners and individual staff members, as you will see from the testimony of others, actually were convinced or said they were convinced that the solution of the allocation question meant that UHF could go ahead. That was first because it would have time to go ahead since the VHF controversial problems were being decided and, secondly, because they had assurance there would be no serious difficulties in the matter of equipment.

Now, they had encouragement at that time, and they have only discouragement now.

I will add one point to that—and that is the fact that once you start down on his UHF thing it is very serious to the public because you don't go down arithmetically. As soon as the manufacturer finds his warehouse is full of all-channel receivers, he stops the production line. When he stops the production line, he makes less. When he makes less, the cost goes up, and when the cost goes up people won't buy the all-channel sets. So, you are going down in a geometrical proportion.

The same thing is true with respect to engineering work on speaker transmitting facilities, and the same thing is true with respect to efforts to restore public confidence in advertising.

You can't knock UHF very far down the line without taking with you the good stations, the ones which have the market, and once they start to go you are in trouble, and they have started to go down, and we say now is the time for action.

Senator SCHOEPEL. As has been brought out, though, there has been a technological problem in here about furnishing expeditiously the transmitting equipment in these ranges; is that not true?

Mr. ROBERTS. That is true. I thought that was well explained by the GE man on tubes.

Senator SCHOEPEL. Yes. I had reference to that testimony.

Mr. ROBERTS. I don't think anybody can continue in the manufacturing business by saying, "We are laying back on UHF."

Senator SCHOEPEL. But that did, from a technological standpoint, require time, and that all adds, of course, to legitimate delay.

Mr. ROBERTS. And when you found some of the finest economists and engineers in the business advising their clients not to go into UHF at the time of the allocation report, you would have found that we would have had much more progress had the engineers and consultants had confidence in an allocation system that would work. After all, Du Mont's broadcasting engineers and the rest of us had our lives in this business and couldn't have been entirely stupid, and had there been an allocation system to start with, then the manufacturers could have gone faster because then they would have had more confidence in the ability of the operators to make money.

Senator SCHOEPEL. It does look to me, as one member of this committee, that practical suggestions were thrown out there and that quite a while back someone didn't have too much confidence and faith from an administrative standpoint.

Mr. ROBERTS. Well, somebody did. I was about as familiar with that record as anybody could be.

By the way, the record in the allocation case—there is a stack of transcript about that high, with maybe 3 000 or 4 000 exhibits, in several steel file cabinets; and as early as 1938 and 1940 we knew televi-

sion had to have sufficient spectrums, that it could not be served in the low frequencies and that you would have to go up. That has been said officially and unofficially ever since, and we are still not up there.

UHF operational difficulties: The basic difficulty in establishing UHF stations under the present intermixed allocation plan adopted by the Federal Communications Commission is attributable to:

(a) Conversion: The necessity for listeners converting their receivers and appurtenant antenna equipment in order to satisfactorily receive UHF stations.

Again interrupting, you were quoted certain figures for various types of temporarily satisfactory converters and internal conversions for receivers and for continuous types of equipment for the manufacturer of receivers and for conversion, but that isn't the full cost. Sixty dollars isn't the full cost.

Experience shows that the cost of servicemen handling the unusual equipment and the towers and the difficulty of precise location with a weak signal, which requires much more accurate location of the receiver within a house, and the difficulties you had with that type of equipment on top of apartment houses, where the owners just wouldn't let you play around quite as much, and you didn't need to for VHF, all represented a larger cost. So, instead of thinking in terms of \$35 for practical conversion of a VHF to UHF receiver—and it is never as good as a proper one—you still have to add, on the average, certainly in the fringe area, with low-power 1,000 watt transmitters, towers, receiving towers, receiving antenna, and to maintain them, which is a very expensive item.

Senator POTTER. I assume another problem you would be confronting, too, is the fact that many of your service men in placing your antennas wouldn't have the knowledge or the know-how as to where to place them, and they would try to operate as they did with the VHF antenna, by just putting them up and letting them go.

Mr. ROBERTS. Mr. Chairman, the only trouble with your statement is to use the past tense. They don't know right now. Many of them don't know right now, and many who call themselves servicemen and never had any trouble have been able to get paid for doing that work, although there has been a tremendous development in that respect.

Senator POTTER. I can see your statement is going to bring on many questions.

Mr. ROBERTS. I can summarize it to some extent.

Senator POTTER. Would you prefer to finish tonight?

Mr. ROBERTS. I will stick to the prepared report. I can finish the statement tonight and be available tomorrow if you want me, although I would prefer to come back tomorrow, sir.

Senator POTTER. If it is all right, I would prefer to have you do that.

Mr. ROBERTS. I will be glad to come back tomorrow.

Mr. SCHOEPPPEL. You are here in town, anyway?

Mr. ROBERTS. Yes; I am here.

Senator POTTER. Yes.

I think that will be better.

Mr. ROBERTS. All right, sir.

Senator POTTER. We will recess until 9:30 tomorrow morning.

(Whereupon, at 5:15 p. m., the hearing was recessed, to reconvene at 9:30 a. m., tomorrow morning, Friday, May 21, 1954.)



STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

FRIDAY, MAY 21, 1954

UNITED STATES SENATE,
SUBCOMMITTEE NO. 2 ON COMMUNICATIONS
OF THE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D. C.

The subcommittee met at 9:15 a. m., pursuant to recess, in room G-16 of the Capitol, Senator Charles E. Potter (chairman of the subcommittee) presiding.

Present: Senators Potter (chairman of the subcommittee), Schoepel, Bowring, Hunt, and Pastore.

Also present: Senator Edwin C. Johnson; Bertram O. Wissman, chief clerk; and Nick Zapple, counsel for the subcommittee.

Senator POTTER. The committee will come to order. When we concluded last night, Mr. Roberts was in the middle of his statement. We will conclude with his statement at this time. We have many witnesses whom we would like to hear today. This will be the last day of this part of the hearing due to the convention next week.

We will meet again on June 3 and 4, and I hope that we can all conclude the testimony at that time.

We have scheduled for today 20 witnesses, so you can well appreciate that time is of the essence. We would appreciate it if you could limit your remarks to not more than 15 minutes, if it is possible. We do not want to cut off any witness. We want to get all the witnesses we can, and all the facts, but if you have any additional material to submit you may submit it as part of the record.

STATEMENT OF WILLIAM A. ROBERTS, GENERAL COUNSEL, ULTRA HIGH FREQUENCY TELEVISION ASSOCIATION—Resumed

Mr. ROBERTS. I would like at the beginning of my testimony this morning to make a correction in the prepared statement of testimony that was filed with the committee by striking the name of S. Bernard Berk of WAKR from the list appearing on the front page. His name was included under misapprehension.

Senator POTTER. All right.

Mr. ROBERTS. I was discussing UHF operational difficulties.

The basic difficulty in establishing UHF stations under the present intermixed allocation plan adopted by the Federal Communications Commission is attributable to—

(a) Conversion: The necessity for listeners converting their receivers and appurtenant antenna equipment in order to satisfactorily receive UHF stations.

(b) Programming: The inability of UHF stations to obtain programming of comparable quality with competitive VHF stations in the same markets.

(c) Advertising revenue: The inability of UHF stations to obtain national and regional advertising revenue sufficient to support local productions and thus attract comparable audiences. Thus we have what UHF broadcasters recognize as the vicious circle.

One of the most important elements of UHF's present plight is programming. The Ultra High Frequency Association has devoted careful and serious study to the factors involved in television station programming and has reached several conclusions.

It is undeniable that ultra high frequency broadcasters in intermixed markets cannot obtain the competitive programming to attract audiences that must first convert VHF receivers or purchase all-channel receivers. This is fundamentally true because of the following:

(a) Dominant network: The two dominant networks, long established in radio operation, have preferred and supported their basic affiliates in television as well as in radio, and through primary affiliation or through station ownership control programming for VHF outlets in all major markets.

(b) Custom: Established contracts and customs result in, and in fact require preferential clearance of, time in favor of the major networks.

Senator POTTER. What are your views on Dr. Du Mont's three proposals?

Mr. ROBERTS. Of course, I work for the company, and in this instance I am entirely on my own. Dr. Du Mont knew when I went with the association that I was to represent my own views on the matter. With respect to the report, I think it is a most excellent view and I think it is entirely true in all respects and deserves all the consideration in the world.

With respect to the three proposals they all have some disadvantages. But the critical thing is that they contemplate that relief can be had solely by one of the three proposals, whereas I do not believe that. I do not believe that merely requiring networks to give fractions of their time to some other stations or inducing networks by allowing them to have 11 stations or any of the other programming devices will solve the basic problem which, in my opinion, is fundamental and has to do with improper intermixture, and that you must set up in all the primary markets, in my opinion, stations of common type operation at the present time and for a long time to come and in sufficient numbers to provide for and support four sources of national programming.

If you do not do that by eliminating intermixture as far as you can, then the other remedies will not be sufficient. But in like manner, I feel that mere intermixture is not sufficient. You would have to use some device similar to one of the ones that Dr. Du Mont presented.

His experience and the experience of his staff in the business and the fact that they have been on the low end of the totem pole for a long time and the theory of the programming requires that those methods be given consideration.

I fear a large number of owned and operated stations in the hands of a small group of ownership. That is my own personal expression on it.

(c) Kinescope repeat broadcasts: Even when affiliated VHF stations cannot use network programming on a live basis, they show kinescope recordings at off hours and thereby prevent use of the live program by competitive UHF stations. This practice effectively frustrates the UHF operator from any good live network programming. I add there one sentence that the same thing is applicable to the source of film, that the dominant station acquires the bulk of a series of shows on film and may put on a first-class production at 2:30 in the morning, thus holding up the market so that the market is not available to the UHF producer. If we do have commercially available the use of tape-recording video, it doesn't change it because somebody has to produce it. It is not the technical desirability but the source of the program that makes the program not available. We will not cure the deficiency whose trouble comes due to saturation of the media.

(d) Limited network clearances: Major network advertisers cannot afford to produce superior programming unless they secure "clearances" from networks in a sufficient number of top markets to justify the expenditure and network and cable charges, and under the system that now prevails, they are solely dependent upon the two largest networks for such maximum audience clearances. Needless to say, clearances, relatively speaking, are not forthcoming for UHF stations.

(e) National advertising revenue: Similarly, national spot advertisers generally place their time and announcements around feature programming and will not use UHF stations which cannot secure attractive feature programming. Even if these good local features that do not want it because they want something that is shown around the country, and you heard the estimate that between 20 and 30 percent of the revenue comes from local operations of a local operator. For instance, a local operator in St. Louis reached his quota for local advertising revenue with very fine UHF equipment, but that still left him with four-fifths of his revenue to be raised without the national spot advertising, according to the existing figures and customs he could not survive.

(f) Film: Release of desirable feature motion picture film at reasonable cost has been withheld by major motion-picture studios and by various talent and labor agreements. Control of released motion-picture film of suitable entertainment quality has often been concentrated in major networks and in a few distributors. Use of some desirable foreign films has been restrained by governmental and labor requirements.

Senator POTTER. What is the policy on the use of motion-picture film? Does it have to be 7 years old?

Mr. ROBERTS. I have no evidence of a specific agreement among the major network producers to withhold feature films within their libraries, but the testimony before the Commission at various times has shown that factors affecting the release, even where the investment has been completely amortized, are such things as the Petrillo agreement, the expense of clearing for talent claims in the picture or the original writers of the picture, the cost of just clearing that to

be certain that there would not be some expense there and finally the reluctance of the motion-picture industry to release their motion pictures which are the most recent ones. In any event, the net result of all these things is that a great mass of a good black-and-white film is not available for local production.

Until the last 2 years the production of color film by the industry was limited so that practically all the good feature color film is, since the Petrillo agreement—and if we do have to produce color on a non-network basis, it will be difficult to secure good programing material.

The foreign film is largely the production of the foreign organizations and the labor organizations in this country have taken steps to prevent the introduction and use of foreign films.

Senator POTTER. Are new films being produced, any films being produced especially for television?

Mr. ROBERTS. Oh, yes. Many television programs are being put directly on film, timed out, many of the best programs, and with the introduction of one or two recent developments, continuous motion-picture devices are now available and are now being distributed that are enormous improvements over the quality of film showing, so that will make a great difference in local distribution of film.

That doesn't change the fact that ownership and widespread distribution is what makes it available to the operators. If you wipe out all major networks, there wouldn't be any difference in that regard.

Other factors have conspired to make the operation of a UHF television station increasingly difficult. Among these:

A. Inequitable results: Restrictive and unfair governmental regulation, e. g., the threat of expedited or "quickie" grants of competitive VHF channels, unforeseen and unforeseeable when UHF owner received his grant, and the rapid functional obsolescence of early UHF equipment have discouraged equity capital and made loan credit unobtainable by many UHF operators. That "quickie" grant has been an extremely bad thing and a new thing. Just because it has been bad for a UHF operator, and that in principle, doesn't mean there is no defense for it. The operators of the VHF grants wanted them to go through quickly. There was enormous pressure to get the "quickie" grants through. One thing they are doing is foreclosing the correction of the intermixture situation. If you dump in more or less overnight grants through collusion or agreement by the operators involved, you make it more and more difficult to correct this situation. On the other hand, VHF competitors have been encouraged and their financing facilitated by major network programing agreements, friendly governmental regulations and established stability of equipment design and construction. Obviously, much more could be said on the topic.

B. Unrealistic taxation: Unrealistic and inequitable tax requirements, including fixed schedules for depreciation, prevent realization of early profits by the UHF operator in markets where VHF competition has been deferred or limited. That has been taken up with the Treasury Department by the association for several months and we have good reason to believe that the schedules are taking into account the rapid obsolescence of UHF equipment. The new tax bill has some relief and the further spread of early losses or profit will be taken into consideration.

(a) Hiatus: Hiatus is a freeze with a new name. A minimum 90- to 180-day hiatus, effective upon all applicants and holders of construction permits who have not yet requested authority to conduct equipment tests, thus providing the subcommittee and the Federal Communications Commission with sufficient time to study solutions to the problem and establish an integrated permanent plan that will assure the competitive national television service. Every day the hiatus is postponed further aggravates the already chaotic condition in the most important branch of the Nation's communications industry. And I mean by every day, I mean today, action that would be taken by the Commission today to prevent further releasing of "quickies." It doesn't take very long and it is imperatively required.

(b) Transfer from VHF to UHF: Ultimate transfer of all television broadcasting to the universally adequate UHF band is desirable, and barring the perpetuation of present monopolistic conditions, inevitable.

SENATOR POTTER. You contend that eventually we should have all of our television on the UHF band.

MR. ROBERTS. Will you have it on an equitable basis for everybody or will you wait until UHF is available to only two networks and let them have it for the entire country?

(c) First step, eliminate intermixture: It is the considered judgment of the Ultra High Frequency Association that the above could best be accomplished by stages, the first stage to be an immediate reallocation eliminating VHF and UHF intermixture on a market-by-market basis. This is to be accomplished by a mandate permitting the substitution of channels between markets, the change of existing operating frequencies from VHF to UHF, and vice versa. This remedy may require, in some instances, the extension of the right to operate by the same station with both UHF and VHF transmitters during an interim period. There is a possibility that it may require the use of one television channel from the FM spectrum.

(d) Network programing: As to programing, no voluntary solution is in sight. There has been undoubtedly an undesirable concentration of control of television broadcasting through advertisers and television outlets. This is in the main attributable to governmental regulation and to the insufficiency of immediately available equivalent channels in major markets. Voluntary commercial subsidization of UHF broadcasting stations by advertisers or by networks has not, and will not occur. The immediate and necessary remedy lies in mandatory regulation of networks and other program sources, to enforce equitable distribution of opportunities for programing without regard to affiliation agreement or immediate audience. Networks must be compensated for this investment in the future of communications freedom, by grant of certificates of convenience and necessity which will preclude unnecessary future competition. This, in view of the fact that the committee has before it legislation intending to accomplish this purpose, if you will make the networks distribute the unbalanced programing so as to induce a field in which you can have some of the other programing, that means some of them will have to give up some of what they have got. It would be unfair to ask them to do that without defining networks as the bill proposes and without requiring the Commission to give grandfather grants to the existing

networks so when they do make this expenditure they will not be confronted by a "come lately" who wants to disrupt all the things on a national basis.

Senator POTTER. It would freeze in four networks.

Mr. ROBERTS. Yes, sir. They are the 4 who paid the money, and the boy who sits back with 5 stations and does not offer network service should not be granted that privilege. If there is a need for a fifth, the Commission could grant the fifth.

(a) Receiver production: Production of all-channel receivers of the desired type on the part of the viewing public to convert to UHF through utilization of improved equipment can be expedited by Federal Trade Commission rulings, and we were before the Federal Trade Commission last fall to make it an unfair practice on this matter of advertising television receivers. You would have to say this is a VHF receiver, for instance. That would be very important, and even without formal action by the Federal Trade Commission many better-business bureaus picked that up, and it did a lot of good throughout the country.

It can further be expedited by Federal Communications Commission regulations, such as the restriction of spurious emission from inferior equipment; or by a preference for all-channel receivers through a reduction or elimination of excise taxes.

Senator POTTER. The question that concerns me, if you start switching from VHF to a UHF market, what about the people who have invested many thousands of dollars in television receivers? What about the problem of forcing them to convert, which would mean an additional money outlay to the consumer?

Mr. ROBERTS. The important thing is under the step-by-step plan we have talked about. Very great numbers of them do not have to change at all. For instance, in New York and other markets where you would have the same kind of problem you would have at least four networks, and they would continue in the nonintermixed field with their surrounding areas, probably by the granting of further VHF's.

Secondly, as you have noted, the production of the manufacturers has been such that there is a natural transition by people who prefer to get fringe-area programing and want an all-channel receiver.

Thirdly, there is a change by individuals anyway. It is a well-known fact that children are requiring a receiver in the back of the house and the 12- or 15-inch receiver, black and white, is being moved back to an inferior use for a new, larger receiver which is coming into the front of the house. That transition permits, without any serious outlay, you can get a transition naturally to UHF. It isn't as great a burden as it might seem.

Senator POTTER. Do you have any figures as to the average length of time that the average homeowner has a set before he trades it in?

Mr. ROBERTS. I have never seen any conclusive evidence. Probably you could estimate 4 years, but each technological change, for instance, to good UHF programing brings about a greater turnover than that and color will be the next opportunity for making the change without hardship. Four years might be reasonable for dealers expecting to make resales.

Senator PASTORE. Mr. Roberts, you had said—

Ultimate transfer of all television broadcasting to the universally adequate band is desirable, and barring the perpetuation of present monopolistic conditions, inevitable.

Mr. ROBERTS. Yes.

Senator PASTORE. Why do you say that?

Mr. ROBERTS. Because you cannot get a nationwide competitive broadcasting system giving the people the variety of programming they want throughout the country on the VHF channels. You cannot maintain as economic a service between the VHF and the UHF. The Government and other services want the channels presently used by VHF pretty badly. There is a tremendous demand for use for other purposes, more necessary purposes in some respect by the channels presently used by the local band of the VHF channel.

If you were on all UHF you would have a greater similarity of equipment throughout the country and you would eliminate the intermixture problem and you would have transmitters and receivers which could be universally sold throughout the UHF band. There is every reason to go to all UHF. The only thing that stops us is the commitment to the VHF's at the present time.

Senator PASTORE. May I ask Mr. Hyde whether or not he agrees with that statement, "yes or no"?

Mr. HYDE. That it is necessary to move all television to UHF in order to have a nationwide competitive service?

Senator PASTORE. Yes.

Mr. HYDE. No; I am not ready to agree to that.

Senator PASTORE. Do you agree to the statement made by Mr. Roberts?

Mr. HYDE. You mean where you said: "Ultimate transfer of all television broadcasting to the universally adequate UHF band is desirable, and barring the perpetuation of present monopolistic conditions, inevitable"?

Senator PASTORE. Do you agree with that statement?

Mr. HYDE. No; I do not agree with that, but, Senator, that is a type of an agreement that I would want to examine in some detail before I would give a complete answer.

Senator PASTORE. It is important as to whether we end up with UHF.

Mr. HYDE. There are serious questions as to whether or not within the presently allocated UHF television channels you could work out a sufficient number of assignments to take care of certain congested parts of the country. Before you could be absolutely certain as to how complete that coverage would be, it would be necessary to engineer the plan.

I say it would be difficult because of the experience we had in trying to fill out an allocation in the northeastern part of the country with the use of both the UHF and VHF parts of the spectrum.

Senator PASTORE. You say it will be desirable to make greater use of UHF, but not exclusively; is that right?

Mr. HYDE. The Commission found it necessary to use both parts of the spectrum in order to provide the coverage necessary. Mr. Roberts feels that the coverage could be worked out in the UHF, but he says with technological improvements in the offing. I don't know what he means by that, and perhaps there are some devices that he has in mind that will give a more efficient distribution of UHF than seemed available to us.

Senator JOHNSON. Mr. Chairman, the Senator from Rhode Island has asked a very interesting question. There is a technical question as well as a question of policy involved.

We are fortunate this morning in having Commissioner Sterling here who is an electronics technician, and I would like to hear his reply, too.

I would like to hear Frieda Hennock's reply. She is an expert on public relations and public service, and I would like to hear briefly a reply from each of these Commissioners to that same question.

I also have one question for Commissioner Hyde. I want to know if you could not have a better allocation with the 40 channels in UHF or the 12 channels in VHF.

Mr. HYDE. With the 70 channels in UHF?

Senator JOHNSON. There may be 70 but you have 40 now.

Mr. HYDE. You would have more broadcasters with stations in communities with the 70 UHF channels than you would with the 12 VHF channels.

Senator JOHNSON. There would be less danger of monopoly.

Mr. HYDE. You would have more opportunity for competition. I do not think that the distribution of stations on the VHF constitutes a monopoly. It does not afford the amount of competitive opportunity that we would like to have and which is the reason for going into the UHF.

Senator JOHNSON. It is very rapidly drifting into monopoly, Mr. Commissioner.

Mr. HYDE. I think that there would be on the order of 500 stations. That is not a monopoly, Senator.

Senator JOHNSON. You count the stations and say that there is not a monopoly? That doesn't mean anything.

Mr. HYDE. And not more than five of them under common control.

Senator JOHNSON. That doesn't mean there is not monopoly in VHF.

Mr. HYDE. In some communities there would be one station, and I suppose that would be a local monopoly, but you would not have a general monopoly.

Senator JOHNSON. There is a very serious monopoly in the VHF, and I am sure the chairman knows it, that we do not have a nationwide competitive service in this country because of the monopoly in VHF.

Mr. HYDE. I have urged in previous testimony that the Commission went into that matter in order to give an opportunity to competitive stations in as many markets as possible, of course, I agreed to that principle, but I do not believe that we have a monopolistic situation now. I think we have one that could be improved by more successful use of all the channels.

Senator JOHNSON. But the situation is this, if the chairman will permit me to say so, the very fact that the Commission found it necessary to go to the UHF in order to get a competitive service of television is proof enough that the Commission realized and recognized that there was monopoly.

Now, the sad situation is that UHF is being blanked out because of a lack of receivers and because of the very monopoly that caused the Commission to go into UHF and supplement VHF with UHF. UHF is about to be blanked out and completely eliminated, and that

is what this meeting is about. That is what this hearing is for. That is what we are considering. We are trying to find out some way of saving UHF, and the reason is so that we may have a competitive service in the United States in accordance with the law adopted by Congress on this very subject. I will not interject any more arguments into this, Mr. Chairman, I promise you.

Mr. HYDE. In my statement which I made at the beginning of this hearing, I indicated that it was the Commission's purpose to have a television service on the broad basis of not 12 or 70 channels, but 82 channels and we did not want the television service divided into classes such as UHF and VHF.

It was the Commission's objective, and it is still our objective to have as many of these channels in active use as the public can make use of in the interest as wide diversification, in the interest of having as many choices of service as possible for all the public.

Senator JOHNSON. Mr. Chairman, we also have Commissioner Webster here who is an electronics engineer and expert. He served well and faithfully in the Federal service and I regard him as one of the outstanding electronics engineers of these times, and I would like to suggest that the question which you submit to the chairman be also submitted to him for brief comment. Now, I will subside.

Senator PASTORE. On the point raised by Mr. Hyde where there is a desire to raise the competition on the bands to 82 instead of 12 with the competition of VHF and UHF, the trouble is that the whole thing is sewed up under the 12 channels of VHF. The good programs are in VHF and that is exactly where the problem is.

The other people are not on a competitive level for the simple reason that they do not get the same quality of program. It doesn't pay for anyone to convert unless that is the only alternative he has. If there is only one UHF channel he would have to use his channel for that.

The point is that people are not converting because all the good programs are coming through on the VHF channels, and they are not going to convert as long as you have that situation.

Senator POTTER. If there are other Commissioners here who want to comment briefly on the question asked by Senator Pastore as to whether or not they feel that eventually all television can be and should be on the UHF band, we would like to hear them. Would you care to comment on that, Commissioner Sterling?

Mr. STERLING. I find myself in agreement with what Chairman Hyde has said, but I imagine what Senator Johnson had in mind was the long-term program and not an immediate program.

The making of a television allocation plan is of some proportions. You cannot generalize on something which is so important as that. One would never have thought that we were going to have over 2,000 AM broadcasting stations. From a long-term standpoint, I do not believe there would be sufficient UHF channels to provide for a nationwide competitive service, but I believe that as time goes on the manufacturers will, in response to a demand for cheaper equipment and competitive features, will get into this, that there will be many smaller communities that will want a small power cheap, inexpensive television outlet, and I do not believe that from a long-term standpoint that you could make a nationwide television competitive system by utilizing the UHF. It is dangerous to generalize on such an important subject.

One must take all the factors into consideration, the trends of the time and it does get into engineering.

Are we going to have the mega watt of power that we estimated to be available? We have a present limit of 2,000 feet for antennas for UHF. We do not have such antennas at this time. I will not say we may never have them. You must take into consideration all the technical aspects. I do not believe I would want to say that you could make a nationwide competitive system and guarantee service as we had hoped to guarantee service to all the people of these United States in the important media of television.

Senator POTTER. Today it is a key question because eventually if all television will be in the UHF band, or should be in the UHF band, or should be in the VHF band, we had better start taking a new look at the grants for VHF. We would like to hear from you Commissioner Webster.

Mr. WEBSTER. I have been away for about a month and have not had time to digest material brought before your committee. I have read the testimony of our chairman, and I have read some of the material that Commissioner Sterling has made, that is through one of his talks and in conversations with him, and I concur heartily with both of their statements or speeches that they have made.

During the time that we considered this whole problem in the Commission, I could see no way from an engineering point of view, that you could give a countrywide television service with just the UHF band. It is a very difficult engineering problem and I think that no one can make a general statement without going into the details from one end of the country to the other and try to allocate these frequencies.

To make a general statement that you can do it in UHF, I want somebody to come up and prove it. That was my conclusion at the time we worked on it.

There is one other point in going into all UHF, and that is to change the stations now on VHF over to UHF.

Anyone who will go into the legal problem involved will find that it is a very difficult problem. Even with the 108 stations, we were faced with at that time we made our decision that it was a grave question as to whether you could force those stations to go over to UHF.

I think the legal problem involved and the long procedures that you might have to go through in changing them over would have to be gone over.

I heartily endorse everything said so far with regard to the problem with respect to our Chairman and what I have heard from Commissioner Sterling.

Senator POTTER. Commissioner Hennock, we would like to hear from you.

Miss HENNOCK. It is very difficult for me to state my problem. I have to take my hair down and blame the Senate as much as the Commission.

The 331 applicants which you now permit and all the other applicants have dropped by the wayside, and I think there were another 40 which gives 370 or 380 people who thought very highly of UHF.

I blame the Senate because of the senatorial pressure. I am all for these improvements that these people talk about, but if there is any

testimony that there is anything the matter with UHF, they have not told me it for 5 years.

What do we mean as a Commission by sitting here and saying to these people that this is just as good as VHF and never make a distinction between the two bands, and if you want me to tell the truth, when you Senators call up this Commission and say hurry up and give us television service to our communities and give it to us tomorrow, and give it by the most unethical manner known to man, what do you mean by allowing applicants to come in on Tuesday at 5 o'clock and file an application and not allow anybody to compete for that channel and allow the worst interests in those communities—and I do not mean disreputable necessarily, but when you allow two companies to merge and not even to let the public know what is happening to the public interest and necessity in this country and the free speech and opinion, what do you think I will say when you ask me that question?

I am ready to cry and give up and if you want to know the rest of my statement I will give it to you before I am through this hearing.

Senator POTTER. We have the newest member of the Commission, Mr. Lee. Mr. Roberts, in his statement, mentioned that the future of television lies in the UHF field and that eventually all television should go into the UHF band. Do you have any views on that Commissioner Lee?

Mr. LEE. Mr. Chairman, from my standpoint, I am a strong free-enterprise man. I haven't heard anybody come to us and say that they have made too much money, why don't you take some away? I would do anything I could to help UHF on a technical basis, but as far as the allocations, I think the disruption would be awfully serious when you consider 30 million sets.

I can imagine what would happen in Congress with the uproar with all those people who would have to make some adjustment of their aerial and some adjustment of their machines. I expect there are VHF stations which are having difficulty, too. It may be that we are still breaking ground. Every week we are putting some more stations on the air. We are going through a period where maybe the stations are ahead of the market. I don't know.

I have information that UHF will be all right in the long run. I would hesitate to go so far as to impose more governmental control in order to help a problem and thereby create more problems by the very means we use to solve them.

I am in sympathy with the removing of the excise tax and I would do things like that, but anything that would not be well within the free-enterprise system, I would oppose transferring to the UHF or putting all television in the UHF band.

Senator POTTER. I am a member of another committee where all the members of the committee once in a while take the witness stand, and we have the same situation with members of the Commission giving their testimonials. I think it might be desirable, in order to expedite the hearing as much as possible, that we continue with the regular scheduled witnesses and then at the conclusion of the hearing, to have the Commission come back and pick up these various points with the members of the Commission.

Mr. HYDE. If we might, I would ask that we be permitted to submit a statement which will take up points that have been made by a number of witnesses. I would like to add right now that I do not

consider that any of the Commission procedures are in any way unethical at any time.

Senator PASTORE. I realize the desire of the chairman to expedite the hearing. However, I do have one question I would like to ask Mr. Hyde.

Mr. Hyde, could you inform us as to the number of operating television stations, and I think you said 376.

Mr. HYDE. 377.

Senator PASTORE. How many people or individuals own the 377? I know that one cannot own more than 5, but how many of them have 5? How many owners have we?

Mr. HYDE. 300 is approximately right. I will make a careful check on that.

Senator POTTER. Will you submit that for the record?

Mr. HYDE. I think his question meant by "persons" to cover individuals or corporations?

Senator PASTORE. Yes; the same interests owning 5 or 3 or whatever the number is.

Mr. HYDE. Yes; we will supply that.

Approximately 487 different companies or individuals own the 570 TV stations authorized as of May 1, 1954. A total of 51 companies or individuals had either majority or substantial minority ownership interests in more than 1 TV station. A breakdown of these ownership interests is as follows:

Number of stations in which a majority or substantial minority interest is held	Number of companies or individuals holding such interest	Number of stations involved
5.....	4	20
4.....	5	20
3.....	10	30
2.....	32	64
Subtotal (2 or more).....	51	134
1.....	436	436
Total.....	487	570

NOTE.—Of the 377 stations on the air as of May 1, 1954, there were approximately 304 separate companies or individuals owning such stations.

Senator POTTER. You may proceed, Mr. Roberts.

Mr. ROBERTS. I have been working with Chairman Hyde and Commissioner Webster and Commissioner Sterling for a great many years, and the mere fact that I have a difference of opinion doesn't mean I would want to compare my judgment with their collective judgment, and if what we have to say cannot stand on cold logic before you I wouldn't want it to be considered necessarily as being in opposition to what they are saying.

The question from Senator Pastore was not completely a fair one. You cannot expect the Commission to conclude that the ultimate transfer was inevitable when the Commission was committed in its Sixth Report and Order.

Senator PASTORE. The four words I directed my attention to are "all television" "UHF" and "inevitable". That is a final statement. You see no matter what we do we will wind up with everything on UHF.

Mr. ROBERTS. I start with the following reasons, immediately before the allocation the Commission took away from the broadcast band from 470 megacycles and gave it to the telephone company. The Commission reserved 15 channels of the UHF without specific assignment. They were not necessary for their assignments going down to villages of a few thousand population. Fifteen is in my mind more than 12, so that you could get rid of all the VHF channels and still have 3.

The Commission assigned a large number of channels to educational purposes and I am saying nothing about taking them away.

In the next place, in the entire Sixth Report and Order, there is only one place where there was mention made of 82 channels and that was put in after the report was completed and it was not supported, to my knowledge, by the testimony of a single witness. There was never a witness who said we needed 82 channels. There never was an allocation plan that used up all the 82 channels.

We know, and the testimony is in on this, we know that no television system can be supported on the basis of present labor and material costs in a city with a population of less than 100,000, but I submit there is plenty of room in the 70 megacycle field.

Senator POTTER. You are using 40 UHF channels?

Mr. ROBERTS. You have got 70 but a lot of them are assigned to education and 15 reserve channels they contemplate using and you could move above the ultra top.

Mr. HYDE. There is no channel in reserve. They have been worked into the plan.

Mr. ROBERTS. Those channels that are frequently assigned throughout the country and you have many that are not assigned.

There is no application for them. There are many UHF channels which could be moved around.

Miss HENNOCK. May I ask one question that might clarify something? What about booster and satellites which Commissioner Sterling is in favor of. As a matter of fact, they could extend the coverage and give you nation-wide service.

Mr. ROBERTS. I think the term booster, which means a fill-in within the required maximum service area, obviously that can be used too. As to the satellites you can extend it into a market into which no one else is reaching.

Miss HENNOCK. 85 percent of our channels are already in UHF. Couldn't we by technical improvement, both by improving the power and the tube situation and the few remaining things that have to be improved increase our 85 percent of our channels to make them equal 100 percent if we really went to town and did the job with these great experts in the field?

Mr. ROBERTS. One of the technical improvements would, of course, be the use of boosters and satellite stations.

Another would be attaining 1,000 kilowatt power. The third would be directional antennas, not only vertical but horizontal directional antennas which could be of tremendous value in economical distribution of channels.

Senator POTTER. I think we had better continue, Mr. Roberts, or the other 19 witnesses will not be on the stand.

Mr. ROBERTS. They know very much more than I do, and I will be glad to get off.

(f) Income taxes: The modification of present income-tax laws and regulations to permit flexibility in depreciation and tax spread by UHF operators can constitute a valid method of assisting the UHF broadcaster.

(g) Equipment research: A Federal contract for UHF transmission and receiving tube research as is presently carried on by the Federal Government in such fields as agriculture, aviation, shipping, and others is a major step toward the development of an adequate national television service. The cost of development of a tube, either by absorption by the manufacturer or else go into the cost of the all-channel receiver—since the defense services have need for facilities of this kind, it would appear that encouragement by your committee of a small part of their research funds to permit experimental work in attaining high power in UHF and attaining better tubes for UHF receivers would be much more desirable.

(h) Financial assistance: Authority for refunding by loan of impaired capital of properly qualified existing and future UHF stations for a limited period, to offset the injury inflicted by improper and inadequate governmental regulation. I believe that this is due to a governmental mistake and a change in plans that, on a case-by-case basis I think the Small Business Administration should be ordered to provide replacement of capital by UHF operators to prevent this and reduce the loss of capital when they are driven off the market.

Senator POTTER. Is it difficult for the UHF operator to secure capital?

Mr. ROBERTS. It is practically impossible. It is almost impossible for him to receive an extended plan payment even by a company or the companies most interested in helping him. They cannot get it from any governmental agency at all.

The association feels that any and all of these suggestions and recommendations are workable, are helpful, and are reasonable. There is no panacea for UHF broadcasting. There is a long, hard road before the UHF owner as it has ever been for any pioneer. The UHF industry does not want any handouts nor any special considerations that will get our Government to guarantee him a profit on his investment. Rather, what he wants is only a fair opportunity to compete against the already entrenched VHF competitors who presently control the market place. If this subcommittee can help the UHF broadcaster to a square deal from Government regulatory agencies, from manufacturers, and from the major network interests, it will not only have strengthened a vital arm of our communications media but will also have bolstered immeasurably the cause of free enterprise in our Nation.

Finally, with respect to the legislation, I would say that the legislation, both the Johnson and Bricker bills, are beneficial in this way.

Senator POTTER. I would like to thank you for your statement. You have certainly brought into the hearing some views which I know that the committee will give considerable thought to. We are going to interrupt the scheduled witnesses at this time to hear Mr. Morris Berman from the New York Society of Engineers.

**STATEMENT OF MORRIS BERMAN, PRESIDENT, NEW YORK
SOCIETY OF ENGINEERS**

Mr. BERMAN. My address is 393 Central Park West, New York City.

Mr. Chairman, this is the table prepared by Columbia Broadcasting System showing the heights of towers and the relative ranges of broadcast signals.

At present there appears to be a hopeless chaos in the television and FM broadcasting industry owing to weak reception or no reception at all in many areas of the Nation, as well as station interference, because of the need of limiting power used by the relatively low transmission towers, the highest of which is about 1,500 feet, with the limited coverage resulting. If transmission towers were 5,000 feet—about a mile—in height, the entire Nation could be covered by seventy-five 1-mile-high towers and an equal number of low towers between them, as shown in figure 1, where crosses indicate the mile-high towers, and dots the intermediate towers, less than 1,000 feet high.

The advantages of the system proposed would, first, be the elimination of all but 150 of the 2,053 stations predicted for the near future by the Federal Communications Commission, meaning the elimination of 1,903 aviation hazards. The proposed towers would be provided with adequate radio signals to warn fliers, and would therefore be less hazardous than the 64 mountain peaks in the United States, all over 2½ miles high. Commercial and military airways are 2 miles high and above. Total coverage of the Nation would also result in increased set sales and better programing resulting from the additional listening potential.

Senator POTTER. Do you mean if you had 75 towers you would have 75 stations that would cover the Nation?

Mr. BERMAN. By directional transmission, it is possible to sort of focus by a spotlight system using directional broadcasting. It is possible to have any community served as a spotlight affair exactly as it is now. In other words, although you have 1 tower, you can actually have even 100 stations to service that area by means of simply broadcasting a beam to cover that area exclusively.

Senator POTTER. What would be the purpose of the high tower?

Mr. BERMAN. As you see, Mr. Chairman, here is an experiment in the city of New York. Previously towers were very low and recently the Radio Corporation of America has sort of combined all of their broadcasting facilities in the New York area on the top of the Empire State Building. The experimental work was successful and worked exceedingly well. If this is going to be a general tendency to combine the towers into a more efficient high tower, you will find greater efficiency in operation, greater economy. You will find that you will not need superfluous coaxial cables.

Senator POTTER. You mean for several stations using the same tower?

Mr. BERMAN. Any number of stations may use the same tower. A broadcast station would not be defined as something emanating from the same tower, but rather in the terms of the area covered. So all the existing regulations could be made to apply by merely defining the words "broadcast station."

Senator PASTORE. Have you tried to sell your invention to the industry?

Mr. BERMAN. Negotiations are now going on with the leaders in the field.

Senator PASTORE. And your purpose is that if they do accept your idea the law would have to be amended.

Mr. BERMAN. Yes, sir; otherwise you would have the situation of 75 broadcasting stations in the United States.

Senator POTTER. You would have to develop some pretty stable steeplejacks.

Mr. BERMAN. There was a time when a 1,500-foot tower would have been called fantastic. You can have it verified that there are any number of applications for towers of that height. The reason the high tower is now possible is that the suspension bridge principle is made use of, that is by a series of cables, a suspension bridge across the Golden Gate is an example of what we mean. If they used the usual bridge procedure the girders would have to be 1,500 feet high and the steel alone would cost \$1 billion.

By using cables, according to this expert who had so much to do with the building of the Golden Gate Bridge, you could get the same result by using a 25-foot bridge, and the cost would be \$50 billion. The economy of design where cables support vertical and horizontal members to prevent buckling, a 5,000-foot tower is feasible economically.

The writer has spent a year on calculations for very high towers, and has developed original designs for towers 1 mile in height which would be highly economical to erect, by using the cable design (fig. 3) found to be economical for suspension bridges of over 1,500 feet in span. The TV or FM range of a mile-high tower for signals of sufficient magnetic intensity for large cities is about 85 miles, and the towers would be 200 miles apart and would control an area bounded by a circle 100 miles in radius. Between the 85-mile radius circle (figure 2) and the 100-mile circle there would be a 15-mile fringe area covered by the lower intermediate towers. A hundred mile radius circle covers an area of 30,000 square miles, and 100 towers would cover an area of 3 million square miles, which is the area of the continental United States. Figure 2 illustrates the tower spacing and fringe area coverage. In all cases "directional" broadcast antennas are used, with sharp coverage boundaries at which boundaries the magnetic intensity will drop sharply rather than fade gradually as with present antennas, so as to eliminate interference. The absence of interference will obviate the need of power limitations, now set at 1,000 kilowatts as a maximum for low towers and much less for higher towers or ground elevations. I had promised to take only 10 minutes. Now I have a drawing with me which I would like to submit. Figure 1 on that drawing shows the location of a group of stations.

Senator POTTER. That drawing will be made a part of the official files of the committee.

Mr. BERMAN. Some of the results would be that the entire United States would be covered.

The question came up, How about Indiana or how about Nebraska or Kansas?

Senator POTTER. Or Michigan?

Mr. BERMAN. Of Michigan.

The entire United States can be covered by a series of 5,000-foot towers. Recently experiments were made with high level transmissions by the Glenn Martin Co. and the West Co.

The advantages of broadcasting from high altitudes have already been pointed out in connection with experiments in TV broadcasting from airplanes, *Mechanical Engineering*, April 1949. These partial advantages will here be restated:

1. A coast-to-coast network for regular TV and FM programs will be provided, including news events direct from scene.

2. Expanded TV coverage for millions of rural listeners who will be unable to receive TV programs for years, if ever, with conventional TV broadcast methods.

3. A military communications system independent of ground conditions—this cannot be as well realized by prescope.

4. A network for communications systems within the HF range.

5. A network system for transmitting TV programs simultaneously to audiences assembled in theaters and other public places.

6. A TV network to meet military reconnaissance needs.

The 75 main towers—1 mile high—would have antennas of all of the TV and FM licensees within a hundred-miles radius, somewhat as in the case of the Empire State Building multioperated TV and FM tower in New York City, except that antennas could be located at lower levels in addition to the 1-mile level, if desired. For a coast-to-coast network, the intermediate, relatively low towers would be used to relay programs to any or all of the adjoining main towers, using an UHF wave of high frequency for relaying purposes not assigned for program broadcasting. The relay distance between a main and intermediate tower would be about 115 miles—very low tower to be used for local relaying. Such relaying would be more efficient than with coaxial cable, which permits only a narrow bandwidth to be transmitted, and is relatively costly to install and maintain. The entire Nation—city and rural areas alike—would have the advantage of magnetic intensities now required for principal cities alone—that is, 5 millivolts per meter of antenna length in the case of channels 2 to 6, 7.07 millivolts per meter for channels 7 to 13 and 10 millivolts per meter for UHF channels 14 to 83. Present power requirements, 1,000 kilowatts, will have to be increased somewhat as follows: Channels 2 to 6: Permit 1,000 kilowatts instead of the present kilowatt limitation, to attain an intensity of 5 millivolts per meter 85 miles from the transmitting tower; channels 7 to 13, now power changes; channels 14 to 83, present 1,000 kilowatts limitation to be increased to about 3,000 kilowatts—or whatever power would be required for a 10 millivolt per meter intensity 85 miles distant from a mile-high tower.

Directivity requirements: At the 85-mile distance the intensity should drop sharply, rather than fade gradually as at present, to avoid interference; marginal areas between the 85-mile radius circles are serviced by directional antennas on the intermediate towers, as noted in figure 2; again, there must be a sharp drop in intensity at the boundaries of the directional beams. It is not believed a broadcasting antenna to meet such specifications has as yet been developed, but it can probably be designed for the heights and distances indicated. Purely local broadcasting will be effected by relaying a pro-

gram to a main tower, where it would be rebroadcast to the local area—very low tower to be used for local relaying.

The suggested amendment to S. 3095 introduced by Hon. Edwin C. Johnson, entitled "Regulation of Multiple Ownership of Television Broadcast Stations," in order to permit centralized broadcasting is as follows:

309 (a) (G). The term "broadcast station" as used in this section shall include, for an existing station, transmitting means from a regional centrally located source hereafter to be erected or used, and used exclusively or in common with other licensees, from which source essentially the same area of the existing station will be served after its present transmitter is abandoned and relocated to said central transmitting source. For a new licensee to operate from a regional centrally located transmitting source the covering area assigned shall not exceed that which may at present be served from a tower 1,500 feet above the elevation at or near the area at the point where the transmitting tower could have been located under regulations heretofore in force.

It is respectfully suggested to this subcommittee that it make its own study of the possibility of centralized or regional TV and FM broadcasting, and that it ask for an appropriation therefor. Such a study would include tower locations, tower designs—structural—directional antenna design for the purpose, public reaction, including inhabitants of farm areas, relaying and related subjects. It is suggested that the immediate preliminary appropriation be set at \$25,000.

Senator POTTER. Thank you very much, Mr. Berman. Are there any questions?

The next witness will be Mr. Lou Poller.

STATEMENT OF LOU POLLER, PRESIDENT AND GENERAL MANAGER OF WCAN, MILWAUKEE

Mr. POLLER. I am president and general manager of WCAN, Milwaukee.

An editorial in Broadcasting magazine, May 3, 1954, starts off like this:

Was the final television allocation bungled 2 years ago, and if so, what can be done about it?

I will try to reconstruct, in retrospect, the metamorphosis of a UHF television station in Milwaukee, the 13th market in the United States, and thereby show that UHF has still been accepted as good competitive TV by over 300,000 people who invested more than \$30 million so that they could get UHF, in a little over 6 months.

The market was properly surveyed, the technical requirements were analyzed, planned, and well executed. Financial requirements were properly anticipated; a network affiliation with CBS helped provide good program nucleus. An experienced staff of technicians and performers assured consistently acceptable programing. The station not only operated profitably but reinvested its profits in improved facilities as soon as they become available. It is the kind of operation that any board of directors would be extremely happy with, and yet WCAN-TV is threatened with extinction exactly as if it might have been conceived or operated poorly. The climate that been established for UHF will take the good with the bad.

You, therefore, have a television station that was properly planned and executed, a station that served a definite public need and service, a station that was enthusiastically accepted by the public, and despite

all this, is doomed for extinction—so that who might gain. The public? Not possibly, since they would stand to lose their investment in UHF apparatus of over \$30 million in Milwaukee alone. That portion of the public not yet converted? Hardly, since they represent less than one-third of the entire population of Milwaukee. Furthermore, when UHF was established, it was expected by those who established it that the public would be required to invest money for the added service as they are now expected to invest huge sums if they wish to enjoy color. The individual would have to submerge his personal inconvenience for the good of the Nation.

Who then becomes the benefactor and at whose expense? Some individual applicants who sat by on the sidelines, not being very much interested in whether the public was the benefactor, until the time was ripe, the risk no longer present, and, in fact, the returns look so lucrative as to make bedfellows, by means of mergers, of contestants who made the most serious charges against each other just the previous day. Some applicants were delayed by the "freeze"—that is true—others were dilatory or conservative. Perhaps they felt that there would never be the courage required to adjust the present problem and they could therefore wait for the storm to blow over.

I have spent the last 30 years of my life in most phases of the radio business. We acquired the Midwest Broadcasting Co., which owns WCAN, in June 1952. The station was then 5 years old and had shown an operating deficit amounting to over \$300,000 during the 5-year period. Less than 5 months after we acquired WCAN it no longer operated at a loss, and for the first time in its history was in the black. The TV freeze had been lifted and WCAN had filed an application for channel 12, a VHF channel, for Milwaukee.

The final allocations made by the FCC for Milwaukee consisted of 3 VHF channels, 4, 10, and 12; and 3 UHF channels, 19, 25, and 31. Channel 4 had been on the air since 1947, channel 10 was designated as an educational channel, and channel 12 had other applicants on it in addition to that of WCAN.

The FCC had a processing line and a hearing procedure, and it was generally concluded in Washington that this would result in a delay of 2 to 3 years before Milwaukee could anticipate additional television service. I made the most diligent survey possible of UHF with manufacturers of equipment. I read and reread the sixth and final report of the FCC and made inquiry in Washington, concluding that UHF could bring service to Milwaukee almost at once, when it was so badly needed. We therefore amended our application for UHF. One of the largest equipment manufacturers accepted my order for a 50-kilowatt transmitter to be delivered by September 1953. I think they did it in good faith. I later had great difficulty in extracting even a 1-kilowatt transmitter by August of 1953 from the same manufacturer. We were not alone in these conclusions.

February 1953 we were granted a construction permit for channel 25 for Milwaukee. We were very happy about it. We gave a luncheon to over 700 television distributors, dealers, and servicemen within a week after our announcement of Milwaukee's second TV service. Experts were brought in to help these people understand UHF so that they could properly represent what they sold and serviced in this new art. Over \$50,000 was spent by WCAN in publicizing UHF

in Milwaukee from February through September. We had faith in UHF and we still do.

The tallest building in the center of Milwaukee, the Schroeder Hotel, a structure valued at \$15 million agreed after 6 months of persuasion to permit the tower to be erected on its roof at a cost to us in excess of \$100,000. The best equipment available was installed in the studios and transmitter and 3 months were spent in training a crew of technicians so that the operation would be smooth, efficient, and professional. Superhuman effort was exerted in launching the new station in the most efficient manner.

WCAN-TV went on the air September 5, 1953, and from the very first day, and ever since, has been on the air from 7 a. m. in the morning to after midnight. This is very unlike the early days of VHF when programing was restricted to 3 or 4 hours daily, and the only competition, where there was any, came from other TV stations having equal power and facilities, and many of whom were insulated from any TV competition of any kind in many markets for almost 4 years. WCAN-TV faced the competition of another UHF station at once, and from an additional source of an established VHF station, 7 years old with 3 networks from whom to choose their programs. The public is the benefactor when competition is keen.

We joined CBS as an optional affiliate, which meant that we had to sell each and every program on our merits. We now carry almost 90 percent of the network schedule. Our contract, of course, is subject to a 6-month cancellation and although, to the best of our knowledge, both the network and its clients are greatly pleased with the progress we have shown, the common question of the day is: "How long do you think CBS will stay with WCAN after a V comes to Milwaukee?"

The reasons for such comment are obvious.

Less than a month after we were on the air, an application for rule-making was filed by the Hearst Corp., who own the morning newspaper and a radio station affiliated with CBS radio in Milwaukee. Twice before such request had been made before the FCC for the assignment of channel 6 to Milwaukee and twice before it had been denied by the FCC. This time the Hearst Corp. requested that channel 6 be assigned to White Fish Bay, a residential suburb only 5 miles from the heart of Milwaukee. It is a small village having a few blocks of retail establishments that could neither support nor desired a TV station of its own. In fact, White Fish Bay actually resented being used as a pawn and enacted legislation at once prohibiting any TV tower over 20 feet high in the community. It was not expected nor is it required by regulation that the TV tower be erected in White Fish Bay. I merely state this point that White Fish Bay did not need nor want any additional TV service. Nevertheless, the rule was adopted and there are now three applicants for channel 6, White Fish Bay, Wis.

In passing, let me say that before too long, 2 of the 3 applicants left little to the imagination and filed requests to be permitted to build the White Fish Bay studios and offices right in the heart of Milwaukee, the city where the FCC had twice before denied it, but not the third time. Now Milwaukee had seven stations allocated to it.

Newspaper articles and architects' renderings of the new channel 6 station started to appear regularly early in December, with explanations that as soon as approved, Milwaukee will have its second TV

station that will not require any additional investment by the public like UHF requires. In fact, one of the staff FCC attorneys argued before the court of appeals here in Washington that it would not be fair to make over 50 percent of the public who had not yet converted to UHF in Milwaukee go to the added expense. Today there is only about 30 percent not yet converted. Hearings have been called for channel 6 and hearings have been in process since January for channel 12, both for Milwaukee. This was current as of 3 days ago.

Three days ago the applicants on channel 12 merged and they are now eligible.

The public is confused. The advertiser is confused. The stations are confused but I hope this Senate will not be confused after all the facts are in. WCAN-TV is living proof that UHF is a fine service. In less than 4 months, and in the face of all the bad publicity that UHF faces generally, on the air WCAN-TV invested an additional \$150,000 for a higher power transmitter and placed an order for color equipment and a 50-kilowatt transmitter as soon as it became available. I suppose fools walk in where angels fear to tread.

The station is operating profitably under extremely adverse conditions, but its life span could be extremely short, not because of lack of planning or execution, not because of lack of know-how, not because the public is lacking service, not because of anything that could have been avoided when WCAN-TV decided to bring a much-needed service to Milwaukee, but because for the first time we find that there are first- and second-class citizenships in television in this country. Perhaps not by design, but there they are.

May I repeat that WCAN-TV has not sought economic guaranty nor protection from competition, merely the truly competitive system that had been sought, planned, expected, promised, and really needed—if the public is to be the benefactor. Yes; we went in with open eyes, an open mind, and with the same faith that we had reason to anticipate, as so many more UHF stations had done but who are hesitating in great numbers lately. Given an even chance, this country will still have a nationwide truly competitive system as a result of UHF. The record is abundant and clear that UHF and VHF have been mixed in the same markets based on certain theories that never materialized as facts. I think they were honest mistakes.

It is my opinion that if all of the television stations in Milwaukee were one class of service, with no legislated advantages for any one of the stations, that the present applicants—incidentally, there are seven such applicants—that these applicants would have little or no interest since a fourth station in a city like Milwaukee would be a risky undertaking. Obviously, this is not a contest for another television station, but rather for a network affiliation.

Senator PORTER. Is it your contention that if you could retain your network affiliation that you would be in the same competitive position that you are in now?

Mr. POLLER. Without doubt, Senator.

Senator PORTER. Your main concern is that if another VHF is granted to Milwaukee, you will lose your network affiliation and therefore you would not have the program to be competitive?

Mr. POLLER. Yes, sir. In fact, there was another UHF granted to an applicant who had long ago worked with one of the networks and the very day that we signed our application, he announced that he

had just received a grant and would like to talk about an affiliation. The call had been made from the west coast and the operator told him to deposit \$3.10. When he was told that the application had been made and granted he said, "What do I do now?"

He was told to ask for his \$3.10 back.

I doubt very much that the channel for which he applied in Marquette, Mich., could support his application. There are many prospectors, not only in uranium but in television.

Should this happen, how would the public gain by merely transferring the programs from channel 25 to another channel?

A story that has been repeated all over the country wherein a number of applicants tear at each other's throats one day, making strong charges against each other, but when the prize is made so lucrative, merge and become bed partners. Incompatibility is erased for a price. And I believe that the very able Senator from Rhode Island set the price as a very decent one the other day. It becomes a temporary expedient resulting in trafficking with the public's facilities at premium prices. Such "quickie" grants are for personal gain and serve no public conveniences.

I will not attempt to discuss the technical phases of UHF and VHF other than to say that the public has endorsed UHF in Milwaukee without reservation. Our coverage area at this time, utilizing only one-fourth or one-fifth of the power that will be available, is far beyond the sphere of Milwaukee influence, socially or economically. The mere duplication of programs over a wide area with little or no regard for local public service is contrary to the requirements set up by the Communications Act. This is probably the only temporary advantage that can be claimed by VHF. I think that is one of the most important ones in television today.

Senator Johnson held hearings on high-power radio and the testimony was very conclusive that a 50-watt station in a city like Philadelphia, which commercially claimed coverage in Georgia, South Carolina, and so forth, never once invited a minister or any other public servant from communities 10 and 15 miles from Philadelphia, and if the yardstick is public convenience and necessity, and not dollars and cents, they will not get it by 5,000-foot towers or 1 million watts. Each community must be represented.

We do our best in Milwaukee to give time to all views, whether we agree with them or not. They get time on the air.

Senator POTTER. How far out do you go?

Mr. POLLER. Our signal is well received from 50 to 60 miles. I am sure that, insofar as the economics of the situation is concerned, if we broadcast in the direction of Chicago which, after all, is only 80 miles away, we will not be drawing customers up to Milwaukee who are closer to Chicago. That is useless coverage.

In other directions we go to Madison, which has its own stations. I do not have to tell you that we do not have to duplicate their programs but the local programs are of interest to the Milwaukee market. We cannot convince Madison Avenue that we can do as well for Procter & Gamble in the hinterlands, and if we cannot we will be wiped out.

I know in Senator Hunt's area the cities are not large and it is very difficult for every small community to have a station of its own. If they can put up a tower there to cover the entire State, I think it would be wise and economical and would pay, but in the northeastern part,

that is something else. In New York and in Rhode Island—and Senator Pastore raised this question so vividly the other day—there are 3, and probably 4, stations losing money and are tenaciously holding on and I think they give the Commission more trouble in trying to find an allocation plan.

If they moved to other good communities, at some future date New York might have more than four stations that would not today have the difficulties they have and it would be profitable for them.

Senator POTTER. Do you have any difficulty in the service being given to the set owners?

Mr. POLLER. No. We fought awfully hard to get the servicemen to understand what good installations were.

In fact, we spent about \$12,000 of our own money installing converters and we put them in the new sets in the homes of all the advertising agencies and some of the civic leaders of the community before we went on the air, because we knew that they were the bell cows of the community and we wanted to be sure that they saw us and I am sure that is what started the programing.

Senator POTTER. Do you think your reception is as good as VHF?

Mr. POLLER. We think it is better. Some of the engineers will tell you that high power VHF has its disadvantages in the closeby areas where you pick up signals that bounce off the wall and it is just like too much liquor. It is no good for you, whereas we do not have ghosts or interference from diathermy.

I respect the VHF station in Milwaukee. I know that they were plagued when they went into high power and I wish I, too, had a newspaper in which I could be able to advertise to let the public know about it, as they did.

They spent months telling the public how they had to overcome this trouble.

I will not point a convicting finger at any individual, manufacturer, or governmental agency. I have talked to Commissioners and manufacturers and they understand that I have done the best I could under the circumstances. I would not try to do their job and I would not trade places with any Commissioner at any salary. I don't know how they stand the pressure. Next to a Senator, they are subjected to the most pressure.

As the facts unfold it is obvious that the wrong road was chosen in attempting to bring television to the entire country with the greatest expediency. Each of us traveled the same road; some of us recognized the dangers that lay ahead and protested. I think Commissioner Hennock pointed out.

We are not trying to turn back, but we are seeking a crossroad that leads to a better television system for all of the people. I think we are now at that crossroad. We may not get another chance.

A solution which will benefit all the people ultimately, which will remove the stigma of second-class citizenship from a segment of the broadcasters and which will not transfer the hardship removed from one group to that of another group is now available at this crossroad. One class of television service means that the manufacturer can concentrate his research and produce a better product. The public is no longer confused or burdened with continuous change and loss of investment. The national advertiser is in a competitive market and there is room for expression by the local advertiser. And that is so

important. The local advertiser has been priced right out of the market in television. The ingenuity of management results in better programs for the public rather than the yardstick of public service being measured by a better channel or a more powerful transmitter. This, truly, becomes free enterprise. And Commissioner Lee has expressed that view.

Such a single class of service is available only in the UHF band. The record is clear that there is not sufficient room in the VHF band for a nationwide television system. Intermixture has not worked out. Color is about to make its bid into the American home. The cross-road presents an opportunity for an orderly transition, even if accomplished by stages. There are about 25 million television sets in the country that will be retired from service, at least during the next 5 years or sooner. These sets will normally be replaced both by color sets and by modern all-channel receivers. It is during this transition period that existing television stations can continue to render the existing service while the entire industry prepares to transfer to one class of television. Critical intermixed areas can be dealt with at once.

The public therefore makes only voluntary investment in more modern equipment, the broadcaster amortizes his equipment at a normal rate, and the only possible inconvenience occurs to the applicant whose interest remains in having a technical advantage in a given market but would be reluctant to take his chances on even terms. Intermixture looms as a threat that will stop the growth of television on a national scale and create a monopoly even if not by design.

Senator POTTER. How?

Mr. POLLER. If they would immediately do what Colonel Roberts suggested and take some of the top seriously intermixed markets to whom the rest of the industry look for guidance and make them either all VHF or all UHF as an immediate remedy toward the ultimate step, while the public will buy the equipment, that will make the television set a complete television set, not one-sided, one-faced.

By eliminating those problems from the network which run together more accounts, that will enable them to do more programming to start a little chain going. You may displace in some markets some people temporarily. The only people who would be displaced are the ones not yet in the business who are standing by waiting for this thing to get ripe. I will give as an example Milwaukee or St. Louis or Pittsburgh, where you have one VHF station that for 5 or 6 or 7 years has been doing a good service and a good job. If you have 2 or 3 UHF stations that are also doing a good job, if they were permitted immediately to simulcast on UHF or VHF and no more VHF's would be permitted on the market, the public would go over to UHF.

Senator POTTER. Would it be expensive?

Mr. POLLER. For the manufacturer? I told one of the owners of five stations yesterday that in 5 years' time he would amortize a \$225,000 transmitter and replace it with a new one, and I think the public reports show that that is possible, and I think his reports showed that his station earned about \$1 million gross each year and that \$40,000 a year out of that \$1 million amortized out of the tax money would certainly not be a great expense. He was not so sure. I said I will quickly change places with you and do it tomorrow.

Senator PASTORE. And what was the answer?

Mr. POLLER. He said that is a socialistic thing, taking \$450,000 of the public investment in UHF investment and if they lay those antennas from end to end, they would reach from coast to coast. That is not socialistic, but taking \$40,000 out of the profit might be socialist. I could not interpret it that way. He did.

A Senator mentioned that inequities are piled on top of inequities. After taking the wrong road, we all had to justify the road signs.

A very basic principle and practice during the formative years of radio, when you had a little 100-watt radio station on 1490 on the dial and your service to the community enabled you to improve the frequency power and you found you could go to 620 with 5,000 watts of power, you filed such an application, meanwhile continuing to give this service to the public on your present facility. Anyone else had the same right to oppose your application and enter into a competitive field. It might have dispossessed you, but that is the way that radio conditions improved.

A rulemaking procedure was adopted with respect to television, which prevents any station on the air from filing for what might have been considered an improved facility unless that station suspended service which it was then rendering to the public in order to be eligible as an applicant to the same community. That station had to go off the air and deprive the public of all programs in order to be an applicant on another channel.

Senator POTTER. Is this a Commission regulation?

Mr. POLLER. Yes, sir; and has been strongly enforced. Some stations have gone off the air. The first was Roanoke. The intent was so that applicants would not straddle channels and keep out competition. But in actual practice it did not work out. Some of the big 50,000-watt stations today started out with 100 watts. I think one of the reasons was that there were so many more channels or frequencies available in radio. The channels that seemed to be important, the VHF, are so successful that the Commission had to do this in defense of getting a quick television service going in the country and preventing people from applying on one channel and stopping it and applying on another.

If I wanted to become an applicant for one of the VHF channels, I would have to cease operating tomorrow and deny the public the service until it was ultimately decided who was the best applicant.

Senator POTTER. I wish you would be prepared to discuss this, Mr. Hyde.

Mr. HYDE. I am prepared right now.

Senator POTTER. I would prefer you wait until the end of the hearing. Will you mark that down as a question to discuss?

Mr. HYDE. Yes, sir.

Mr. POLLER. The public therefore makes only voluntary investment in more modern equipment, the broadcaster amortizes his equipment at a normal rate, and the only possible inconvenience occurs to the applicant whose interest remains in having a technical advantage in a given market but would be reluctant to take his chances on even terms. Intermixture looms as a threat that will stop the growth of television on a national scale and create a monopoly even if not by design.

King Solomon tried to solve a serious problem and did so wisely. There were three principals involved; a mother, a child, and a claimant.

We find three principals involved in this problem; the public, UHF, and VHF. Can it be solved without threatening to divide the child and give each claimant a half? I am afraid not. It was tried with intermixture. If the infant is permitted to grow up normally, it would then have a voice in the decision; if it lives to grow up.

We have a serious time element that did not confront King Solomon. We all agree that the child, or in this case the public, has to be protected. The public invested some \$45 million in good faith and we cannot let them lose their money and their faith, for if they do, there will be great public reluctance to invest in color and in any other television development. When you take one sheep to slaughter, the entire flock flees in panic.

It must and can be done in a manner whereby the public voluntarily makes the transition, as I stated before; however, we cannot continue with the present rules, the present impossible climate established for VHF and ask the public to cooperate. An orderly plan on the mechanics for this solution will be proposed to this committee, later in the day.

Thus, we have both the transparent and reflective sides of television mirror. UHF is providing a real public service not otherwise available to Milwaukee and many other cities. It can be obliterated in a few months, legislatively and not through lack of public service, convenience, and necessity. The intent of the Congress and the Federal Communications Commission was to create a nationwide truly competitive system and it can be done. We are entering a crucial period in the history of our country. Communications, unhampered and unrestricted by selfish interests, will insure strong American-type independent thinking. Controlled communications have been the parent of the dictatorships in the rest of the world. History records that we have always taken the high road and that has made America strong. I have faith that we will take the right road now.

Senator PORTER. Thank you very much.

Senator HUNT. I think I have learned more from your statement with reference to this situation than I have so far in these hearings.

Mr. POLLER. Thank you very much, Senator Hunt.

Senator PASTORE. Are you familiar with the bill introduced by Senator Bricker?

Mr. POLLER. Yes, sir; the network regulation bill?

Senator PASTORE. Do you feel that would provide for the situation you talk about?

Mr. POLLER. To preface my remarks with being probably one of the strongest proponents of free enterprise, I love competition and a good fight and if that would include the term to equalize the services, and if that authority were given to the Commission to use with proper discretion, I think it is important.

Senator PASTORE. I feel that is in there. The Commission would have to use its power in justice and equity to all.

One of the things you complained about is the fact that if the VHF comes in in Milwaukee, you may, at the expiration of your present contract, lose your contract with CBS, is that right or wrong?

Mr. POLLER. But I do not think that could be changed by legislation. I believe that the advertiser spends his dollar where he thinks it is best. If I had the choice between the four networks, I would certainly fight to get CBS or NBC, and conversely, if they have the

choice, the chain being no stronger than its weakest link, they will take the strongest affiliate, but if the affiliates are equal technically, they will buy management.

Senator POTTER. What do you think about Dr. Du Mont's suggestion about dividing the programming among the stations in Milwaukee and Milwaukee would have 2 VHF's and 2 UHF's, and 2 major networks would supply half the programming on the UHF's.

Mr. POLLER. Dr. Du Mont's original proposition was beautiful. I think he should be commended as an individual for putting all that work into it. I am afraid his solutions were idealistic, theoretical rather than practical. Dr. Du Mont, with the greatest respect I can give him, is very much like an architect who is in Wisconsin, Frank Lloyd Wright, who is the father of modern architecture and is referred to by other architects as a theoretical architect. In practice, I am afraid Dr. Du Mont's plan would never work out. You simply cannot legislate competition. You must give it a climate in which to operate. Then it becomes simple to operate.

Under the present plan, to give a rash example, I could take a moron or an imbecile and give him channel 2 in Chicago with 100,000 watts of power and he wouldn't know what to do with the money he could make. He could stay in Florida or Hawaii all year round.

However, if I took the most intelligent man in the business and gave him channel 25 in Chicago, the most astute operator, under those circumstances and under the present system, he will die. The public doesn't get the benefit of the human element here. It is strictly a mechanical element.

Senator POTTER. I assume you advocate a freeze on the VHF grants?

Mr. POLLER. I call it a hiatus or a chill, because I would personally dread the thought of another 3- or 3½-year freeze.

In the investigations we have made, I think they are back in 90 days with the kind of a solution acceptable to the people. I do not believe in isolating. As much as I love it, I think I would grow fat and lazy. That is, if I were given a monopoly to operate and I do not like it.

Senator PASTORE. Is your statement to allow the VHF to broadcast in UHF and stop further licensing in VHF and ultimately they would all be on the same level of UHF?

Mr. POLLER. Precisely. They will gravitate there by the normal process of free enterprise, but if you do not stop it now, you will compound the inequity upon inequity.

Senator PASTORE. In order to promote this nationwide competition in UHF, you are satisfied if you do not need as tremendous power, you feel that seems to be an obstacle?

Mr. POLLER. Except on a case-by-case basis, I hope, and except that as Senator Hunt mentioned and that map on the easel there clearly demonstrates where you could put your high power, it is unrealistic to expect a community of 2,000 or 3,000 to afford such a high power station.

Senator PASTORE. There is no reason why the station in Boston should reach Providence.

Mr. POLLER. Certainly not.

Senator PASTORE. And if people in Providence want more of the outlets, they should have more of their own and not rely on a relay from Boston.

Mr. POLLER. Yes, sir.

Senator PASTORE. And that is the reason why Providence has only one station?

Mr. POLLER. Yes, sir. They should have the ability to have their own expression.

Mr. Chairman, I have a coverage map which shows the Milwaukee station is now rendering service to the State of Michigan. If the Senator has difficulty getting time on a few of the stations in Michigan we, in Milwaukee, can span the lake.

Senator POTTER. Do you have any questions, Senator Bowring?

Senator BOWRING. No, except that I am very encouraged, coming from Nebraska. We have no television at the present time. It looks like there might be a field.

Mr. POLLER. I certainly think that the Midwest ought to have unrestricted power if it will not interfere with somebody else's electricity.

I am an easterner and have moved to the West and in 1 year I have been accused of being a Wisconsin liberal in the year that I have been there.

I am proud of the fact that these people who are so far removed from the coast, where so much of the activity is, manage to keep their fingers on it pretty well. They have a natural ability, a farmer's ability to reason these problems out and get to the core pretty fast without the hogwash that goes with it.

I think they are entitled to the same programs that you get in a big city.

Senator BOWRING. We are willing to wait a little while, but not forever.

Mr. POLLER. Thank you, Senators.

Senator POTTER. You made an excellent statement, Mr. Poller, and I thank you for the statement.

Senator HUNT. I would like to ask a question.

Mr. POLLER. Yes, Senator.

Senator HUNT. I wish you would explain for my benefit why the need of the very high towers when we can, as we are now out in my country, every 30 miles, put up what I presume you call a booster station, which we put on top of a peak every 30 miles, some sort of electronic equipment that receives and transmits the signal, so that we are getting, as I say, at the present time, television in Casper, Wyo., although I don't know where it originates.

Mr. POLLER. It is economic, Senator. Where it is cheaper to bring it by the community pipeline system, they do it that way.

We don't know enough about boosters and satellites now. They are being developed.

Where it will be more economical to do it by booster and satellites, they have indicated they will do it that way.

Commissioner Hennock was at a meeting I attended of RETMA, where they explored boosters and satellites, and I know the thinking of the Commission is to give them a free hand, as much as possible, within the limits of electrical service, to expand that service; but

where a high tower, tall tower will do it more economically, they will use that.

I don't think we should have a definite rule for one or the other. I don't think our rules ought to be that hard and fast.

The people come first.

I mentioned here, we spend \$50,000 in trying to educate the people on UHF.

I, personally, made hundreds of talks, wherever I could get a dozen people together, at schools, fraternal organizations, and so on. I talked on UHF, and I always prefaced my remarks with this fact:

You people have been told time and again that if you don't like your Government, it is your fault if you don't vote. You have that right, and I am going to tell you something. I am getting the privilege now of becoming a fat cat, of living quite well, using your facilities. They belong to you. If you don't come in and tell us what you want us to do; if you don't make yourself heard as to what you like and what you don't like, you deserve all of the programs that you think are bad.

I think the public ought to be given that preference, and that authority rests with the Commission, and should if they would exercise it properly, if the Congress told them what their intentions were.

If you put an overall ceiling on power in order to protect what Senator Pastore pointed out, the congested area of one area, that is not applicable in this country to another area.

Senator POTTER. In other words, it should be patterned to fit the needs of the people rather than to have a rigid pattern?

Mr. POLLER. Rigid pattern; yes.

Senator POTTER. I would assume, in certain areas—I am thinking now of northern Michigan, where we have a lot of small communities—probably the answer would be booster stations or satellite stations.

Mr. POLLER. Or directional antennas, as they are talking about now. There is going to be a lot of progress made.

In the RETMA presentation yesterday I think the temperature chart of the patient appeared beautifully, and if the Senators will remember to look at that—around December was the high peak of the growth of UHF, and you will notice each month up to December the percentage of UHF stations in the country got greater. Then something started happening, and it starts falling down to where their inventories are great now and their sales are small.

That is something that has happened as a result of the climate which has been established in the country for UHF generally. The sheep are fleeing in panic; and if that continues—as Colonel Roberts said, it is geometrically worse, not arithmetically.

Senator HUNT. I want to ask one other question: Do you know any way we can stop this practice of two applicants being very greatly interested in one channel, and then the night before the award is to be made they make a deal?

Now, I am not saying it is a dishonest deal at all. It is just sharp business, but I don't think it is in the public interest.

Do you know any way we can stop that?

Mr. POLLER. The chairman interrupted before to make that point very strongly, and I said it would be covered later.

Under the present rules and under the present demands of the representatives of the people to give television economically, I don't

believe they close their eyes to it; but they do that which is most expeditious for the people. However, in retrospect, if you look today, those people who have emerged in most cases—as soon as the storm blows over, they sell out their interests and one remains.

In fact, there is another type of a drop out. I believe it is called the Shreveport doctrine, in which, say, 3 or 4 applicants decide that one will build a station and operate it immediately, while the rest of them go through the long, drawn-out maneuvers of a hearing, and then whoever ultimately is the successful applicant—he will then get the prize, the station.

When you are talking about three-, four-, five-million-dollar prizes—and they are prizes—it is strange how quickly the curve lines straighten out. What appears to be a straight line is really an improper line.

Now, I can take, without discussing the names, the applicants right now in Milwaukee. I was part of that. I was drawn in and accused of fostering one of the applicants. There were three. I was accused of fostering the fourth one. The issues that developed promised to show that one of the applicants conducted a bawdy house. Now, that applicant has been merged in with the other three. I am no longer accused of fostering them since they have merged. They have agreed. Any of the charges they had made against each other—they disappear now. Where they, individually, 3 of them, may not have been qualified—only 1 could be qualified—suddenly all 4 emerge, becoming qualified.

Senator POTTER. Does this type of thing happen: You mention these grants amount to four, five million dollars in certain cases.

Mr. POLLER. Oh, easily.

Senator POTTER. Isn't it true a lot of people file for a grant, hoping to be bought off, hoping to get somebody—

Mr. POLLER. I think the record shows in Providence, R. I., the price paid was \$225,000 or \$235,000.

They find new ways of doing it now.

The Commission, I am sure, does not look with favor on any of these payoffs. So, they don't make payoffs any more because they know the Commission will stop them dead in their tracks. So, they give them options to buy in. Then, at a future date, they either buy those options back or let them come in for a little while and they pay them off.

All of these inequities are brought about by the fact there is a disparity between the two services, and there is a chance here to annihilate somebody and get that bounty.

Mr. ROBERTS. The question was: What to do about it; what can the committee do about it?

Mr. POLLER. The final answer to what Senator Hunt said is: If the Senate adopted a committee resolution, instructing the Commission as to what they think this thing ought to be, I am certain that would take a load off the Commission, to where they would know what direction you want them to go in.

One of the most important things that has not been brought out here is the fact that, with all those pretty lights on there, I doubt there is a community in the country today, of any major size, where there is no television service, so that this hiatus, this chill, does nothing to the public.

Some individuals may see a \$3 million bill fly out the window they thought they had in their hand, but the public does not get hurt. They are getting service; and, if they were not, I would be the first one to say no chill should prevent the granting of service to a community that doesn't have it.

Senator POTTER. That doesn't have service.

Any other questions?

Thank you for your statement.

The next witness will be Mr. Garrison, Jack Garrison, Station KACY of St. Louis.

Mr. Garrison, we are happy to have you present your statement.

**STATEMENT OF JACK G. GARRISON, PRESIDENT AND GENERAL
MANAGER OF THE OZARK TELEVISION CORP.**

Mr. GARRISON. Thank you, sir.

Mr. Chairman and members of the committee, my name is Jack Garrison. I am president and general manager of the Ozark Television Corp., holders of a construction permit for—until recently operators of—KACY-TV, channel 14, licensed for Festus, Mo. I have worked in all phases of radio and television for a period of 20 years, excepting 4 years' infantry service in World War II.

If I may, Mr. Chairman, I would like to depart just a moment from my prepared text, because I have done something rather irregular. When we found we were going to be extended the courtesy of appearing before this committee, we prepared in our hometown a statement. The statement was prepared along the issues that we were interested in as a station and was done to the best of our ability. When I got up here and began to listen to the testimony, it appeared to me we were not rendering the service with reference to information that we possibly could render for the committee. So, I stayed up all night and worked up another statement. If I may, I would like to put in evidence the feelings of the corporation in the previous statement, and I would like to differentiate between these two statements. The first one is the statement of the corporation as authorized by the board of directors. This, for reasons developed in the statement, is a personal statement.

Senator POTTER. This statement here is the one that was the original statement; is that correct?

Mr. GARRISON. Yes, sir.

Senator POTTER. That will be made a part of the record at this point.

(The statement referred to is as follows:)

**STATEMENT OF JACK G. GARRISON, PRESIDENT AND GENERAL MANAGER, OZARK
TELEVISION CORP.**

KACY-TV.—Ozark Television Corp. is the owner and operator of television station KACY-TV, channel 14, Festus, Mo., serving the St. Louis market. The company was granted a construction permit on December 31, 1952, commenced commercial operation on November 25, 1953, temporarily suspended operation on April 2, 1954, and is now seeking reorganization in the St. Louis United States District Court.

ST. LOUIS MARKET CONDITIONS

Operative commercial stations:

- KSD-TV (channel 5), since February 1947.
- KSTM-TV (channel 36), since October 1953.
- WTVI-TV (channel 54), since August 1953.
- KACY-TV (channel 14), since November 1953.

Additional commercial stations oncoming:

- KWK-TV (channel 4), granted April 1954.
- KFUO-TV (channel 30), granted January 1953; (channel 11), in hearing.
- WIL-TV (channel 42), granted January 1953; (channel 48), not applied for.

Networks.—All four networks furnish programs in the market. KSD-TV as the only operating VHF station in the market has a primary affiliation with NBC, and a secondary affiliation with CBS. KSTM-TV has a primary affiliation with ABC, and WTVI has a primary affiliation with Du Mont and an arrangement with CBS for programs not carried by KSD-TV. KSD-TV also selects and shows certain ABC top programs. KACY-TV has never been successful in obtaining any kind of affiliation with any network, and in fact has never been able to obtain a single network show.

CBS seeks channel 11 in the market and if this grant is made it would most likely result in the following eventual affiliation line-up: CBS, channel 11; NBC, channel 5; ABC and Du Mont, channel 4.

Financial status.—KSD-TV, owned and operated by the Pulitzer Publishing Co., grossed an amount in excess of \$5 million in 1953, according to the magazine Television Age, and a conservative estimate of the net income for this period for KSD-TV would be at least \$3,500,000.

KACY-TV suffered an operating loss of \$307,188.49 from July 1, 1953, to March 31, 1954. It is believed that KSTM-TV and WTVI-TV are still operating at a loss, and that the total operating losses of the three UHF stations in the market exceeds \$1 million.

St. Louis' investment in UHF.—According to figures compiled by Mr. Vincent J. Lutz, president of the Association of Television Service Cos. of Greater St. Louis, Inc., which have been furnished to Senator Potter, the people of St. Louis have the following investment in UHF in this market:

UHF converters, new sets, etc.....	\$15,000,000
UHF dealer stocks.....	7,500,000
UHF station investments.....	2,500,000
<hr/>	
Total St. Louis investment in UHF.....	25,000,000

We believe these figures to be conservative, and we further note that even more important than this huge potential money loss to the people of St. Louis in the event that UHF fails, is the potential loss to the area of adequate local coverage and programing and selectivity of programing.

UHF potential.—Unless Congress and the Federal Communications Commission take immediate and drastic steps in recognition of the chaotic condition of UHF television, within 4 months there will be no UHF stations operating in the St. Louis market, and with no hope that UHF ever could be revived in this market.

On the other hand the UHF stations in the market have proved that UHF potentially had public acceptance as an equal to VHF, as conversions in the market were proceeding satisfactorily until KACY-TV was forced to suspend operation, and the Federal Communications Commission granted a VHF permit on channel 4 in St. Louis. If the UHF stations in St. Louis had been able to obtain network programing of the caliber enjoyed by KSD-TV, today they too could be in the financial state of grace similar to that enjoyed by KSD-TV.

The solutions to the problems of UHF are difficult and require the courage and foresight of those who would solve them, but it is not an impossible task, and once performed, will inure to the benefit of the public interest, convenience, and necessity.

THE IMMEDIATE REQUIREMENT

The complexities of the UHF problem, its effect upon television broadcasters, networks, manufacturers, advertising agents, sponsors, dealers, and most importantly the public, the considerations in arriving at an integrated and final plan, and the necessary immediacy of relief by UHF operators, permits only one conclusion. The Federal Communications Commission should immediately issue a freeze order effective upon all applicants and all holders of construction

permits who have not yet requested authority to conduct equipment tests, until such time as the Congress and the Federal Communications Commission can study the problem and resolve an integrated plan.

The proposal for freeze and study is drastic and undoubtedly will be met by the hue and cry of those, primarily VHF applicants and grantees, whose interests are selfish and in disregard of the public interest. But it is axiomatic that UHF stations now going off the air or headed in that direction can only be speeded along the road to failure by the event of additional stations coming on the air in their market until such time as UHF problems are solved, and it is further noted that the UHF operators face not only the risk of their investments but their operating losses already suffered. Their financial considerations are the greater, even ignoring the necessities of the public interest.

SPECIFIC REMEDIAL PROPOSALS

Ownership rule of "Five and Two and One-half."—Ozark Television Corp., licensee of KACY-TV, has made a continual effort to elicit interest in a change in Federal Communications Commission ownership regulation that would make it possible for a multiple-station owner to own 5 VHF stations and a total of 50 percent of 5 VHF stations. The plan offers many advantages.

1. Immediately revitalize UHF on a national basis and mitigate to the greatest possible extent all of the factors presently hamstringing the majority of UHF station operations.

2. Could be immediately effected by the Commission under existing powers.

3. Would cause the minimum dislocation within the industry.

The proposal as originally transmitted to the Chairman of the Commission, the Commissioners, and the Potter committee is attached hereto as exhibit A.

Regulation of networks.—The solution of many of UHF's problems are dependent upon strict regulation of networks, beginning with a clear definition of a network. Some plan must be adopted whereby no station can carry more than 1 network in a market with 4 or more stations. In markets of 3 stations, 1 station may be allowed to carry 2 networks, and in 2-station markets each station may carry 2 networks. In single-station markets the operator has no network problem.

This plan should be implemented by the prohibition of delayed broadcasts of kinescope programs unless the live broadcast has first been offered to other stations for live broadcast with advance notification of the availability of such programs required.

In order for this plan to be effective and to prevent networks from acquiring, through competitive negotiation, an affiliation contract detrimental to the affiliated station, the Federal Communications Commission should require standardization of all affiliation contracts and all such contracts should be made a matter of public record.

There are undoubtedly many other phases to network regulation which the Federal Communications Commission should incorporate on the basis of nationwide experience.

Reserve subsidy.—A Department of Defense research grant or contract for further experimentation and development of ultrahigh frequency transmission and receiving tube should be made.

To a considerable extent, the present status of television is built on research and manufacturing procedures developed as a part of the national-defense effort during World War II.

The company is of the opinion that many of the difficulties experienced in UHF operations is due to a general slowing down of electronic research since the end of the war.

Certainly the tubes for UHF transmission and reception called for in the Federal Communications Commission's sixth report have not yet seen the light of day.

In this electronic age the frequencies presently used by television both UHF and VHF are of increasing importance and interest to all branches of the defense established with particular emphasis on the Air Force and the Navy.

Present status of guided-missile development available to public knowledge is such that there is every indication that in event of future war the utilization of some portion of the television frequency spectrum for the national defense would be mandatory.

Research that would advance the development of high power UHF transmission tubes and all channel reception tubes would be an outstanding contribution to the defense effort.

It is respectfully submitted that a coordinated effort by the Federal Communications Commission and the Department of Defense could accomplish the research objective within the framework of existing legislation. Certainly, lasting good would result for a billion dollar industry, for the national defense, and the welfare of the public.

Industry estimates as to the cost of completing the development of high power UHF transmission tubes and all-purpose receiving tubes that would utilize the UHF spectrum to its fullest extent is \$3 million.

Private industry has been unwilling to dedicate the facilities, time, effort, and money to accomplish this due to the uncertainty of the attitude of the Commission, industry, advertisers, and public to UHF television.

Standardization of color receivers.—Inasmuch as color telecasts are now being made daily and color output predications estimate 50,000 color sets this year, UHF television and the public are confronted with another grave problem, which requires a prompt solution. Therefore, the Federal Communications Commission should immediately take regulatory steps to require that all manufacturers produce only those color sets that include all channel tuners.

CONCLUSIONS

The foregoing references that have been respectfully placed before the committee for consideration are not presented with the idea of accomplishing any all-inclusive panacea that will afford a guaranty of financial return for a UHF television broadcaster. With any degree of equality of opportunity there will always be operations that are in varying degrees either financially good or bad directly predicated on the ability of the operators. However, such is not the case in television in America today. Under the present rules of the game and the manner in which they are interpreted and enforced, the UHF operator has absolutely no opportunity for survival. Operators, industry, and the public have lost approximately \$500 million, and there cannot be a national television system in the United States.

In a mixed market, it costs at least as much to operate a UHF station as it does a VHF station. Unless the UHF station has a breathing spell while a consideration of the foregoing is undertaken it will be completely impossible for the overwhelming majority of UHF stations to survive.

EXHIBIT A

JANUARY 29, 1954.

Re recommendations concerning the proposed rule of "Five and Two" Docket No. 10822, amendment of section 3.636 multiple-station ownership.

Hon. ROSEL HYDE,

Chairman, Federal Communications Commission,

Washington, D. C.

DEAR MR. HYDE: We, as the operators of UHF channel 14, Festus, Mo., serving the ninth market of St. Louis, feel that we have a vital economic interest in the Commission's decision in the above proposal.

In relationship to the present ownership regulations, we support the rule of 5 and 2 but we offer for your serious consideration, a rule of 5 and 2½.

Our proposal of 5 and 2½ would permit ownership in a maximum number of 10 television stations; partial or total ownership in a VHF station or more than 50 percent ownership in a UHF station to count as 1 against the 5, and 50 percent or less ownership in a UHF station to count as one-half against the 2½. Thus a single owner could own 5 VHF stations and 50 percent or less in 5 UHF stations, or for further example, 3 VHF and 2 UHF stations, and 50 percent or less ownership in 5 UHF stations, etc.

It is our considered opinion based upon operating experience, that UHF television desperately needs every possible subsidy and protection that the Commission and the Congress can provide. Certainly this is support by an examination of the Commission's survey of postfreeze television stations of December 30, 1953, wherein the economic prospects of the UHF stations considered were not bright, even though only 2 of 41 under consideration were located in mixed markets where preefreeze VHF stations were in operation.

One very palatable method of subsidizing UHF stations is to entice the networks or multiple-station operators to adopt the UHF "infant." This can be done in the foreseeable future only on the basis of the ownership incentive, but should be done without devouring UHF stations operators who are pioneering the field. Thus, the 5 and 2 rule in practical parlance, means that each net-

work or multiple station operator may acquire 2 UHF stations in the United States and it is obvious that this will be on a full ownership basis. We propose that ownership limitations be expanded to make possible the acquisition of 50 percent or less of 5 UHF stations in the United States so that solid support behind UHF, both financial and programing, may go into 5 different markets rather than only 2, and yet permit individual (and generally local) ownership of half of the UHF stations in the market. Thus in mixed markets, all UHF stations in the market, both network and independent, will be immediately assisted by the impetus of conversion to UHF reception.

Furthermore, without detailing well-known facts, once the networks and multiple station operators acquire sufficient UHF interests, their influence over television transmitter and receiver manufacturers can only result in better UHF transmitters and better UHF receivers all in the public interest.

In regard to this, reference is made to Codel's Television Digest—pages 3, 4, and 5, issue of January 24, pertaining to the present inadequacy of receiving and transmitting equipment as originally called for in the Commission's sixth report. The million watt UHF transmitter is still a gleam in the designer's eye. A UHF tuner comparable to the perfected VHF tuner is yet to hit the market. The rumors concerning the existence of such a tuner in the laboratories of two of the major manufacturers, do not have sufficient substance to provide the operating climate for a multimillion dollar industry without immediate, extraordinary assistance.

There is another even more important consideration—the matter of national and regional advertising support. Due to the tremendous expenses involved in even the minimum television operation in the public interest, convenience and necessity, an appreciable degree of national advertising revenue is an absolute necessity. The majority of national television advertising is purchased through national agency offices in New York, Chicago, and Los Angeles. There is not a single UHF television station operating in the three aforementioned cities. In that agency account executives and media departments do not have personal experience in the matter of UHF, they lean on the networks for information and the networks who are without operating experience in this form of transmission, are not in a position to provide it. This is not to imply anything sinister, but rather something thoroughly human. Due to the manner in which the American system of broadcasting and telecasting has developed, the average agency buyer of national or regional telecasting time tends to lean heavily on network practices and experience as a standard of acceptance.

With reference to UHF, an agency inquiry to a network official quite often results in a comparison of misinformation, generally adding up to a complete condemnation of UHF. The undersigned actually had an experience with one major advertising agency where the New York office was using a UHF article in a 2-year-old copy of a magazine-stand science publication as a yardstick for purchasing television time on UHF stations. As they say, "the agency has no means of evaluation." Thus, it is contended that network and/or multiple operator ownership of UHF stations would immediately broaden the base of operating knowledge and increase national and regional advertising revenues for all stations. This is true because adequate information about one station in a market must necessarily be accompanied by information about all stations.

The third consideration is a thoroughly practical one for all UHF station operators, and particularly those in mixed markets. Most of us believe that we entered the game under one set of rules and that after we were committed, the rules were changed. The reference is to the expedited processing procedures and policy changes that have proven conducive to accelerating the granting of VHF licenses to an extent that in many markets they are appearing on the air at least a year earlier than originally anticipated. Appreciation of the "practical" necessity of some of these processing and policy changes does not alleviate the catastrophic results they bring about. It is respectfully suggested that the "5 and 2½" rule as herein proposed would make it possible to insure a national television system through the further development of the UHF telecasting art, and at the same time satisfy other interests through expediting the granting of VHF licenses without bringing financial ruin to the former.

Without wishing to quarrel with a recent letter written by Senator Johnson opposing the "5 and 2" rule, and mindful of the fact that our proposed "5 and 2½" rule might further extend the breach between the viewpoints of the Senator and the Commission on ownership, and being further mindful of the Senator's announced support of UHF television, we believe the Senator's position on ownership does not meet the facts or answer the survival problems confronting UHF operators. First, on theoretical grounds, an increase of maximum individual

ownership from 5 stations to 7 or even 10, does not reflect a trend toward network or single entity monopoly or denial of "public rights" by virtue of additional ownership by admittedly vested television interests, because if a network was properly permitted to own 5 stations out of 400 channels on the old VHF assignment table (1.25 percent) then network ownership of 10 stations out of 2,033 channels on the new combined VHF-UHF assignment table (0.5 percent) is even more proper. Second, if UHF television is to survive in large mixed markets, it must have the support of continued network programming on one or more stations in order to get the public to convert to an extent sufficient to make UHF competitive with VHF in the market.

In that the undersigned worked for a period of 6 years to bring his station into being and organized it entirely with money from nonindustry investors, there is little room for a claim that this writing speaks for monopoly. The undersigned herewith states that he is not now negotiating nor has he in the past entered into negotiations with a network or multiple-station owner for a sale of all or part of his facility.

With reference to fear and concern of Senator Johnson and others concerning monopoly, it is respectfully suggested that it is extremely difficult to legislate against evil. May it be further said that a too stringent effort to avoid any coherent expansion of UHF telecasting because of fear of monopoly might well result in no possibility of monopoly due to the fact that no UHF stations were operating. It is suggested that a vigilant Commission such as the present one, properly financed by the Congress, will at all times be able to properly police station operation.

As a result of considered judgment, the following results would be anticipated from Commission adoption of a rule of "5 and 2½."

1. Immediate acceleration of improved transmitter and receiver design, manufacturing and marketing. It would and could bridge the receiver marketing gap until color receivers are perfected and ready for general use.
2. Immediate acceleration of national and regional spot advertising for all UHF stations, both network and independent.
3. Bring into full realization the Commission's desire for a truly national television system.
4. Immediately accelerate set conversions and net set purchases in mixed markets, so that all stations, networks and independents, could do a better job.
5. Make possible continued acceleration of VHF grants without destroying those with faith, vision, and foresight who followed the FCC's provisions and attempted to operate licensed UHF stations.
6. Bring new money into 20 to 25 UHF stations at a time when it is badly needed.

7. Generally raise the standards of all UHF television stations.

The undersigned and his associates have full faith in the future of telecasting at the UHF end of the spectrum either as an independent or network station, and are convinced that under Commission guidance and encouragement there is at the very least a strong possibility that within the next decade of this electronic age all the blessings of television may come to us over what is now called UHF. But that is of the future, and the problems are immediate.

We do not speak loosely or tritely, and we speak only for ourselves and with recognition of the public interest. This week we commenced our third month of commercial operation on channel 14 in the Ninth Market of St. Louis during which 2-month period our operating loss added up to a considerable sum of money. During this period we have been the most powerful UHF station in America—operating on the most favorable UHF channel—from the highest tower in the market.

In conclusion, we support the rule of "5 and 2" over the present rule of 5, but believe that it should be extended to a rule of "5 and 2½". And whatever the conclusion of your Commission may be, we ask in the interests of UHF and ourselves that it be decided rapidly and clearly.

Very truly yours,

OZARK TELEVISION CORP.,
JACK G. GARRISON, *President*.

Mr. GARRISON. Forty-nine days ago my station suspended service to the 2 million people in the Greater St. Louis metropolitan area. It was at that time the most powerful UHF station in America, operating from the highest tower in the market, with the largest and most

complete studios in the market, staffed by a group of the most thoroughly experienced television people in the Middle West.

May I note here that I have made available to the committee as exhibit A a bound presentation of photographs of the installation and some of the local programs with which we served the market.

I have an express purpose in making this exhibit. To begin with, perhaps beyond all bounds of objectivity, I am very proud of the station it represents. Then there's something else—the plant pictured there was constructed in just 44 days, from a cow pasture to a completed operating facility, the most powerful UHF station in the Nation, in 44 days, which we think is something of a record. We were able to do it because we knew our business and because we had splendid assistance and guidance from the General Electric Co.

We then tested our facility for 30 days, during which time we caused to be electronically measured the area covered by the station's television signal. It extended well over a 50-mile radius and offered service as a potential to some 2 million people.

On November 25, 1953, we opened the station commercially. On April 2, 1954, we ceased operating the station, after an operating loss in excess of a quarter of a million dollars.

We built the station, we opened it, and we closed it.

In deference to the committee, I have tried to condense tens of thousands of man-hours of work and several hundred thousand stockholder dollars into a few hundred words.

The foregoing condensation leaves two questions: "Why," as Senator Hunt asked the other day, "if this thing is so bad, did you get into it in the first place?" and, parenthetically, "After you got into it, why did you have to suspend?"

Well, the question, How did we get into UHF?

Here is how it happened: Shortly before the end of the freeze we had discussions with two members of the Federal Communications Commission. We saw them on separate occasions. The upcoming sixth report was discussed at length. It was their opinion that UHF offered the best opportunity for an early start in television and that we would have from 2 to 3 years to establish UHF in our area before there would be additional VHF competition.

We spent additional months in surveying the market, figuring construction and operating costs, potential revenue, operational plan, and so forth. We decided to apply for a UHF license. The decision was based on the following:

1. That the St. Louis market presented an excellent UHF potential, due to the fact that there was only 1 VHF television station in operation, and that there would be 2 or more UHF operations going on the air at about the same time to provide impact.

And, if I may, sir, I would like to depart from the text there in this respect: Developments have been so fast—even working in the late hours we have not been able to keep up with them.

I might say we were proud in St. Louis that we had a laboratory that could prove the possibilities of service on UHF.

We considered that we had a laboratory objectively for this reason: Going on the air within less than 3 months of each other were 3 UHF stations, all operating with maximum power.

The terrain, topography in the St. Louis area is such that what few operational difficulties there are at present with UHF are at a minimum. The ground is relatively flat.

So, we had three different stations the people could get if they wanted to convert.

That has changed rather quickly. A grant has been made to an additional VHF station and, as I will bring out later in the testimony, we are led to believe there is an extreme possibility there will be an additional grant for a third VHF station. So, ipso facto—the potentially great UHF market that can show whether or not UHF will work becomes a VHF market.

Senator POTTER. Do you have any UHF stations in operation at the present time?

Mr. GARRISON. Yes, sir.

My station was the first casualty. There are at present two UHF stations operating.

I will bring out later on, unless something is done, and done immediately by this committee, in my opinion, in 150 days there will be no UHF television in St. Louis.

The second point I made before I interrupted myself was the terrain there was ideal.

These are points as to why we thought UHF would work.

I think Senator Hunt's question was very aptly put yesterday:

If this thing is in such terrible mess, and you knew about it, why did you get into it in the first place?

I have tried to show we did give every conceivable consideration to it; that we would have network service to start with and could build set circulation—and this is a reference to my own operation—and that after we had circulation built we could get along without a network if we had to.

Senator POTTER. Do you have network affiliation?

Mr. GARRISON. No, sir.

But if we got the best and most powerful equipment obtainable and used it to the greatest possible advantage we would have enough coverage power to do the job.

I might say in our particular reference the equipment furnished us by the television industry was more than satisfactory. We worked very hard with them. We tried to exploit every conceivable advantage. We obtained the assistance of the Federal Communications Commission in trying a new procedure in reference to antennas, and our signal was terrific.

5. That there were so many applications for the VHF stations that we would have ample time to build our set circulation by conversion, as pointed out by the Commissioners in our initial talk with them.

6. That we had available to us a highly efficient group of willing, skilled people who through the years have been trained in their work, and that, if we worked hard enough over a period of years, we would have a good, substantial business.

Well, the next question: What happened to these assumptions?

They all become academic with my station, KACY, when we were unable to obtain a single network program. In spite of the fact that there are 4 networks and that 3 of those networks have prime affiliation contracts in the St. Louis area, we were not able to obtain a single

network program from the 1 network that did not have an affiliation in the market.

We negotiated with this particular network for a period of 8 months.

In December of 1953, we made a complete presentation, and this presentation to the network has been made available to the committee marked as "Exhibit B."

My idea in putting this in as an exhibit was that actually in the limited time we had this exhibit shows more about what kind of station we had than anything else I could give you.

Senator POTTER. Why was this one network that didn't have an affiliation in St. Louis reluctant to affiliate with you?

Mr. GARRISON. Sir, I am on dangerous ground there, and I would like to read one more sentence, if I may.

Senator POTTER. All right.

Mr. GARRISON. This subject is now in the courts, the subject of a triple damage antitrust suit, and I have, humbly speaking, neither the desire, inclination or authority to try the case before the committee.

Needless to say, our inability to obtain network programing severely hampered our ability to serve the people of the St. Louis area.

In spite of the cost and time consumption of negotiations with the network, we were able to materially build our local television business revenue.

The week of April 2, when our station suspended operations, we had local business equal or superior to the other two St. Louis area UHF stations. Our billings were in excess of \$6,000 a week. These billings were local.

Due to the complete absence of network programs, we operated without national sponsorship, either program or announcement.

I might explain here that it is the established practice of the major advertising agencies to buy announcements and programs on only those UHF stations that have network affiliations. We found this policy established beyond the shadow of a doubt during hundreds of calls made on advertising agencies in New York and Chicago.

I might note here that, when all costs are considered, it takes a minimum of \$13,000 a week to operate a completely equipped, competitive television facility in a major market.

You may consider this figure a bare minimum when you are operating a station without a single network program.

In the time that we were on, sir, we sponsored an awful lot of time ourselves.

And, so, in summary, our station suffered from a mortal wound because it was faced with a situation of complete inability to obtain programs from a network that did not have a prime affiliate in the market. It is my belief that we could have operated at a profit if we had been able to obtain network programs, and I think our local business substantially implements that belief.

Senator POTTER. Somebody testified here the other day the station normally has about 80 percent of their advertising as national advertising or through the network.

Mr. GARRISON. Well, sir—

Mr. ROBERTS. Including national spots.

Senator POTTER. Pardon.

Mr. ROBERTS. It was including national spots, sir, too.

Senator POTTER. Yes.

Mr. GARRISON. Those statistics actually, in my judgment, would have to come from VHF stations who, as one of the points that we in this segment of the industry bring up, tend to monopolize their schedule with national advertising because, one, it is easier to produce.

That is something that has not been brought out in these hearings, and I don't presume to bring up an entire point by myself, but I might say one of the basic reasons that a VHF operator, wherever he may be, has such a large amount of national advertising is because it is in the trade, what is called, clean business. He very seldom has to produce local programs in order to obtain the revenue.

Senator POTTER. Is local business called dirty business?

Mr. GARRISON. With reference to—not to avoid the answer to your question, sir, but with reference to—what it costs to produce as against national business, a man who is interested only in the column of figures would so think. Announcements come in a little can of film. You splice them together. You run them through a projector, and the cash register just rings like mad.

The same applies to film programs.

I might point out two of the most popular programs in the country are now filmed. I refer to *I Love Lucy* and *Dragnet*, but, nevertheless, they are network properties and they come in and you have got a guy standing there by the projector, and it is not necessarily the highly defined end of the television art to just keep that film feeding in there, but it sure helps at the end of the year.

As I pointed out earlier in my introduction, within the last month, what we consider, as far as UHF is concerned, as the black death has come to UHF television in St. Louis. Where before there was only one VHF television station, a change in the Commission's processing structure has now brought about the license of an additional VHF station and, as I said parenthetically a moment ago, I am told that the licensing of the third VHF station is only a matter of days or hours away.

And, so, the stage is pretty well set for UHF to die completely in St. Louis.

With reference to UHF stations, first there were 3; now there are 2, and unless something is done soon there will be none.

In the event the committee and the Commission decide they want it to die, it will not be without monuments—in the St. Louis area over \$25 million worth of monuments in the way of antennas on rooftops and converters and new television sets in people's living rooms.

If I might, I would like to say with reference to television, the poor people get hurt first—and I am not referring to the operators—I am referring to the viewers.

I think it is a general observation, from people that watch the development of VHF, that oddly enough the antennas first begin to show up in the homes of the poorer people, because it meant a lot more to them. People with more means had the ability to entertain themselves, but even at almost prohibitive cost a television set for a poor family represents a tremendous segment of their recreational, educational, and entertainment life.

Senator POTTER. It is a cheap form of entertainment.

Mr. GARRISON. Yes, sir; and that has applied to UHF. In running a survey on our conversions, we determined that actually the poorer people convert first.

Senator POTTER. What percentage of sets were converted in St. Louis?

Mr. GARRISON. As of today, the two national surveys that are generally accepted as McCoy on it, would figure one-third, which we figure slightly in excess of 200,000 sets. The VHF station indicates at present they have 600,000.

Now, with reference to conversion in St. Louis, we are fortunate or will be fortunate later due to the arrangements made by Mr. Zappel to have the expert in St. Louis testify on this, the gentleman who is the president of the entire association of servicemen in the whole metropolitan area, who have installed these converters and all-channel sets and antennas.

Now, may I say the monuments that I referred to above have a way of decreasing in value.

In Kansas City a leading drug chain ran an ad, and the sense of it was: "Bring in your worthless converter. We'll give you \$5 for it."

I might point out that the unused UHF tubes in Little Rock, Ark., would provide illumination for a ghastly Christmas tree, but it isn't likely they will glow again for any reason at all.

Senator POTTER. Why would this drug chain run an ad?

Mr. GARRISON. Well, sir, I might point out if they obtain a converter for \$5, and if they are going to run it through a production line and clean it up, that is, make sure all the tubes are all right and the crystal is all right, for a cost of approximately \$7 they have got an item they can sell at retail and make a considerable profit on, below the actual wholesale cost of the converter, if it is in the normal channels of trade, and I am not privileged, because I am not familiar with the actual situation there, to enter into the record information as to what extent that worthless converter market might be, or the number of sets in Little Rock.

Commissioner HENNOCK. I can tell you—70,000 sets. I was there 2 weeks ago.

Mr. GARRISON. You have got 70,000 sets. I don't know what the ratio was between all-channel and converters, but let us say, for example, 35,000 of those were converters. The converter retails at \$29.50. The people who work this gimmick through the drug store can retail them for 10 bucks.

In some sections in Washington UHF is referred to as a \$50 million mistake. Not because my money is in part of the possible mistake money but actually and factually I am afraid the figure comes considerably closer to \$350 million.

In my judgment, it is up to the committee to decide whether the mistake was one of origin or administration. If it be the former, the Nation should know it now; and if it be the latter, some changes can be made.

The following reference I make respectfully with reference to the Federal Communications Commission: On being questioned as to why the processing schedule had been changed, one of the Commis-

sioners is reliably reported as having said: "It is the democratic process."

And, oddly enough, perhaps he is right.

Certain pressures, which I think were very well brought out in my limited experience with Commissioner Hennock this morning, have resulted in the change in the processing structure, and I am of the opinion that if, in the national welfare, sufficient reason exists for the reversal of these pressures this subcommittee will recognize it.

Two other commissioners have made recent statements to the trade press to the effect that the UHF broadcasters who entered the industry and ran into trouble have only themselves to blame.

I might insert there, in some contact I have had with the very excellent staff that the Commission has, that that feeling, and only naturally would it be so, is reflected down from the commissioners to the staff, who feel, "Well, you people go in there. You went in of your own volition. Nobody up here put a gun on you. Now, you've been hurt. It's your fault."

I don't subscribe to that. I sincerely believe I have met a cross-section of the broadcasters who have attempted to operate on UHF, and in no instance have I found a single UHF operator, present or past, who was not equal or superior to a successful AM radio operator.

My point in bringing this up is we are told the provisions made by the Commission were the best that could be made and that the trouble with them was that we don't know our business, and I don't think it's right.

In my opinion, the Federal Communications Commission is powerless to act in a manner that will implement a climate in which UHF can live without definite assistance from this committee. Such assistance is either warranted by the committee or it is not.

Remedies that I suggest?

Well, many remedies have been suggested so far in these hearings, and I subscribe to most of them—some to a stronger degree than others—but I do believe that all who are genuinely interested in the future welfare of the industry at large subscribe to the recommendations of Commissioner Hennock that there be an immediate freeze or chill, or whatever you might want to call it.

I fully subscribe to the position of the Ultra High Frequency Association with reference to the elimination of intermixture.

That was explained to you by the association's general counsel, Col. William A. Roberts.

May I say, in my opinion, unless 4 equal service stations are available in the first 50 markets there cannot be 4 networks available to feed television stations; and I have no contact whatsoever with the Dumont Television Network nor any other network.

I will say this, though: In my judgment, unless a network can clear time in the first 50 markets, it can't exist; and, from my standpoint, as an operator who has gone through an experience of trying to build a market without any network programs, there has to be a minimum of four networks, whoever owns them.

There not only has to be a minimum of four networks, but there is a basic economic justification in the desires of the industry for four networks, but those networks cannot exist unless they can sell the products

of the advertiser first in the first 50 markets. Other people say a hundred. I say 50 as the bare minimum.

Senator PORTER. The key to your statement here is equal service?

Mr. GARRISON. Yes, sir.

In my judgment—and I think we have proved it in St. Louis—if it isn't equal, it isn't service, because it is on a precipice. It is doomed to failure.

The point I tried to make there is: Unless the major markets are covered by competitive networks, the small stations in the outlying hinterlands will be completely without network service, because by its very essence they can't live unless they are in the major markets.

Senator Bricker's bill on the regulation: The men in the white coats could perhaps come forward for me now, for what I am going to say, but I believe it. I, personally, have suffered as much as anyone due to the lack of network regulation. I spent 7 years of my life in work on a station that died because of lack of regulation, but I am opposed to it in principle by statute unless there is irrefutable evidence and experience to the effect that legislation is the only possible method of regulation.

I am convinced that the Federal Communications Act of 1934 provides more than adequate regulatory power within the FCC.

In the Commission's basic regulation of license renewal, there is every opportunity to regulate every process desired, that is, if the Commission can know how elected officials desire it to be administered.

Senator PORTER. You believe there is ample authority in the Communications Act for the Commission to regulate the networks in order to bring about equality of service?

Mr. GARRISON. Yes, sir, by one or two methods.

An immediate method would be by rule-making.

I think the actual powers as set forth in the Communications Act of 1934 for rule-making are almost without limit, the exercising of them needing only a desire.

With reference to an actual change in the network regulations' portion of the thing, I don't seek at all to be facetious, because I'm real serious, but the thing we talked about as kids, the old rhyme, "We don't smoke, and we don't chew, and we don't go with girls that do,"—I mean the reference I have got is: The only thing they have to make known is under what conditions they are going to renew that license, and some people might not get real happy about it, and perhaps they have been happy in the past, but it can be done if there is a will; but these people who perhaps in the future might not think I should own even 15 percent of a filling station, these people are human. They cannot be told one day, "Here is X number of hundreds of thousands of dollars. Now, you just get back there and you exercise the thing you are supposed to do, and you just get out licenses as fast as you can, because people want them," and then a few months later say, "You shouldn't have gotten them out so fast."

There was a cartoon in a national magazine a while back that showed a big boss sitting in front of a desk, and there was a chart that showed the stock was going right through the floor, loss in value, and there was a meek, little man standing in front of the boss, and the boss says, "Why didn't you tell me to sell that stock?"

And the little man said, meekly, "Well, I did."

And the boss said, "Why didn't you pound the table?"

Senator POTTER. In all fairness to the Commission, I think I should state I know the Commission has been under great pressure from the Congress and various areas to expedite the action on the various VHF grants and, while the Commission may have the authority, in existing law, I think it is more or less a policy decision—I think it will need leadership or expression from the Congress or this committee in order to act.

Mr. GARRISON. Yes, sir.

Senator POTTER. They are caught in sort of a squeeze, from pressure, on the one hand, to act on these VHF applications and, on the other, from you folks who are up against a real immediate problem.

So, I think the Commission will need action certainly by this committee in order to know what the policy should be.

Senator HUNTER. Senator Potter, let me interpolate here.

I think both the Congress and possibly the Commission are to blame. Not once, to the best of my knowledge, have all of the Commission appeared before our committee, and we had lengthy discussions on this particular matter. We have been very, very negligent in our duty, not just with this Commission, but with many other commissions, in not knowing their problems.

Senator POTTER. That is right.

You may continue.

Mr. GARRISON. Thank you, sir.

I might say—

Commissioner HENNOCK. Pardon me, Mr. Garrison.

May I make a statement, Mr. Chairman?

I want you to know the reason I brought up the question of Senate pressure to get out the licenses for VHF's was because—I am sure they have had pressures brought to them, in turn, from their home States and applicants, and I am sure they were not aware of what they were doing to the UHF.

Senator POTTER. That is right.

Commissioner HENNOCK. But I certainly didn't want to sit here and see the Commission take all the blame either, because then I have no business serving on a dishonest Commission, if I am an honest woman, and I didn't want to see my colleagues to get all the blame.

Senator POTTER. I thoroughly agree, and I don't think there is any intention to cast reflection upon the Commission. I think it is a major problem that the Commission has, and we, in turn, the Congress, have helped create the problem. I think the average Member of Congress, particularly if he is not on this committee, reacts as the wind blows pretty much. If the wind is blowing for action on a certain VHF application, it is going to blow downtown; if it is blowing in the direction or from some UHF people that are in trouble, that is going to blow downtown.

Since I have been here in the Senate, I know there has been a great deal of effort on the part of many to get the Commission to act as quickly as possible on these applications.

So, the Commission, in carrying out the intent, will need additional appropriation funds so they can expedite these things much faster.

I am sure at that time the committee was not aware of the problem which the UHF people were confronted with, and that is the reason for these hearings.

We hope, as a result of these hearings, getting expressions from all segments, that some action can be taken which will save this UHF band as a medium for television operation.

Mr. GARRISON. Sir, I don't subscribe to the saving of a UHF band unless, in the considered judgment of this committee, after they hear all the testimony, it means the saving of television.

We have been considered as opportunists. We have been considered as people who took a different approach, and having taken an untried path and not clicked, we deserved it; but my reference is this: Either this is a matter now in which it is necessary to set a course that is good for the country or, for some reason, that course isn't needed, and we, as individual operators, are in no position to pre-judge it. All we can do is give you our side of the story, which is biased, but in the overall essence of the thing either we are necessary for television or we should die and, like the flowers at the end of the summer, we are going to die very quick.

Thank you, sir.

I will continue. I don't want to take other people's time.

My reference here to the Johnson bill is a misnomer. Certainly we owe, as a segment of the industry, much to Senator Johnson. His multiple-ownership bill is perhaps the only possible way for us to be heard, but my actual reference in this section is to the document of the 5 and 2.

The Ozark Television Corp has taken a position for many months that in the event the Commission decides to relax its multiple-ownership rule the greatest good accrues to all of UHF by granting the right for multiple-station ownership to own 50 percent of 5 additional UHF stations rather than 100 percent of 2 stations.

This is discussed in detail in material that I have already filed with the committee in the previous exhibit that I gave before I read this one.

It stands to reason that if the Commission's desire to assist UHF through VHF ownership is justifiable it can best be accomplished through ownership of 50 percent rather than 100 percent of the stations to be bought in.

The beneficial effects of 50 percent rather than 100 percent are, among others, the following:

No fire sales.

I might say—and again I am treading for myself on dangerous grounds—that in certain discussions I had with certain officials who worked with a network, who had examined my property, minutely, I was told, unfortunately, they couldn't affiliate with me; they might buy me.

I had to think that over all of 30 seconds before I got real mad and worked up a proposition which, in my judgment, was equitable, whereby if they did buy me I would have the tail of it.

Now, that is the sensible thing to me. As I examine it, it makes sense to me on this basis: I am not saying the Commission should take the present rule of 5 and add to it, but I am saying if they do take the rule of 5 and add anything to it they should not take whole units, because if we do we are sitting ducks. If they do, it will not help nearly as much taking 2 stations and giving them to an individual operator as it would taking 50 percent of 5 stations.

What UHF has needed from the very beginning and has never received is national acceptance.

You go along Madison Avenue, where there are no UHF stations; you go along Chicago where there are no UHF stations—they don't know what you are talking about and they don't want any.

Certainly the Commission document of 5 and 2 brings out the thinking, either rightly or wrongly, that if large operators were able to own additional stations that they would be interested in getting in behind it.

We worked for many, many weeks in analyzing the thing, in the 5 and 2, and 5 and 2½, and it does, as I pointed out, give greater impact. It makes the possibility of greater benefit in mixed markets.

The provision, if added to the 5 and 2, or 5 and 2½, or whatever the Commission, in their own judgment, decided on—if they insist these be in present markets that are subject to intermixture, it would help. If these people are allowed to go out in the hinterlands, where there is no competition between the spectrums, it is not going to help anything except their statement at the end of the year.

Senator Johnson's bill with reference to the excise tax on ultra-high-frequency receivers: In my judgment, the passage of this bill could result in material assistance to the industry, providing an all-channel tuner is specified.

Now, if the manufacturers are allowed to get by with just putting strips in, I don't think it is worth a subsidy. The only thing—and let's face it—what we are talking about is a subsidy. The only possibility of a subsidy being of any value is if it ends in equality, and as near as we can come to equality today is an all-channel receiver. So, if that bill did so state that the relief it attempts to give was given for all-channel receivers, it would mean something. If it didn't it would mean a good advantage to some manufacturers.

In conclusion, may I say in my judgment the Federal Communications Commission has done the best that any commission could do presented with a problem of such a complex nature, but the time certainly has now come for a reassessment, an examination of what is desired and how it can be accomplished.

Today's chaotic conditions are either the ultimate that can be done because of practical limitations or else there is something better available. I think there is.

The Commission formulated a plan that, in the light of operating experience, has very little opportunity for success.

It never did have much opportunity for success.

Then, through practical necessity or democratic process, or whatever you might want to call it, the Commission has administered this plan in such a manner that it hasn't had any chance for success at all.

In my own city, St. Louis, the eighth or ninth market in the Nation, the sixth report and the manner in which it has been administered has resulted in the following:

That, barring changes recommended by this committee, within less than 150 days, there will be no UHF television in the St. Louis area, with a loss to the operators in excess of \$3 million which is actually just a small part of the iceberg because the loss to the public is twofold. Financially it is in excess of \$27 million, plus the far greater permanent loss of competitive television service.

I might note that I have got two figures in here as to what the conversion financial picture is in St. Louis. I have it for a very definite reason. The public is, in spite of the fact they have knowledge of

VHF coming in, quite interested in the programing schedule of two of the UHF stations. One has the ball games. So long as the ball games are on, everything is fine and they are going to continue buying sets. I have no personal knowledge of their method of operation; but unless something is done here, it is my judgment shortly after the baseball team stops playing there will be very little reason for continuing the operation of the television station.

I commend the problem to the committee: Television has been called the eye of the atomic age. The television art is potentially an insurance policy for our way of life and a method by which it may be destroyed.

The ability of our Nation to see, and to a certain extent have what it will see, is dependent on the outcome of your deliberations.

May I thank you for your courtesy in giving me a chance to be heard.

Senator POTTER. Thank you for your excellent presentation, Mr. Garrison.

Do you have any questions, Senator Hunt?

Senator HUNT. No.

Senator POTTER. Thank you kindly.

Mr. GARRISON. Thank you, sir.

Senator POTTER. Mr. Ronald Woodyard, station WIFE, Dayton, Ohio.

Mr. Woodyard, we are pleased to have you appear before the committee. We will be interested in hearing your statement.

STATEMENT OF RONALD B. WOODYARD, STATION WIFE-TV, DAYTON, OHIO

Mr. WOODYARD. Mr. Chairman and the committee, first, I want to thank the committee for the opportunity of appearing before you and, secondly, speaking directly as an American taxpayer, I want to thank this committee for affording us, through the democratic process of government, the opportunity of coming down here and telling you people what we think is a serious situation concerning 160 million American people; and I speak to you here this morning before going into my statement not as a television operator because I am out of business, but I speak to you this morning, as I feel, as an individual citizen of these United States, and I hope there will be no misunderstanding regarding my testimony.

I also desire to say this:

Because some of the proposals I am making may be considered radical, may be considered sensational, I think that my past 24 years has indicated I am a very conservative man; but I am sort of getting a little bit fed up on what I have been preaching for 24 years myself, namely, this great free-enterprise system. I am beginning to wonder if we haven't learned to misinterpret free enterprise to the building of gigantic monopolies in this country to the detriment of 160 million citizens.

Therefore, I would like now to present my statement.

It is my considered opinion, after operating a UHF television station in a market which contains two established VHF stations, that

UHF has little or no chance of succeeding financially under present conditions.

Dayton and the surrounding territory comprises a metropolitan market of approximately 500,000 people. In this market we encountered difficulty in the operation of our UHF station in the following categories:

1. By allowing VHF stations to go to high power, the Federal Communications Commission enabled Cincinnati VHF stations to penetrate the Dayton territory with a signal practically as good as the local VHF stations. WHIO-TV in Dayton carries CBS, ABC, and Du Mont programs, while WLW-D in Dayton carries NBC and ABC programs. Each of these stations continued this network programming even after our UHF television station was placed in operation.

A Cincinnati station, WCPO-TV—incidentally, owned by Scripps-Howard newspapers—a basic ABC station, augmented network coverage of the two Dayton stations by carrying any ABC and Du Mont shows which were unable to clear time on the two Dayton VHF stations.

Thus, the Dayton audience was permitted choice of any and all network programs without having to go to the expense or trouble of converting to UHF. The net result was none of the established networks had any interest in ordering or selling a commercial network program on UHF station WIFE operated by us.

2. We were unable to compete with the established VHF stations in buying film, because they were able to outbid us for whatever choice film might be available for the market.

3. With little or no network programming and inferior film, we were forced to our own devices for local programs. Features such as the University of Dayton basketball games, which had intense local interest, were denied us.

Furthermore, since these two established VHF stations have for a considerable length of time been enjoying a substantial and profitable revenue, they were in a position to outbid us for programming talent, features, and manpower. Therefore, what local programming we could devise was of inferior quality and limited interest to the viewer.

4. We failed to find a satisfactory converter, although we tested several manufacturers' products. Every single converter had a tendency to drift. Furthermore, our own transmitting equipment, although it was of the finest obtainable and was carefully checked by a professional engineer, caused us continued trouble.

5. Even though we were able to obtain 41,000 conversions at a needless expense—and I say a needless expense now since the station is out of business and there is no UHF station near Dayton—to Dayton citizens of about \$2 million, we were unable to attract the local, regional, or national advertiser to use our facilities at one-fifth the rate of the established VHF stations, because the advertiser preferred the 100 percent potential audience at a rate 5 times higher than our station delivering a limited portion of the audience.

6. We were unable to obtain a satisfactory network contract and, moreover, were forced to pay the American Broadcasting Co. \$1,000 per month for the use of their sustaining programs, which meant, in effect, gentlemen, that we bought any sustaining program in order to get something on our station, which WHIO, who had the ABC con-

tract, the basic contract, could reject or accept, and then and there, if they didn't have the time to carry sustaining programs, such as the McCarthy hearing, or anything else of public interest, we were allowed to take them, but at the same time each month we were forced to pay \$1,000 for that privilege.

One network even denied us permission to carry a so-called co-op program, which was a feature that might have stimulated substantial interest in our station.

We made repeated attempts to get network advertisers to place their programs on our station at no cost to the advertiser. Solicitation was made directly to the advertiser, himself, in many cases. In the majority of these cases we found the advertisers were unwilling to accept UHF in the 42d market of the Nation, though I say our good friend, Dr. Du Mont, has now moved us up to the 41st market in yesterday's testimony, for nothing, even though they had not been able to secure clearance on a local VHF station.

However, we did secure a few network shows by virtue of the close business connections between directors of our company and the heads of nationally known corporations who sponsored network programs. Even some of these programs were placed on our television station at no cost against the advice of the advertising agencies representing the company.

7. Also, we made a determined effort to interest advertising agencies in using our UHF facilities, but nearly always we found there was not only a lack of interest, but a feeling of pity for us because we had the tenacity to attempt to operate a UHF station.

8. To serve the best interests of the citizens of our primary area we engaged from the outset in a most determined and elaborate public service programming policy.

We felt this was particularly advisable, not only to satisfy our commitments to the Federal Communications Commission, but also because we saw an opportunity to serve our fellow citizens who were being virtually ignored with programming of this type by the established VHF stations.

From a selfish standpoint we also felt this was advisable, because through this means we hoped rapidly to attract attention to our station.

Again we were faced with the discouraging reaction that even free public service time had little interest either for viewers or for the beneficiaries of such programs on a UHF station.

9. Starting well in advance of the operating date of our television station we began an intensive and thorough promotion and educational effort among television service and repair men, as well as with wholesale electronic dealers and the representatives of all the national television set manufacturers. We knew it was in our best interest to be as cooperative and helpful with these people as we possibly could. Despite this, we repeatedly learned service repair men and set dealers were discouraging the public from converting the television sets they already owned or from buying new sets equipped to receive UHF.

At that point I would like to add this: I think this committee was misled a little yesterday, not intentionally, from the set manufacturers, because, as I recall, testimony was given here yesterday that it cost, on an average, 40 or 50 dollars to bring a UHF station into your home.

Now, gentlemen, they told you that was the cost of the converter,

but they did not tell you what it would cost to put up an antenna in most of the cases, nor did they tell you the cost the servicemen charged. In our area it ran all the way from \$60 to \$125 in order to bring our television in the homes in many cases.

Senator POTTER. That is to put up the antenna?

Mr. WOODYARD. That is right.

And let me explain another thing, because it may seem peculiar to you gentlemen why these servicemen were not interested in making money: Because of the problems they had in installation of UHF antennas and converters in homes, they had to make maybe 5 or 6 trips back to that home, and if they put a charge on that they had kickbacks from people they were trying to serve; and, therefore, they had no interest or little interest in UHF, in getting that money, because they did not feel they made a profit on it.

On nearly every set, manufacturers placed a markup of at least \$40 additionally for equipping it to receive our UHF signal. Of course, this discouraged prospective buyers from purchasing sets equipped to receive our station.

To my best knowledge, even at this late date there is not any television set manufactured which is constructed to receive UHF alone; rather, even in the factory the set must be converted for UHF at the end of the production line.

In other words, the public has been allowed to believe that UHF equipped sets are actually extra luxuries and not the necessities they should be for complete television reception.

Facing all of these difficulties—

Senator POTTER. Can you receive UHF in the metropolitan areas by the use of the so-called rabbit ears as you do VHF?

Mr. WOODYARD. In some cases, Senator; in some cases, you cannot.

Senator POTTER. Is it the same type of rabbit ears or is it a special type?

Mr. WOODYARD. Well, a special type.

Facing all of these difficulties, with the accompanying economical ruin which seemed imminent, we were forced to suspend our UHF television station from operations—and I want the committee to get this point: Had we not done so, the excessive capital drain would have ruined our corporation and would have resulted in silencing our radio property, which I say here in the presence of the Commission this morning is a very successful one.

Lest it be said I am a broadcaster who is ineffectual and prone to meet failure, I would like to humbly state that we have been able to establish a successful radio station against severe competition, against a basic NBC station, against a basic CBS station and against an ABC station. We operate an independent station. Fortunately, however—and this is the point—we did have the opportunity for our signal to be heard from the day we began operating of our radio station, which was a privilege denied us when we attempted to operate a UHF television station.

Now, consider the problem more broadly. I am personally acquainted with every member of the Federal Communications Commission and I have the highest respect for the integrity and character of each member.

I want to call the committee's attention at this point to the fact that I say this sincerely, from the bottom of my heart. I think this Com-

mission is composed of as fine public servants as we have in the Government.

When you stop to consider that these people have it within their power to give out licenses and grants that involve millions and millions of dollars, and to the best of my knowledge—and I say this from the broadcasting end, not from the Government end—I have never once ever heard a single indication that there is anything morally or corruptly involved in this Federal Communications Commission as it is presently constituted, and I think that is certainly a high compliment to a Government bureau.

Senator POTTER. It certainly is. They have huge responsibilities.

Mr. WOODYARD. That is right.

Furthermore, I am fully aware of the complex problems with which they are engaged. Nevertheless, I honestly believe a terrible mistake was made by the Commission in mixing UHF and VHF channels in any market of the United States.

Perhaps—perhaps—by this time the Commission itself recognizes this mistake, but if the Commission persists in failing to rectify this condition, then the injustices already done both to the citizens of this country and the telecasting operators will be compounded.

Unless this problem with which we are faced today is promptly solved, the opportunity for UHF to serve viewers is practically impossible.

As a taxpayer and a citizen—and once again I want to call your attention to that statement—I would like to call to the attention of the committee a fact which should be given great consideration. It seems to me, as I have sat here 3 days, despite the advice of my doctors not to be here, because I have been in a serious automobile accident and only been out of the hospital about 10 days—

Senator POTTER. I am sorry to hear that.

Mr. WOODYARD. I want to say to you that I think the committee and each one of these broadcasters and the Commission should keep in mind a very important fact: It isn't what happens to we people in the broadcasting business particularly that is concerned in this matter, but it is what happens to 160 million people and people who have become imbued with the idea of television, fascinated with it, and which I think is an art which we probably all agree is probably the most important art ever known to mankind.

This fact is that there is no broadcaster—and I hope every member of the committee will give this next statement that I am going to make great consideration in going over this record—there is no broadcaster in these United States who owns any part of a radio or television station other than the physical plant. The air over which we transmit belongs to the people, and yet there are very few of our citizens aware of this fact, and many broadcasters operate oblivious to this fact.

It is my feeling that the job of the Federal Communications Commission, like that of any other Government bureau, is to act solely in the interest of all the people under the direction of Congress.

For this reason, it is my belief that no individual or member of his family, or a company or corporation in which he may be interested, should own an interest in more than one radio and/or television station—and I want to point out to this Commission at different times in my life I have owned an interest in several radio stations, and as

long as that policy is in effect, and I see an opportunity to make money and an opportunity to buy into a station, I shall continue to do so.

In other words, if it is fair for the other fellow, it is fair for me; but I believe the time has come to establish real competition in this country where television and radio are concerned, and I think it can be done best by this paragraph I have just read.

Further, I believe that no newspaper should be permitted to own a radio or television station.

This unfair monopolistic condition is serious enough, in my opinion, to warrant action by Congress.

In evidence of the degree to which this monopoly has grown I point to the conditions that prevail in my own market. In Dayton WHIO-TV is owned by a corporation which operates the 2 daily newspapers, as well as a radio station, with a basic CBS affiliate, and also the only 2 daily newspapers in nearby Springfield, Ohio. In addition, this corporation owns and operates all the newspapers in Atlanta, Ga., and has a television and radio property there. It is also an applicant for a television station in Miami, Fla., where it owns a daily newspaper and a radio station.

The other television station in Dayton is owned by a large manufacturing corporation which has no interest in Dayton other than the operation of this very profitable television station. It additionally owns VHF television stations in Cincinnati and Columbus, Ohio, and in Atlanta, Ga. Furthermore, it is readily apparent the television station this company operates in Dayton, Ohio, is being operated in direct violation of the duopoly rulings of the Federal Communications Commission, since its signal markedly overlaps the VHF stations it operates in Cincinnati and Columbus.

I believe the only way to secure real competition, and thus to elevate the standards of operation in the television broadcasting industry, is to limit an individual or company to the ownership of 1 radio and/or 1 television station.

I say this because it certainly is reasonable to assume that an individual who owns only one property will undoubtedly take more interest in the community in which it is located than he would if he owned property in several communities and divided his interests.

I would like to inject this thought here: I have been very interested in a situation which has recently arisen in Colorado, in Senator Johnson's own State. There were two applicants, as I remember, for frequency out there. A very valuable application for frequency was given one applicant, and decided on the basis—I don't know the reason, but I imagine because—that applicant showed many years of continuous operation of a very fine radio station. I assume that is the reason. I have not seen the decision. Now, less than a year later—and there was another application by people, many of them local people, applying for that VHF channel, who lived in Denver and who desired to operate that television station in Denver. Now, less than a year later we find the people who were originally given the grant selling the grant to not Denver people or not to people who have any interest in Denver, Colo., particularly, but to an organization known as Time magazine, who probably has a great deal of money that they desire to invest in a very profitable business, and they have picked out Denver, Colo., as the logical place to make a great income on the money they desire to invest.

Now, it seems to me, as a citizen, that situations like that should be set for a hearing where there is an opportunity for those people who originally filed for that grant to come back in there and ask for the privilege, since they are local people, to operate that television station in that market.

Even though my business philosophy has always been firmly founded upon the conviction that there should be a minimum of Government interference in private business, I nevertheless sincerely believe that practices which prevail today among the networks should be scrutinized by this committee. Yet, I further realize such scrutiny is not warranted without power from Congress. Thus, a congressional directive might well be in order. Surely, some of the practices which border very closely upon restraint of trade should be examined.

To return again to this matter of multiple-station ownership, let us consider the conditions now prevalent in the industry.

We are told there are an extremely limited number of VHF frequencies. Yet, a number of powerful interests in the broadcasting industry have already acquired as many as five VHF television frequencies in various large markets of the country. Furthermore, there have been a substantial number of valuable VHF stations sold.

The very fact that individuals or corporations are allowed to own more than one VHF station, up to 5 of them, in fact, is conclusive proof, in my mind, that monopoly is being fostered in the television business.

Consider the implications of this policy. With the few VHF frequencies available, by placing 5 of them in the hands of 1 individual or corporation, a powerful group of 15 or 20 gigantic interests could gain virtually complete control over the television audience of this Nation.

This is a power over people greater than has ever been known before in the history of this country.

In this way a group of 15 or 20 owners, controlling the greatest motivating force mankind has ever known, could virtually control the thoughts and emotion of 160 million people.

It is my feeling that if Congress fails to assume its responsibility in seeing that television service becomes available for all of the people of this country and that it is of a competitive nature, then at some future time the people of this country will become aware of their rights in owning the airways and insist on the Government owning and operating the broadcasting facilities of this country.

To be specific, my recommendations to this committee are as follows:

1. That a law should be enacted, ordering the Federal Communications Commission to directionalize every VHF frequency in the country immediately, which in turn would afford an opportunity for many more VHF stations. For example, it would be very easy for a directionalized facility to be provided in Dayton without interfering to any great extent with any other VHF station serving other cities.

2. This committee should recommend that the Federal Communications Commission cease allocating UHF frequencies within markets where VHF frequencies exist or are likely to be granted.

3. Some authority should be found to restrain networks from serving more than one station in a market, if there are multiple stations in that market.

Further, I would strongly urge this committee to advocate a law which would forbid ownership of radio or television stations by networks, and this law should likewise extend to any officer, director, or stockholder of a network.

And at that point, knowing the networks are going to come in here later with a far more elaborate program than we little, humble people out in the Middle West can ever present to this committee, I should like to point out the argument that has been advanced by the networks for years that they can't afford to operate a network unless they own 5 stations—I say to you, and I think I am on safe ground, that if the Columbia Broadcasting System or the National Broadcasting System were to say tomorrow that they desired to sell their network and operate M. and O. stations, I don't think they would have any trouble finding buyers.

I would also like to call your attention to the fact that I bought Columbia Broadcasting Co. stock for \$27 some years ago, and I looked it up in the paper before I came up here this morning and I see it is \$57 as of this morning. So, it seems to me they are doing all right.

Senator POTTER. You don't think they need a subsidy?

Mr. WOODYARD. I don't think so.

Senator POTTER. I wish to thank you for your statement, Mr. Woodyard.

Mr. WOODYARD. Pardon me just a minute.

Senator POTTER. I am sorry.

Mr. WOODYARD. I am not quite through. May I have a few more minutes?

Senator POTTER. Yes; certainly.

Mr. WOODYARD. Thank you.

Now, I would like to continue with something here—5 more recommendations:

I endorse Commissioner Hennock's first recommendation, and I respectfully—and if I am out of order, Mr. Chairman, please inform me, because, as I say, I am just a little fellow from the West and I may be presumptuous—

Senator POTTER. We don't use point of order in this committee.

Mr. WOODYARD. But I think you Senators have heard enough here in the past 3 days to realize that there is a very serious situation, where the television business is concerned and the operation of television stations. Therefore, I recommend, in addition to the first recommendation of Miss Hennock—or, rather, I don't recommend, I respectfully request once again, as a taxpayer, and not as an operator—that this committee give consideration at some time this afternoon about going into an executive session and deciding whether it would not be to the best interests of all the people of this country to immediately issue a directive—to issue a directive to the Federal Communications Committee on Monday morning—to cease issuing any more licenses or any further station construction permits until this committee can decide whether there is any merit to what it has heard or what it has not heard; and I strongly urge consideration be given to that proposal.

No. 2: I endorse Miss Hennock's No. 2 recommendation to this committee.

I would just like to have the record show that.

I endorse No. 3 of Miss Hennock's recommendations.

I do not endorse her No. 4 recommendation—Senator Johnson's bill to remove the excise tax—and I will tell you why: Because I, along with thousands of theater owners, signed the petition to this Congress asking you to remove the theater tax, under the assumption that the price of movies would come down. I am sorry to say in my town, since you have removed the tax, all the theaters have done is stuck that tax in their pocket, and I think the same thing would happen in this case.

Senator POTTER. You don't think it would lower the cost of the set?

Mr. WOODYARD. I do not.

Now, fifth, I want to take a position here—and I can take it, Senator, and I hope you will understand why. You will have to remember there are many people who desire or who want to remain in this business. As far as I am concerned, if coming here before Congress and telling this committee the truth, as I see it, means that I am through in this business, that is O. K. with me; but I want to say I am going on record in favor of the Bricker bill because I don't think anything is more badly needed for the protection of the American citizen than the enactment of the Bricker bill by this Congress.

I would also like to say this, so that the record may be complete, because this may be the last opportunity that I, as a broadcaster, will ever appear before a committee: If this committee desires to find out what happens where these VHF stations are concerned—and I know only about my own market, where I have been an operator for many, many years; I have been in this business for 20 years—then I respectfully suggest this committee request the Federal Communications Commission to have a staff member over there assemble the logs from March 13, 1952, to March 13, 1953, on WWL-D, WHIO-TV, and WIFE-TV, and let's see how much public service and what time of day it was rendered by all three of the television stations in Dayton, Ohio, because I think that would be of value to this committee in arriving at some conclusions regarding UHF and VHF from a public service standpoint.

I would also like to take this opportunity to say—and I don't mean to be emotionally inclined, but I feel this thing very deeply, Senator, because I feel what is taking place in this room is one of the most important hearings ever heard on this bill. I sat and watched another hearing in which you are taking part and, frankly, it is nothing of importance as far as the American people are concerned to this hearing.

Senator POTTER. I will concur with that.

Mr. WOODYARD. And I say to you—and once again I want to repeat I say this with the utmost respect to the members of the Federal Communications Commission, but I was shocked—I was shocked—to read the other day the reason I have failed—and I am putting myself in a general category—was because I was inexperienced; I didn't know how to use promotional material and, therefore, I had no business being in UHF.

Now, Senator, I don't think that is the right kind of theory for any member of that Commission to take, and especially if that gentleman has not operated a radio and television station—and I say that very candidly and in the presence of a Commissioner whom I have the highest esteem for as a Commissioner and as a person.

Now, you have heard that statement made here this morning by the gentleman from St. Louis. You have also heard me say it. So, in order to find out what happened in Dayton, Ohio, I once again suggest this Commission ask the Federal Communications Commission to present to them the operating statements of the three radio stations in Dayton, Ohio, for the years—I don't care when—for the years of 1952, 1953, or for the first 3 months of this year, and bring it to the attention of this committee and just find out what kind of an operator this fellow, Woodyard, is and whether he can operate it successfully.

We operate a station out there, Senator, which is owned by 62 or 63 citizens of that town. It certainly is a cross section of the people in that town. We have men who have been president of the chamber of commerce. We have bank directors. We have people who work on a salary. We have a secretary that owns stock in our company. I don't think there is a company that is more diversified in ownership in the United States than the Skyland Broadcasting Corp., and certainly we went in there 5 years ago with the most severe competition of 2 television stations which opened in front of us, and I think the records of the Federal Communications Commission will vindicate whether or not we have any operating ability and whether we have any know-how in this business.

Our station did not fail because of no know-how. Our station failed because of our inability to attract the programs to our station that were necessary to get the people in our market to convert; and I say to you that if I had—and we are perfectly willing and the fact of the matter is, I think I should tell this committee, my corporation, despite the fact we have lost over a half million dollars in the television business—my stockholders have already instructed me and have set aside a sum of several thousands of dollars—they have instructed me to spend that money in an effort to put a VHF station in Dayton, Ohio.

So, I think—it is 62 we have now. A few of them got frightened when the station went under, but I think it is about 62 stockholders we have now. So, 62 people in that town think we know how to operate, provided we are on some kind of a basis of equality with the other fellow; but we can't do it unless we are.

Now, I once again, in conclusion, would like to urge this committee to give great and serious consideration to the issuance of this directive to the Federal Communications Commission that all of these grants be suspended temporarily, until this committee has an opportunity—maybe 30 days; maybe 60 days—I don't call it a freeze; I say let's stop things because it is quite evident—it is quite evident, Mr. Chairman—that the Commission, despite their efforts and despite their thoughts, have been unable to find a solution to this matter, and yet they must know something is terribly wrong. So, I say let's call a hiatus, or whatever you want to call it, here for a little while, and stop all of this for the sake of the country until we find out what is going on.

I thank you very much.

Senator POTTER. Thank you, Mr. Woodyard.

At this point I would like to insert in the record a letter I have received from Hon. Edwin C. Johnson, United States Senator from Colorado, regarding transfer of the licensee of Aladdin Radio & Television Co., Denver, Colo.

UNITED STATES SENATE,
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
June 5, 1954.

HON. CHARLES E. POTTER,
Chairman, Subcommittee on Communications, Interstate and Foreign Commerce Committee, United States Senate, Washington, D. C.

DEAR SENATOR POTTER: During the hearings on the status and development of UHF channels, held on May 19, 20, and 21, Mr. Ronald Woodyard, of Dayton, Ohio, referred to the Aladdin Radio & Television Co., of Denver, Colo.

Mr. Woodyard, in his testimony, made some generalized remarks which conveyed a false picture. In order to clarify the record, I am enclosing a statement that I respectfully request be incorporated in the record immediately after Mr. Woodyard's testimony so that the committee will have a full and complete picture of the entire situation involving Aladdin Radio & Television Co., Denver, Colo.

Sincerely yours,

EDWIN C. JOHNSON.

STATEMENT OF SENATOR JOHNSON

A Mr. Ronald Woodyard, testifying before this committee on Friday, May 21, departed from his prepared text and made certain statements about a situation in which he said he was very interested and which occurred in my home State, Colorado. Generally, Mr. Woodyard is a solid thinker and precise in his statements but, in this instance, I think he went far afield. I am sure he is not familiar with all the facts.

Mr. Woodyard was referring to the pending sale of Aladdin Radio & Television, Co. (KLZ, KLZ-FM, KLZ-TV), of Denver, Colo. Even though Mr. Woodyard expressed great interest in this case, he admitted he had not read the decision, which is unfortunate as the statements he made were an inaccurate generalization that could, if left uncorrected, lead to a misunderstanding of the facts.

Since I am familiar with the reasons for the proposed sale of Aladdin Radio & Television, Co., I must clarify this record.

Aladdin Radio & Television, Co., is a licensee of radio station KLZ, a station that has been in continuous service for more than 30 years. The company is also a licensee of frequency modulation station KLZ-FM, which has been in service for about 15 years. No radio station in the entire country has a better record or has done a more outstanding job in serving the public interest. The Aladdin Co. was one of the first to apply for a television permit in Denver, only to be caught in the freeze. As a result of the first postfreeze competitive hearing, Aladdin received a construction permit for KLZ-TV in June 1953. KLZ-TV went on the air November 1, 1953, and has been providing fine television service ever since.

Since 1940 the broadcast operations of KLZ (AM-FM) have been under the able and outstanding management of Hugh Terry. Since 1949 these stations have been controlled largely by an outstanding group of Denver civic leaders who, for the first time, provided Mr. Terry an opportunity to acquire an ownership interest in the business to which he has devoted his career. The broadcast operation under these civic leaders and Hugh Terry not only has made a tremendous contribution to Denver and Colorado but has enjoyed a reputation as one of the outstanding operations in the entire industry. The present owners originally invested over \$1 million in the business, and have since plowed back profits to improve service and prepare for television. Over a period of 4 years the company spent a considerable additional sum of money in processing its television application, training employees, and getting on the air. Since 1949 the sparkplugs of this whole operation have been Hugh Terry and Harry Huffman, a long-time business executive of Denver.

In mid-January of this year, Mr. Terry, Aladdin's president and general manager, was stricken with a severe heart attack. He is slowly convalescing and as yet is able only to undertake a small portion of his former duties. Not only that but Mr. Huffman has suffered several strokes during 1953 and is unable to assume the added duties brought about by the illness of Mr. Terry. Another major stockholder, Mr. Elroy McCaw, must dispose of some of his broadcast holdings in order to comply with the FCC's multiple-ownership rules, as amended in 1953. Prior to Mr. Terry's illness, numerous efforts of other persons to buy the business were rejected. In fact, money couldn't buy this station were Mr. Terry and Mr. Huffman well. It has long been their great ambition to operate a combined radio and television station.

This combination of most unusual and unforeseeable circumstances is certainly a proper justification for the pending sale of Aladdin.

I wish to point out but 1 or 2 other inaccuracies in Mr. Woodyard's statement. He refers to the other applicant as "local people" whereas they are largely non-residents of Colorado. He also indicated that the proposed purchaser of Aladdin "hasn't any interest in Denver, Colo., particularly." I must advise that Time, Inc. does now have, and for some time has maintained, a very substantial interest in Denver and Colorado. Furthermore, it is my opinion that Time, Inc. is splendidly equipped and has the capacity as it has demonstrated in its operations elsewhere, to render a fine radio and television service in the public interest. Before granting Aladdin this television license, the FCC held long and exhaustive hearings on the contested application. I want to go on record as stating without equivocation that the FCC did not make a mistake in their final decision. It was made in the public interest.

It would seem important to the health of the industry that people may devote their lifelong labors and their fortunes to it, with the knowledge that their investment will be safe and secure in the event of sickness, death, or Government edict. Were it otherwise, no prudent and intelligent person would invest in any broadcast operation.

Senator POTTER. The committee will be in recess until 2 o'clock.

(Whereupon, at 12:35 p. m., the hearing was recessed, to reconvene at 2 p. m. of the same day.)

AFTERNOON SESSION

(The subcommittee reconvened at 2 p. m., pursuant to adjournment, in room G-16 in the Capitol, Senator Charles E. Potter, chairman of the subcommittee presiding.)

Senator POTTER. The committee will come to order.

First, I would like to submit for the record a statement by Mr. Thomas E. Martin, executive vice president of the Hawley Broadcasting Co., Reading, Pa..

I have a statement from Mr. William L. Putnam from UHF television station WWLP, Springfield, Mass.

I have also been asked to submit as a part of the record an article by Earl Abrams that appeared in the May 3, 1954, issue of Broadcasting-Telecasting, entitled "Losing Money in Television Isn't New." There has been a great deal of talk about losses suffered by television stations. This article discusses the losses suffered by the various television operators during 1948, 1949, 1950 and 1951 and brings the financial picture up to date.

(Prepared statements of Thomas E. Martin, William L. Putnam, and article by Earl B. Abrams, "Losing Money in Television Isn't New" are as follows:)

STATEMENT OF THOMAS E. MARTIN, EXECUTIVE VICE PRESIDENT, HAWLEY BROADCASTING CO., READING, PA.

My name is Thomas E. Martin and I am the executive vice president and general manager of the Hawley Broadcasting Co., of Reading, Pa., which operates stations WEEU AM and TV.

The Hawley Broadcasting Co., has had an extensive background in radio broadcasting in Reading. We acquired station WEEU in 1946 and have operated it continuously since that time. When we acquired the station it was a daytime only station. We spent approximately \$100,000 in improving the facilities and obtaining permission to operate during nighttime hours.

In 1947 we applied for VHF channel 5 and presented our case before the Commission in competition with another application for the same channel. Our hearing had been concluded and the case was awaiting decision when the FCC decided to impose its much-publicized freeze on all television activity. When the freeze was finally lifted on April 14, 1952, we were greeted with the fact that VHF channel 5 was no longer available for use in Reading and that in its stead, 2 UHF frequencies were assigned, channels 33 and 61.

Some of the members of this committee may be aware of the importance of Reading as an industrial market in the East; but for those who of you are not familiar with the area I would like to point out that it is one of the principal industrial areas of the State of Pennsylvania. It has diversified industries and it is the center of a substantial trading era. The importance of this market is best illustrated by the fact that for many years the market has supported three successful radio stations in active competition.

As you can see from the prior recitations, my organization has a record of serving the public through broadcasting. Our stockholders are also the owners of the Reading Eagle and Reading Times, which publish daily newspapers for this community, and on Sunday we publish the Reading Sunday Eagle. Accordingly we decided to apply for UHF channel 33, which was subsequently assigned to us. Following the grant of this construction permit, we built a very extensive plant and modern studios that would do credit to a city many times the size of Reading. Our investment in television at this point is in excess of \$450,000.

Your committee is anxious to know the experience of stations such as ours so that it may be in a position to make recommendations which might lead to the solution of some of the ills of UHF broadcasting. I have given long and serious thought to the problem and recognize that there is no magic wand which can be waved and which will automatically wipe out all the losses and convert them into substantial profits.

I have read suggestions made by others in the broadcast business, many of which have been and will be presented to you. I do not know whether any of these suggestions will provide the answer, but I do feel qualified to tell you that in our particular case there appears to be only one way out—to assign an additional VHF channel for our use.

This may sound like a very superficial suggestion, but when you understand our problem you will realize that I am not taking the first thought that comes to mind.

When we started broadcasting in 1953, the city of Reading and our surrounding area was heavily saturated with television service. Television was not new in our market. Three strong VHF signals come in from Philadelphia, Pa., and one from Lancaster; the people of Reading and this vicinity have been receiving VHF television in their homes for several years. At the present time approximately 80 percent of the homes in the Reading market are equipped to receive VHF service.

At the time that we started our construction the Philadelphia stations were operating with a power which had previously been limited by the Commission before the UHF band was added. Since that time these three Philadelphia stations have been granted power increases and are presently operating with superpower so that their service area encompasses a great deal more than what would be regarded as the normal trading area. Incidentally, I would like to point out that, although UHF channels are available in Philadelphia, no station has been constructed as yet on these frequencies—an obvious recognition of the problems that a UHF broadcaster would have to contend with in trying to meet the competition of the powerful Philadelphia VHF stations.

When we went on the air we felt that the local service we could provide would result in a steady growth of conversion to UHF. We were, indeed, optimistic, but our experience has indicated that the steady conversion that we anticipated has not materialized.

I would like to point out to you that if a new radio station should go on the air tomorrow in Reading it would automatically be available to the same number of radio homes as the existing stations. Therefore, from a competitive standpoint, it has an equal opportunity and competition is thereby fostered. In UHF this is not the fact and we, as a UHF broadcaster, cannot reach all of the homes which are equipped for television reception from Philadelphia and other VHF markets. To receive a local UHF program the viewer must go out and buy a converted or pay an additional amount for the UHF band. We feel this is a burden upon most people and as a result it prevents them from receiving the competitive service to which they are entitled.

Some of the broadcasters who appear before you will put the fault on the networks, but that can't be true in our case because we have an affiliation with NBC and ABC. We provide topnotch network programming and excellent local programs, but apparently this combination is not enough. We have a well-rounded program formula locally that includes religion, education, entertainment, and community service. Local community leaders have lauded us, but the local advertisers are not buying enough time to pay the bills.

We have told an honest coverage story and we have gone to considerable expense to measure the noise-free area in which our signal is being received. Our research has been substantiated by outside groups such as ARBI, Hooper, and NBC research. The combined efforts indicate that we have approximately 50,000 sets equipped to receive our picture but when it comes to rating shows, the Philadelphia stations capture our audience because the public has become accustomed to receiving program service on VHF even though from a distant market.

I have said before that the answer lies in assigning us a VHF channel. Our engineering studies indicate that channel 5 which we had originally applied for before the freeze can be used in Reading by installing a semidirectional antenna. We are satisfied that we will not cause interference to any other VHF station, and that the directional antenna could be installed with the greatest simplicity.

It would require, however, a change in FCC regulations, particularly in mileage separation on cochannels and adjacent channels, to achieve this end. Directional arrays protecting stations on cochannels and adjacent channels in radio are accepted as fact today. A reexamination of the VHF-UHF channel problem in mileage separation and the use of directional antennas might well solve similar problems in many markets of the country facing situations such as ours.

Also, if the FCC permitted low power for these proposed VHF stations, it would protect all existing high-power VHF stations and assure local equally competitive service in markets such as ours and also make available local community service programs unavailable from distantly located high-powered VHF stations.

The Hawley Broadcasting Co. does not desire to interfere with any other existing television station on the VHF band nor to improve its position at the expense of any other UHF station. The proposal that I have made will not cause undue interference to existing stations on channel 5 but will permit a solution to our problems.

If the Commission will authorize us to use a directional antenna in this manner we will automatically compete on an even basis for the 80 percent market saturation that now exists in VHF receivers.

I would like to point out one other factor which we regard as very significant. UHF frequencies are comparable to line of sight, and natural barriers such as hills, mountains, and ridges seriously interfere with program reception. The people of Reading and environs live in valleys. Consequently even though we do a good coverage job for Reading and Berks County in which Reading is located, neighboring towns 30 miles distant have some trouble receiving our signal because of the intervening terrain. With a VHF signal which is not nearly as critical to line of sight we would adequately serve these communities with good local and network programs. Then if they had a choice between our station and a Philadelphia station, we know that we could prevail.

It is also important to bear in mind that from our present transmitter location we can provide a better picture in the city of Reading than any competitive station. The Philadelphia stations must overcome terrain factors

which definitely limit the type of reception that the public can receive in Reading. As a result, the Philadelphia stations have a relatively poor picture in Reading which the public endures only because there is no other VHF service available to it. If we switch to VHF from our existing location we will provide a superb picture which will give to the people of Reading for the first time proper television service from a technical standpoint and most assuredly from the standpoint of local program service.

In order that you may visualize the great benefits that would come to us if we were granted a VHF channel, I would like to submit for the record a table of coverage and market data in our area. This table will show that we have 219,920 homes within the area of which 54,206 have UHF receivers. If we switch to channel 5 as I propose, we could reach each of the 219,920 homes, thus increasing our audience potential by four times.

In conclusion, I ask that you seek independent engineering advice to confirm my testimony that the use of directional antennas on VHF frequencies will provide the answer to the ills which have beset UHF in many markets. Certainly it will do the job for us in Reading.

WEEU-TV, channel 33, Reading, Pa.—Coverage and market data (as of Apr. 20, 1954)

County	Population	Families	Retail sales	Food sales	Drug sales	TV homes	UHF homes
			<i>Thousands</i>	<i>Thousands</i>	<i>Thousands</i>		
Berks.....	255,740	77,500	\$275,142	\$64,618	\$5,336	57,580	20,153
Lehigh.....	178,386	53,460	212,169	51,480	4,071	43,146	15,101
Bucks.....	50,617	16,975	49,996	14,342	998	15,232	1,827
Montgomery.....	211,840	62,760	223,779	67,237	6,381	55,224	6,626
Chester.....	23,871	6,630	23,276	6,028	655	6,343	761
Lancaster.....	140,830	41,880	158,028	32,921	24,000	30,054	5,409
Lebanon.....	57,178	18,410	58,723	13,876	1,094	12,341	4,329
Total.....	918,462	268,400	1,001,163	250,501	42,535	219,920	54,206

STATEMENT OF WILLIAM L. PUTNAM, UHF TELEVISION STATION WWLP, SPRINGFIELD, MASS.

The following represents the views of the Springfield Television Broadcasting Corp., owner and operator of UHF television station WWLP, Springfield, Mass., concerning the television situation in general, and the thoughts we have that might be of value and interest to your committee. I am treasurer of the corporation and manager of the station. We present only our own opinions and facts we know from our own experience. We have been operating on channel 61 since March 17, 1953, using a 12-kilowatt transmitter, the highest power available.

Our situation is not vastly different from a number of people in the television business. We are a medium-sized station in the medium-sized community, owned by local people and endeavoring to provide good service to the community to which we are assigned by the FCC.

Let me say at the outset that we knew many of the limitations of UHF transmission before we went into this business. We knew as much as anyone did at that time about the characteristics, advantages of UHF broadcasting. In the last 2 years much data has been accumulated. From operating experience we have learned a great deal more. The situation looks somewhat different in the light of facts than it did when most knowledge was theoretical. However, we're still glad we did it.

We have made good progress, since going on the air, toward establishing ourselves as a part of our community. Several months ago a national survey indicated that over half of the people in Springfield have television receivers capable of receiving our UHF signal in their homes. This compares with about 80 percent of the homes in our city which can receive the VHF station in New Haven, which has been established for several years and in whose fringe area Springfield is located.

We are encouraged by the progress we have made. The networks (NBC and ABC) have been very helpful to us. National and local advertisers have seen the effectiveness of our station. We are not what might be called "blue chip," but we are doing well.

Our major question is whether the channel allocations system and power limitations now in effect are consistent with the expressed desire of the FCC to establish local television stations that will serve their local communities. This we feel is the most important matter that can be studied by your committee. The Commission decided that it wanted commercial channels assigned so that every part of the country could have its own television station in its economic community. It has even gone to the extent of assigning channels to communities with less than 10,000 population. We feel that some effort must be made to see that those stations are allowed to exist financially, in areas where it is still possible.

Since there is a vast difference between the various frequencies that are assigned for television operation and since this is the only difference between any station assigned to our community and any station that might be assigned to any other nearby community, it is our opinion that the Commission must review the channel assignments that are currently in effect.

At present, in the market we are assigned to cover, there are a number of outside television signals receivable, all of which vary in quality. The principal of these is channel 8, which is assigned to New Haven. This station has been on the air for a number of years and it has a desirable VHF frequency. We are able to compete with them because of our local shows which interest the people of this area, and because of our full network schedule, but due to the cost of UHF receiving equipment, people have a tendency to be slow about conversion. Our signal is stronger than these outside channels, but equipment is not available with which people can receive our signal as readily as they receive VHF channels. This is a problem that we expect will disappear with the passage of time, as better receiving antennas and better tuning equipment for UHF are developed.

We still have fears, however, for the ultimate outcome. We are aware that in the not too distant future the FCC will authorize a channel 3 station in Hartford, about 25 miles from Springfield. Anyone familiar with the current channel 3 proceedings will realize that this channel is being fought over intensely. The reason for this intense fight is the great value of the channel from a commercial point of view. Everyone knows that a low band VHF signal can reach a greater area, regardless of terrain or any other limitation, and hence will attract advertisers more readily. Because of the unfavorable frequency we have to use, we look with great apprehension on the construction of this channel. Our future economic health, as well as the whole idea of local television stations in the Springfield metropolitan area will be seriously affected.

The Connecticut Valley area is set up in the channel allocation system so that it will be served by UHF stations. Except for New Haven, at the extreme south, all stations on the air, or assigned, in this valley are UHF. We feel that it will be eminently unfair to the whole idea of local stations if channel 3 is allowed to go on the air in Hartford as a commercial station. We do not mean by this that VHF stations should not go on the air in other parts of the country. In many areas VHF is so well established that it is extremely unlikely that UHF stations will ever amount to a great deal without a major reorganization of the whole television picture. However, in our area there is great hope for UHF, provided it is given a chance.

Equipment is readily available so that the maximum power can be radiated on channel 3, which from Hartford will completely cover our area. Even disregarding all the other considerations I have mentioned above, this alone would be frightfully unfair competitively since we cannot possibly fight back in power output.

Any electronics engineer can give exact information on the relative value of a signal at 60 megacycles as opposed to 600 megacycles. While it is not exactly a 10-to-1 ratio it is greatly different in signal strength at a very limited distance from the point of transmission. The Commission allowed for this discrepancy in effectiveness of power output by allowing greater power to UHF stations. Of course, this whole business is theoretical since no one has yet even designed equipment to radiate the maximum permissible power in the UHF band. We have found that with the most powerful equipment available we are radiating 146 kilowatts of visual power and this appears to be all we will be able to radiate for some time. Even if more powerful equipment were available preliminary indications are that the operating expenses would be prohibitive. Our monthly electric bill alone would increase by \$2,673.77. The additional matter of amplifier tube rental is a figure I would hesitate to think of and hate to have quoted.

UHF can continue to succeed in our area if it remains a UHF area, but if a commercial VHF channel is allowed in here, then we believe it will make all the UHF stations extremely marginal, at best. We feel that your committee can recommend action to solve this problem in our area and perhaps thereby come up with a solution that will help many other areas with similar problems.

Our suggestion would be one of the following: Make channel 3 in Hartford an educational channel and at the same time release channel 24, presently set aside for education purposes, to commercial broadcasters. This plan would make all of our Connecticut Valley (north of New Haven) a UHF commercial area and would thereby enable the communities to develop their own stations in accordance with their needs. Another solution would be to reduce the maximum permissible power output on VHF stations, either in general or in certain areas. Also reduce the height above average terrain from which their center of radiation is to be. This would restrict the vast regional coverage that VHF stations enjoy. A third solution would be to move channel 3 to a predominantly VHF area.

You hear a lot of talk these days about how much money is being lost by new TV stations, particularly those in the UHF band. But the condition is not without precedent, as this summary of early television financial history shows.

LOSING MONEY IN TELEVISION ISN'T NEW

(By Earl B. Abrams)

At the UHF hearings which the Senate Communications Subcommittee will conduct, one of the principal arguments for UHF protection will be that station operators are facing protracted periods of financial loss. However valid that argument may be, it is pertinent to recall that VHF operators faced similar prospects back in the early days of TV. Last week Broadcasting-Telecasting went to the record books to see how VHF fared when it was the pioneering service.

Losses—heavy losses—are not new in television. Certainly, for the first few years even the now vaunted VHF stations went deeply into the red.

Although TV began its first commercial stirrings in 1946, following the conclusion of World War II, it was not until 1948 that it coalesced into a separate element of broadcasting. This was recognized then by the FCC which, for the first time in its annual financial reports, gave TV a separate accounting—all of one table.

In 1948, the Commission reported that the television broadcast industry—which comprised 4 networks and 50 stations—showed a loss of \$15 million overall. The 40 non-network-owned stations showed a loss of \$8.5 million.

Television losses mounted in 1949. According to that year's FCC financial report, networks and stations (98 altogether) went into the red to the extent of \$25.3 million. Losses for the 85 non-network-owned stations amount to \$13.3 million.

Only 4 stations, of the 98 which operated for the full 12 months of 1949, showed a profit. One station did not have data available.

In 1950 some of the red ink had turned to black. Although the total industry loss for 14 network-owned stations and 93 independently owned stations was \$9.2 million, the latter showed an aggregate profit before Federal taxes of \$800,000. Fifty-three stations made a profit that year and 53 reported a loss (and 1 failed to supply data). The median income of the 53 profitable stations was \$129,000; the median loss, \$88,300.

Thirty stations reported losses between \$1 and \$100,000; twelve \$100,000, and \$200,000; six, \$200,000 and \$400,000, and five, over \$400,000.

Based on reports of losses from 47 nonnetwork-owned stations, 16 had done a gross business of up to \$200,000; 16, from \$200,000 to \$400,000; 7 from \$400,000 to \$600,000; 4, from \$600,000 to \$800,000; 3 from \$1 million to \$1.5 million, and 1, over \$1.5 million.

In the 1-station communities in 1950, 18 stations reported losses; in the 2-station markets, 18 reported losses; in the 3-station cities, 6 reported losses; in the 4-station markets, 2 reported losses, and in the 7-station markets, 9 reported losses.

By 1951 TV stations were by and large "in the black." Total income before Federal taxes amounted to \$41.6 million for 15 network-owned and 93 independent stations. The latter made a profit of \$30.6 million before taxes.

In that year, 92 stations reported a profit, and 14 reported losses (and 2 did not furnish the required data).

Median income of the 92 stations reporting a profit was \$330,000; the median losses for the 14 stations reporting losses were not computed because of the small number of stations involved.

IMPROVEMENT IN 1951

Changes occurring in 96 stations which operated for the full 12 months of 1950 and 1951 were as follows: Five stations reported increased losses; 2, decreased income; 1 losses in 1951 but profits in 1950; 6, decreased losses; 33, profits in 1951 against losses in 1950, and 49, increased income.

Three stations reported losses of less than \$100,000; 4, between \$100,000 and \$200,000; 3, between \$200,000 and \$400,000; 2, between \$400,000 and \$800,000, and 2, over \$800,000.

Relationship between gross revenues and losses, indicated that 3 of the stations in the red grossed less than \$250,000; 2, between \$250,000 and \$500,000; 1, between \$500,000 and \$750,000; 1, between \$1 million and \$1.25 million; 2, between \$1.5 million and \$2 million; 3, between \$2 million and \$2.5 million, and 2, between \$2.5 million and \$3 million.

Most of the 14 stations losing money in 1951 were in cities of over 2 million population. These totaled nine. Three such stations were in 500,000-1 million markets, 1 in the 250,000-500,000 class and 1 in the under 250,000 category.

In the 40 one-station markets, only 1 station reported a loss; in the 11 two-station markets, 3; in the 8 three-station cities, 2, and in the 2 seven-station area, 8.

In 1952—the latest year for which official FCC data are available, the 122 stations on the air reported income before Federal taxes of \$55.5 million. Ninety-three nonnetwork-owned stations, operating for the full year, made a profit of \$45.8 million and 14 other nonnetwork-owned stations, on the air for less than 6 months, reported a loss of \$200,000.

The average profit before taxes for the 93 stations operating for the full year was \$500,000.

Only 94 of the 108 stations which operated commercially for the full year reported a profit; 14 indicated a loss. The median profit of the 94 successful stations was \$450,000. The median losses for the 14 stations which failed to make a profit were not computed due to the small number of stations involved.

Of 105 stations in operation for the full year in 1951 and 1952, three indicated an increased loss in 1952; nine indicated decreased income in 1952, four showed a loss in 1952 and income in 1951, five listed a decreased loss in 1952, five indicated income in 1952 and loss in 1951 and 79 listed increased income for 1952.

Five stations reported they lost more than \$100,000; three, between \$100,000 and \$200,000; three, between \$200,000 and \$400,000 and three, over \$800,000.

Relationship between gross revenues and the 14 stations which reported losses in 1952 showed that 1 took in less than \$500,000; 3, between \$500,000 and \$750,000; 1, between \$750,000 and \$1 million; 1, between \$1.25 million and \$1.5 million; 1, between \$1.5 million and \$2 million; 3, between \$2 million and \$2.5 million; 3, between \$2.5 million and \$3 million, and 1, over \$3 million.

Surprisingly, no station in a city with a population below 250,000 was among the 14 stations reporting a loss. One was in a city with a population between 250,000 and 500,000; 2, between 500,000 and 1 million; 2, between 1 and 2 million; and 9, over 2 million.

In the 40 one-station communities in 1952, no station reported a loss; in the 11 two-station communities, 1 station reported a loss; in the 8 three-station communities, 2; in the 2 four-station communities, 2; in the 2 seven-station communities, 9.

Senator POTTER. I recognize Mr. Seymour Krieger.

Mr. KRIEGER. I am counsel of the Joint Committee on Educational Television.

In the interest of saving time, I would like permission to submit a written statement and forego the opportunity of speaking orally.

Senator POTTER. I wish to thank you kindly and the committee appreciates the fact that you are saving us time on that.

Your statement will be made a part of the record.
(Prepared statement of Seymour Krieger is as follows:)

STATEMENT ON BEHALF OF JOINT COMMITTEE ON EDUCATIONAL TELEVISION

My name is Seymour Krieger. I am counsel of the Joint Committee on Educational Television and I am appearing here today on behalf of that organization. The Joint Committee on Educational Television would like to have this statement considered as a part of the record in this hearing by the Communications Subcommittee of the Senate Committee on Interstate and Foreign Commerce on the problems concerning the status and development of UHF television channels.

The main function of the Joint Committee on Educational Television is to make available information and technical assistance when desired to those communities over the country making plans to establish educational television stations. The constituent members of the joint committee are seven national educational organizations: the American Council of Education, Association for Education by Radio-Television, Association of Land-Grant Colleges and Universities, National Association of Educational Broadcasters, National Association of State Universities, National Council of Chief State School Officers, and National Education Association of the United States.

The tremendous public interest in the use of television for educational purposes found effective expression in the television hearings conducted by the Federal Communications Commission, beginning in September 1948 and ending in April 1952. In those hearings, 71 witnesses urged the Commission to reserve television channels for the exclusive use of educational institutions. A total of 838 colleges, universities, State boards of education, school systems, and public-service agencies submitted written statements in support of these reservations. Mayors, parent-teacher groups, chambers of commerce, libraries, art associations, newspapers, civic groups, municipal boards, clergymen, numerous Members of the United States Senate and House of Representatives, and other distinguished public officials testified or submitted written statements in support of these educational assignments.

After these extensive hearings, on April 14, 1952, the historic sixth report and order, issued by the Federal Communications Commission, lifted the freeze on television and adopted a table of assignments providing for nationwide television service: 2,053 assignments were made in 1,291 communities throughout the United States, its Territories and possessions. Of this total number of assignments 242, or about 12 percent, were reserved for education, each State receiving 1 or more assignments. Since the lifting of the freeze, 9 additional channels have been reserved for education, making a total of 251. If the opportunities offered by these reservations are fully realized, most of the people of the country will be within the listening and viewing range of at least one of these educational stations.

Of the channels now reserved for educational use, 83 are VHF and 168 are UHF. Since there are more than twice as many UHF channels reserved for education as there are VHF, the joint committee is vitally interested in the studies being made by your Communications Subcommittee. In 24 of the 168 communities where there are educational UHF reservations, the only television assignment is the educational UHF one. In other words, under the present assignment table, the only possibility for these communities to have local television stations is to activate these educational UHF channels. In 17 communities where there are educational UHF reservations, construction permits for educational stations have already been granted by the FCC and the stations are in varying stages of construction. Three of these 17 are already on the air and several others are expected to be in operation soon.

The UHF educational stations which have been on the air for some time are Station KTHE at Los Angeles, Calif., operating on UHF channel 28, and Station WKAR-TV, operating on UHF channel 60 at East Lansing, Mich.

Station KTHE has been on the air since November 29, 1953, and is operated by the University of Southern California, Allan Hancock Foundation. There are 7 commercial VHF stations operating in the Los Angeles area and 1 commercial UHF station, KBIC-TV, on channel 22. It is estimated that there are more than 30,000 television sets in the Greater Los Angeles area capable of receiving UHF signals. In November of last year there were approximately 5,000 such sets. This represents an increase of approximately 25,000 in a period of about 6 months. It is estimated that there are in excess of 1,600,000 VHF sets in the Greater Los Angeles area.

The second UHF educational station that has been on the air for some time is Station WKAR-TV operated by Michigan State College at East Lansing, Mich. This station has been operating since January 15, 1954, and there are in operation in that area 1 VHF station, WJIM-TV on channel 6, and 1 commercial UHF station WILS-TV on channel 54. According to a survey conducted in February of this year more than 33,000 television sets were in use in Lansing and East Lansing and more than 33 percent of these sets were capable of receiving UHF signals. The A. C. Neilson Coverage Service for CBS-TV reports that in Ingham County in which WKAR-TV is located there were as of November 1, 1953, 42,200 families with television sets and that 13,800 or 25 percent of these families had sets capable of receiving UHF programs. According to this same survey, as of the same date last November, there were 1,417,930 TV families in the State of Michigan. Only 59,120, or approximately 3 percent, had sets capable of receiving UHF programs.

In addition to the above two UHF educational stations, WHA-TV officially began broadcasting about 2 weeks ago. This station is licensed to the Wisconsin State Radio Council at Madison, Wis., and operates on UHF channel 21. There are two commercial UHF stations operating in Madison, occupying channels 27 and 33. There is only one VHF channel assigned to that city and it is now involved in a competitive hearing and no station as yet has been authorized on it. Because the only stations operating at present in Madison are UHF, practically all the sets in the city and nearby area are equipped to receive UHF signals. According to recent estimates, approximately 30,000 sets are in use. It is significant to note that in Janesville, Wis., about 30 miles from Madison, a commercial company has recently installed 300 television receivers and rotomatic tuners with channel strips to receive programs from the 3 UHF stations in Madison.

The Greater Cincinnati Educational Television Foundation has almost completed the construction of its educational station WCET on UHF channel 48 at Cincinnati, Ohio. This station is expected to commence broadcasting in the very near future. Ohio State University has begun construction of its educational television station WOSU-TV to be operated on UHF channel 34 in Columbus.

Construction permits for new UHF educational stations have been granted in 12 other communities in the United States. In addition, there are three applications for UHF educational stations pending before the FCC.

In a substantial number of the 168 communities where there are UHF channels reserved for education, local organizations have been set up and are at work making plans to file applications for educational stations. Because of the general progress that has already been made in the development of educational UHF stations, the joint committee is vitally concerned in protecting the gains already made by the educators in these communities and in helping in every way possible to solve the problems concerning the development of UHF about which your committee is concerned.

A proposal has been made that the Federal Communications Commission impose a freeze on further grants of construction permits for television stations. This would apply to both commercial and noncommercial stations in both the VHF and UHF bands. The Joint Committee on Educational Television is opposed to this proposal because in numerous communities over the country educators have made substantial progress in their plans to establish educational stations and a freeze on new grants for an indefinite period, as has been proposed, would interfere seriously with the culmination of these plans.

While the Joint Committee on Educational Television is not at this time prepared to evaluate other proposals which have been made in this hearing, because of our great interest and concern for educational UHF we stand ready to cooperate in every way possible and to supply any information we have at hand to assist this subcommittee in its efforts to solve the problems of UHF television to the end that an efficient nationwide television service will be made possible and the educational interests of the country served.

Senator POTTER. We will now hear from Mr. Robert J. Campbell, director of the Dayton Educational Foundation, Dayton, Ohio.

**STATEMENT OF ROBERT J. CAMPBELL, DIRECTOR, DAYTON
EDUCATIONAL TELEVISION FOUNDATION**

Mr. CAMPBELL. I represent the Dayton Educational Television Foundation and its executive director, Mr. Chairman and Senators of the committee.

First of all, may I say thanks for the invitation to appear before your committee. I wish, however, that this statement on behalf of the Joint Committee on Educational Television had been available before in enough time so that I might have seen what they have to say about educational television.

I have no prepared statement and, with your permission, I will speak from notes.

Senator POTTER. It is perfectly all right.

Mr. CAMPBELL. The Dayton Educational Television Foundation was incorporated as a nonprofit corporation under the laws of the State of Ohio and, quoting from the articles of incorporation, article 3:

Said corporation is formed for the purpose of (1) serving the educational needs of the area through radio television programing for the advancement of educational programing and in effecting nonprofit educational television broadcast service, and (2) acquiring and holding over said money, real estate, and other property to carry out said purposes and doing any and all things reasonable, proper, and necessary for said purpose.

The Dayton Educational Television Foundation was formed but not incorporated as of January 2 of this year. The incorporation was effective as of April 15, commencing official business as a corporation on April 15 of this year.

Quoting now from the first quarterly report as submitted by me to my board of trustees:

Although considerable work was done in behalf of the Dayton Educational Television Foundation prior to January 1, 1954, this report shall concern itself with the activities of the foundation during the first 3 months of 1954.

At a meeting prior to January 1, the proposed incorporators of the foundation met and appointed Robert J. Campbell as executive director of the foundation and assigned to him the duties of writing, producing, and supervising radio and television shows of an educational nature.

On January 2, 1954, offices (furnished by the University of Dayton) were occupied by the foundation and a meeting was arranged between the foundation and the program departments of television stations WHIO-TV, WIFE-TV, and WLW-D for the purpose of selecting time to be used by the foundation and to be furnished free by the stations as offered by them prior to this time.

Before the actual beginning of our operations we were in several meetings with representatives of the three stations at that time who offered us as much time as we felt we could conceivably use for the purpose of educational television programs.

Our purpose in doing this was (1) to prove to the public in Dayton that we were able to program educational television programs that would be acceptable by the public, and (2) to gain some experience in the production of television programs of an educational nature.

Senator POTTER. Do you plan on having your own station eventually?

Mr. CAMPBELL. We hope by proving to the public of Dayton, to raise money enough through public subscription, to be able at some future time to build our own educational station. The allocation from the educational commission assigned channel 16 for educational purposes.

I was offered the job as executive director by reason of my experience in television, that being now more than 8 years.

In spite of their willingness to cooperate with the foundation, stations WHIO-TV and WLW-D were not able to immediately arrange time for the production of educational programs because of their heavy commercial schedule. However, WIFE-TV, having just begun programing, and having a lighter commercial schedule, was able to offer to the foundation almost unlimited time for programing.

A list of programs either in format or script stage was submitted to all stations. These programs had been approved by the board of trustees, pro tem. of the foundation. From this list stations were to choose those programs which were most acceptable to them from the standpoint of ease of production, compatibility to already scheduled programs, and audience appeal. A full report of those programs aired will be found on following pages.

While there has been no paid professional staff, with the exception of Dr. Campbell, the programing during the first quarter of operation has been possible because of the wholehearted cooperation of teachers, parents, school children, university students, and staff as well as various business and professional groups.

Although the foundation produced 98 radio and television shows during the first quarter of this year; that total would have been more than 135 had not station WIFE-TV suspended operations on channel 22 on March 13. Of the 98 shows produced, the placement was as follows: 69 TV shows on WIFE-TV; 19 TV shows on WHIO-TV; 1 AM show on WONE; 0 shows on WLW-D; 9 AM and TV shows (in part) on all stations for promotion of the Urban League's Vocational Opportunity Campaign Week.

In addition to the shows produced, three new series of shows (described later) were in rehearsal for airing starting the week after WIFE-TV announced their suspension of operation and six other shows are not in the process of development. While the above breakdown of programing shows no activity on the part of WLW-D, one show has been planned and prepared for that station, to be telecast from noon to 12:30 each Sunday, starting on April 18, 1954.

Other activities of the foundation during the past 3 months include 28 speeches by Dr. Campbell to service, church, and parent-teacher groups interested in educational television; more than 15 other speeches by Mr. Clarke and Mr. Harris and others of the board of trustees and a campaign of direct and newspaper publicity by Mr. Clarke and Mr. Harris in favor of the foundation. In cooperation with the Junior League, a 12-hour workshop on educational television has been planned for the month of May and other workshops of specific nature are being planned for the summer months. To give the foundation a better understanding of the needs for educational television, a survey of the viewing habits of school-age boys and girls has been started with the cooperation of the University of Dayton.

During this first quarter of 1954, the Dayton Educational Television Foundation has acted in an ex officio capacity since the actual incorporation of the organization has not yet been accomplished. Therefore, considerable time has been spent by the foundation in trying to settle the legal technicalities of incorporation.

The reason why I welcome the opportunity to speak before this committee is because I hope those whose interests, perhaps financially, are much greater than ours will not forget that educational television has been provided for by this committee through the activities of our Federal Communications Commission.

I feel very small in being here because I have no station. That has gone out of operation. I do not object much because that has not been thrown down the drain. I feel that I have a great responsibility to the great number of people particularly in our community

numbering nearly one-half million people whose interests have been in educational television.

When station WIFE-TV went off the air we were flooded with a great number of letters and telephone calls and post cards saying that it was regretted by all these people that we had to suspend all these shows that were produced. Those letters and post cards, while I did not bring them to show you, came from representatives of such organizations as the women's clubs, the American Federation of Labor, the medical society, Community Welfare, the Red Cross, Good Will Industries, YWCA, the Dairy Council, chambers of commerce, the Dayton Bar Association, the Farm Bureau, and the list goes on and on, of civic-minded organizations and individuals who stated their regret that we had to curtail our production of educational television shows.

The other thing that has had a great deal of influence on it is the fact that we have had a UHF failure and that does not mean that we cannot continue our principles for educational television even using channel 16 in our city, but it does mean that there has been a reluctance on the part of those people who had formerly shown a great interest toward the building and support of the station to go ahead with it in the face of a commercial failure in our city. I do not mean that it is not possible to go ahead because we have in operation a plan which I think and hope will allow us to continue our operations.

I would like to say this, and speaking now as authorized by my board of trustees, we would like very much to see a third station on a commercial basis in our city as well as being able, in the future, to build our educational station, the reason being that we feel that the more stimulation there is in television, by and large, the better job we will be able to do in educational television, first of all, because it is going to be some time before we will be able to be on the air with our own educational television. The business of raising that sort of capital is a rather tedious and laborious proposition.

Senator POTTER. How much capital do you think you will need?

Mr. CAMPBELL. According to an estimated budget, we would require approximately \$250,000 to put our station on the air and maintain it for 1 year. This is a very low figure, but this is based on the operation of 20 to 25 hours of educational programming per week.

Thereafter it would cost us \$90,600 per year operational costs. These are estimated, and are based on existing educational type stations, actual figures, and I got figures from manufacturers and others who would have to supply us.

Senator POTTER. Are there any other questions of Mr. Campbell?

Thank you very much, Mr. Campbell.

We will now hear from Mr. Benedict P. Cottone of the UHF Coordinating Committee.

STATEMENT OF BENEDICT P. COTTONE, UHF COORDINATING COMMITTEE

Mr. COTTONE. I am very grateful, Mr. Chairman, for the committee's indulgence in permitting me to come in at this point. I only asked for that privilege and opportunity because of an event maybe of some importance in the consideration of the problem we have here

this afternoon, this event having occurred last night. I will get to that, if I may.

My name is Benedict P. Cottone. I am an attorney practicing law in the city of Washington, being associated with Scott Lucas in the law firm of Lucas & Thomas.

We have been engaged as counsel for the UHF Coordinating Committee and work with a group that consists of 70 UHF broadcasters in the country.

The group has grown, having initially started with a very small number of stations.

My statement is not prepared. We did have a prepared statement, but in view of a good deal of the testimony that you have heard it became unnecessary for me to say the things that I thought had to be said.

Briefly, I might tell you that the purpose of my prepared statement was to try to give this committee the benefit of the thinking as to the consequences of the monopolistic situation which we believe firmly we are headed for unless something drastic is done.

I need not repeat what Mr. Bergman said, and I think he illustrated very vividly some of the consequences.

If I may be permitted to add one further mention of the consequence that flows with respect to the right of the public to obtain the necessary information and the necessary discussion of public issues that flows out of the candidacy for public office, the committee is well aware of the provisions in section 315 of the act which intends to assure that candidates for public office have some opportunity to reach their constituents whose vote they are trying to get. With the kind of time limitation that will occur from the type of monopolistic situation that we have had and have heard so much about, we think it is a very serious danger to candidates for public office and they will have a most difficult time in obtaining at a local level the opportunity to reach their constituents and to get before them the issues of campaigns on which they are running for office.

Senator POTTER. In some cases that might be considered a public service.

Mr. COTTONE. I would not wish to suggest at this late date that the premise on which that was put into the act was erroneous.

Before I start with a discussion of what I was directed to say this morning, I would like to dispose of a very brief item. First, we had several witnesses whom we had expected to put on who have had prepared statements made and we are giving them to the committee and we are now offering the prepared statements of Mr. Elfred Beck, the owner of station KCEB, Tulsa, Okla.

The next is the prepared statement of Mr. Theodore B. Pitman, Jr., from television station WTAO, Cambridge, Mass.

The next is the statement of Mr. Gary Cohen, vice president of WBUF-TV, Buffalo, N. Y.

And if I may at this moment also, if it has not been already included in the record, with the committee's permission I should like to have included a column by Mr. Jack Gould of the New York Times discussing this problem and entitled "The Crisis in UHF." I would like to ask that the pencil marks on this item be disregarded.

Senator POTTER. Without objection, the statements of Mr. Elfred Beck, Mr. Theodore B. Pitman, Jr., and Mr. Gary Cohen, and also

the newspaper article by Mr. Jack Gould will be made a part of the record at this point.

(Prepared statements of Elfred Beck, Theodore B. Pitman, Gary Cohen, and newspaper article by Jack Gould, are as follows:)

TESTIMONY OF ELFRED BECK, STATION KCEB, TULSA, OKLA.

My name is Elfred Beck. I own and operate UHF station KCEB in Tulsa, Okla. I have invested close to a million dollars in the construction and promotion of this station. Recently there arose in Tulsa a serious threat to the survival of my station and to the interests of other Tulsa broadcasters as a result of the FCC's grant of VHF channel 8 to Tulsa Broadcasting Co., for the alleged purpose of a station in Muskogee, Okla., only 60 miles from Tulsa.

The Tulsa Broadcasting Co. is principally owned by the Griffin family, which also owns radio station KTUL in Tulsa, radio station KFPW, Fort Smith, Ark., radio station KOMA, Oklahoma City, 50 percent of KWTW, a television station in Oklahoma City, also television station KATV, Pine Bluff, Ark.

Tulsa Broadcasting Co. received a grant on April 8, 1954, after 2 other conflicting applicants withdrew their applications after the Commission held a 20-minute hearing. The so-called Muskogee station will locate its tower and transmitter only 20 miles from Tulsa and will establish their studios in Tulsa itself with "the obvious purpose" of getting an additional television service into the Tulsa market.

Four television channels have been assigned to Tulsa for commercial service—2, 6, 17, and 23. Television station KOTV, broadcasting on channel 6, has been in operation for more than 4½ years. Television station KCEB, my own station, has been granted a license on channel 23, and we have been in program operations since March 13 of this year. A construction permit for channel 17 has been granted to Mr. Arthur R. Olson, a resident of Tulsa. Two applicants for channel 2, Central Plains Enterprises, Inc., and Oil Capitol Television Corp. have been designated for comparative hearings.

Tulsa Broadcasting Co. owner of radio station KTUL in Tulsa, did not attempt to file application on any of the channels legitimately allocated to broadcast in the Tulsa market. The express reason for their failure to apply for a proper Tulsa channel was that even after a long and expensive hearing, they could not be sure of obtaining such a grant. Further, Tulsa Broadcasting Co. felt that it would be a much simpler matter to overcome competitive applicants in Muskogee, and then to locate their transmitter for channel 8 only 20 miles from Tulsa and be able to cover the Tulsa market, instead of utilizing their Muskogee channel for the benefit and interest of the people of the area in which the channel was designated.

It should be pointed out that if the proposals of Tulsa Broadcasting Co. are approved, and its plans are put into effect, such a development will have certain results.

First, the proposal would subject the rightful and legitimate holders of television franchises to unfair, inequitable, and unwarranted competition from an organization presumably authorized to provide television service for an entirely separate and distinct community; and, second, a transmitter located in accordance with Tulsa Broadcasting Co.'s proposal, in order to encroach upon the Tulsa market, is situated in a position where service to its proper service area is diminished. It is demonstrable that, from the standpoint of most efficient coverage of the population of the Muskogee area, more desirable transmitter locations, with higher natural elevations and more strategic positions, are available to the east and northeast of the city. A transmitter in such a location would not only allow complete coverage of channel 8's proper service area, but would provide service to the people in areas of eastern Oklahoma and western Arkansas to whom the benefits of television broadcasting would not otherwise be available.

I should also like to raise a further point, that of "dupoly" television stations, which supply appreciable service to overlapping areas.

Tulsa Broadcasting Co. proposes to erect a 1,000-foot tower for the transmission of channel 8 signals at a distance of only 20 miles from Tulsa. Broadcasting with 316 kilowatts of effective radiated power from an overall elevation in excess of 1,900 feet above sea level, the management claims, and I believe with justification, that the station will be able "to blanket an area 75 to 100 miles from the transmitter." The common owners of KWTW in Oklahoma City and Tulsa Broadcasting Co. also propose to broadcast over channel 9 in

Oklahoma City with 316 kilowatts of effective radiated power from an antenna 1,575 feet in height, thus, in effect, to furnish receivable television service throughout the major portion of Oklahoma. Assuming that the effective radius of the Oklahoma City installation will be at least that of the proposed Muskogee outlet, and recognizing that the airline distance between the 2 installations is approximately 100 airline miles, the area in which transmission services will overlap is appreciable, and the population of this overlapping area will be provided with 2 television services under common policy and operating control of a single organization.

As a further consideration, television stations, even under fair competitive conditions, must rely upon network affiliations and network programing to establish economic stability and security.

Two VHF and 2 UHF channels have been assigned to Tulsa, and franchises on all 4 of these channels will eventually be assigned and operated upon. Approval of the plan of Tulsa Broadcasting Co. to locate its station in a position deliberately selected so that channel 8 may be practically considered to be a competitive service in the Tulsa market is prejudicial to the interests of the legitimate license holders in Tulsa, who are then placed in jeopardy with respect to establishing affiliation agreements with 1 of only 4 available network program sources. The jeopardy is especially marked in the case of the two existing UHF franchise holders on channels 17 and 23, inasmuch as the operators under these grants are already saddled with serious competitive problems attendant upon the inequality between current UHF circulation and established VHF circulation in the Tulsa market. The reality of this threat has been proved in our own case, in which negotiations with American Broadcasting Co. have been broken off by the network, and they have announced intentions of waiting for the completion of the station of Tulsa Broadcasting Co.

The continuation of UHF circulation increase is vitally dependent upon the availability of network programs which will induce the potential audience of the Tulsa region to acquire receivers which will make additional network programing available. It is undeniable that the establishment of a third VHF station, deliberately and admittedly located to blanket the Tulsa market area, as proposed by Tulsa Broadcasting Co., would offer strong inducement to at least one network affiliate with this outlet with its broad VHF coverage, to the exclusion of legitimate Tulsa UHF outlets which now are, or may become, available in Tulsa and which for a time will have a less extensive audience potential.

The Federal Communications Commission has frequently expressed its deep interest in the welfare and expansion of UHF television services as the only means of providing a broad, universal television service in the interest of the greatest percentage of the population of the United States. An economic threat, such as that implicit in the plan of Tulsa Broadcasting Co., as disclosed above, is grossly inimical to that interest and, if executed, may well spell the economic death of valuable and useful UHF television service to which the people of Tulsa and the Tulsa region are entitled.

Tulsa Broadcasting Co. did not wait long after it received a grant for a Muskogee station to move into Tulsa with a heavy promotional campaign. This campaign consisted of newspaper advertisements and announcements, billboard posters, repeated announcements on their radio station in Tulsa, and many other publicity stunts having the effect of keeping the public from converting their sets or buying sets which could receive UHF.

When two UHF stations in Oklahoma City were struggling for their economic life and attempting to stimulate the conversion of television receivers to make new program resources available, the common owners of KWTU and Tulsa Broadcasting Co. began a campaign to deter and to discourage conversion in that city. As is obvious, the entire intent of widely published advertisements was to discourage and to stop the expansion of broad and diversified program service in the interest of the population of the region whose best interests they were obligated and professed to serve.

That this threat is a dangerous reality and not merely an hysterical cry of "wolf" is fully borne out by the UHF experience story in Little Rock, Ark. The circumstances are the same—the principals in interest are the same—the tactics are the same—and the results will be the same if KTUL's proposals with respect to channel 8 in Muskogee are allowed to develop. The Little Rock story is as follows:

KRTV, broadcasting on channel 17, went on the air in April 1953 with a transmitter located in Little Rock best to serve the people of the area.

KRTV commenced operations under affiliation agreements with CBS, NBC, and Du Mont.

KATV under a grant on channel 7 in Pine Bluff, Ark., commenced operations under affiliation agreements with CBS, ABC, and NBC in December 1953.

The principal owners of KATV, Pine Bluff, are the same as those of KTUL, Tulsa, of KWTU, Oklahoma City, and of Tulsa Broadcasting Co., applicants for channel 8 in Muskogee.

The KATV, Pine Bluff, transmitter is equidistant from Pine Bluff and Little Rock, which are 40 miles apart—a direct parallel of the Tulsa Broadcasting Co.'s proposal for channel 8 in Muskogee.

As an outgrowth of stringent competition by the encroaching signal of KATV in the greater Little Rock area resulting from the placement of the transmitter to effect such unfair competition, KRTV has been sold out to KATV—Griffin interests. The KRTV permit on channel 17 in Little Rock was vacated and the people of the area deprived of a service to which they are entitled.

Because of the Greater Little Rock coverage, from KATV in Pine Bluff, CBS considered dropping its KRTV affiliation in Little Rock.

KATV has moved into the studios and offices of KRTV in Little Rock while maintaining ostensible main offices at the KATV plant in Pine Bluff.

I beg the serious consideration of this subcommittee of the expressed intent of the would-be stewards of a public trust for a television channel assigned to Muskogee. I request serious appraisal of the legitimacy of the Tulsa Broadcasting Co.'s clear proposal to utilize a rightful Muskogee channel allocation, primarily, to encroach upon and to compete inequitably and unjustifiably in the market properly assigned to rightful Tulsa television franchise holders and applicants.

STATEMENT OF THEODORE B. PITMAN, JR., WTOA-TV

My name is Theodore B. Pitman, Jr., of Cambridge, Mass. I have been in the television and advertising business since 1948. I have been, first, a client; as assistant advertising manager of the First National Bank of Boston, I was producer of the bank's radio and television shows, and put on their first television show in June of 1948. Following that, I was sales manager for a motion-picture studio making films for television; after that, I was radio and television director for one of New England's largest advertising agencies, John C. Dowd & Co., where I produced as many as 13 live shows a week on New England television stations. In my capacity at that time I also performed the duty of buying radio and television time for the clients of the agency. Following that, I became vice president of the Julian Gross organization of Hartford, Conn., operators of WKNB-TV in New Britain and owners of the Julian Gross Advertising Agency. In the latter job, I acted as radio and television director for the agency and program director for the television station. Following that, I became program director of WTOA-TV and of late have served as station manager. In short, my experience gives me a background in the television industry as a client, time buyer, program director and station manager.

I am here today to tell you of the present television situation in Boston and some of the current problems of station WTOA-TV. WTOA-TV is a UHF station operating in an intermixed market. Two VHF stations are in operation in the Boston market and have been since 1948. Our station went on the air commercially in September 1953. By lack of network programming, WTOA-TV is currently forced to cut back to operating only 3½ hours per day, 7 days per week; out of that total number of hours we have an hour and 30 minutes of network time from the Du Mont network, and 15 minutes of network time from the ABC network. In other words, out of a total of 24.5 hours per week of operation, total network time consists of 1 hour and 45 minutes. Of the hour and 30 minutes of Du Mont time, 1 hour is a cooperative program, which means that we were allowed to sell it to a local sponsor, and one-half hour is a network-sponsored program. The 15 minutes of ABC time is network sponsored.

We have been offered more network programs by both networks in the form of unsponsored sustaining programs, provided we paid the audio line charges into Boston in the case of Du Mont, and provided we paid the audio and video line charges into Boston and the program costs in the case of ABC. However, of the total network programs coming into Boston from all 4 networks, I estimate that the 2 operating VHF stations, WBZ-TV and WNAC-TV, get 100 percent of

NBC and CBS time, 90 percent of Du Mont time, and 75 percent of ABC time. Therefore, it can be seen that even though Du Mont and ABC networks have offered WTAO-TV more program time provided that the station pay the line charges plus other costs, the programs being offered are from the "bottom of the barrel"—programs that the two VHF cannot carry, or do not choose to carry. The reason for this situation can be seen from our Du Mont affiliation contract, which I would like to introduce here as exhibit A. I should like to quote some of the wording of that contract at this point. Paragraph 4, on page 2, is entitled "First Refusal," and reads as follows:

"The station shall have the right of first refusal, subject to the prior right of the VHF stations in the Boston area, as long as that right shall continue, good for 72 hours, as against all other television broadcast stations in the city to which station is allocated, upon all sustaining and cooperative programs offered by the network after the effective date of this agreement for delivery to said city. If the station does not accept any such program within 72 hours, the network shall then have the right to offer such program to any other television broadcast station."

I should like to call the attention of the committee to the words, "subject to the prior right of the VHF stations in the Boston area, as long as that right shall continue." The original printed contract does not contain these words, and this qualification was typewritten into the contract at the time of its execution. Technically, this contract allows WTAO-TV to claim tertiary affiliation with the Du Mont network. With respect to ABC network, WTAO-TV does not even enjoy such a limited and qualified contract, although repeated efforts have been made to get even this much from that network.

The best we have been able to do with ABC is a letter dated October 23, 1953, signed by Ned Hullinger, ABC's regional manager, station relations. I offer a copy of this letter as exhibit B. Briefly, the letter contains the terms upon which ABC will deliver programs to WTAO-TV. In digest, the terms specify hourly rates and costs. The wording in point 2 contains the phrase, "when and if the various co-op programs are offered to you." With the passage of time, those three words, "when and if," seem to have become the most important qualification, because even after months of attempted contact, WTAO-TV still does not know if ABC will offer the station any programs, or when.

So the situation in Boston, as it concerns television, lines up in the following fashion. Four networks come into Boston, and there are three television stations. NBC and CBS have primary and basic affiliation contracts with the two existing VHF stations; WBZ-TV is the basic NBC outlet, and WNAC-TV is the basic CBS outlet. However, with ABC and Du Mont Networks have primary affiliations with these two VHF stations. Therefore, these latter two networks have to offer these VHF stations first choice on all programs for at least 72 hours. Simple arithmetic shows that these VHF stations which already enjoy a choice of all NBC and/or CBS programs dependent upon their individual basic affiliations with those networks get a total of 144 hours, or 6 full days, between them to choose from all ABC and Du Mont programs before these programs can be offered to WTAO-TV. The 144-hour rule applies to Du Mont only, of course, because of our affiliation contract. ABC is not bound by even this rule. I need not say that the pickings that remain after this process takes place add very little incentive for WTAO-TV to pay for high audio and video line charges into Boston, plus other costs, to get the programs that are left.

Please allow me to give you a few examples of what is taking place. It was repeatedly brought to my attention by one of my contacts in the industry that one of the networks was in the process of negotiating to place a network show in Boston. This process has been going on for weeks, and still the show has not been offered to the VHF stations on the 72-hour forfeiture basis. The fact that our station is available to the Boston Market does not seem to matter. If the negotiating network held to the 72-hour rule which is common to contracts, our station would at least have had a crack at that show by this time. However, I am not even allowed to find out about such available, or possibly available, shows on an above-the-board basis. I cannot even get a chance to approach the client about offering him live time on our station.

Another case example is a program that offers a news broadcast. I learned that the VHF stations could not carry this news broadcast on a live time basis, i. e., carry the program at the time it is originally telecast from its source. I approached the ABC network and offered to carry the program live. I was turned down. I asked Mr. Malcolm Lang, ABC station relations director for New England, if I might approach the client and offer live time to him. Mr. Lang

told me, and I quote, "I do not want you to go to the agency. However, I can't prevent it. But if you do, and if the client questions me, I will recommend that they stay where they are on a delayed broadcast basis." Hence, a news program that might be coming into Boston live, and up-to-date, is still being telecast 2 days later on a delayed broadcast basis. I leave it to you gentlemen to decide if delayed broadcast of news is in the public interest; in my opinion, such delayed broadcast is not in the public interest.

I tried to get the John Daly show. I was bluntly told that the advertising agency handling that show is not buying UHF stations in intermixed markets. In short, WTOA-TV is sitting with its antenna perched over more than 1 million television sets in Boston and cannot provide these set owners with additional service and program selectivity because there has not been enough program incentive to get these sets converted to receive UHF reception. The two Boston VHF stations have enjoyed special privileges for a number of years, and they still continue to enjoy these special privileges even though WTOA-TV has been operating for approximately 7½ months. In addition to special privileges for VHF in Boston, the average television viewer has been restricted from selecting program choice from a third television station.

We cannot get an affiliation out of ABC. The reason for this is that ABC has a primary affiliation with the CBS basic affiliate station, WNAC-TV, in Boston. In my opinion, from my experience and from actual conversations with ABC executives, ABC wishes to keep this affiliation strong because when and if pending VHF channel 5 is granted in Boston, they feel that channel 5 will become the CBS basic station in Boston and that, therefore, they do not want to do anything to upset, or in any way jeopardize, their relationship with channel 7, WNAC-TV.

Well, what can be done about such a situation? You might ask, is more network regulation needed? I have had the feeling from the beginning that the system adopted for channel allocations was extremely faulty. After several years of observation, and actual working experience, I now believe that there is no doubt about the unworkability of the present allocations. Intermixture is seriously breaking down throughout the country. In my opinion, under the present allocation plan, more network regulation is needed to help UHF survive, particularly in intermixed markets; however, such regulation will not cure the basic and fundamental problem of equal economic natural facilities and opportunity. I believe the real cure will be a more realistic reallocation that will eliminate intermixture; such a reallocation eliminating intermixture might make the need for further network regulation unnecessary, or, in any event, hold further network regulation to a minimum.

In my opinion, an immediate suspension of grants should be instituted before any more serious and irreparable damage is done to the chance of having a truly nationwide competitive television system. I believe that the further licensing of VHF and UHF stations at this time is doing considerable harm to the possible chance of developing such a truly competitive nationwide television system. Once a suspension is called, the next step is an immediate and expedited study of reallocation of all existing VHF and UHF channels in order to eliminate intermixture. I feel that eliminating intermixture is the only correct solution to the problem facing this entire industry.

Under such a reallocation, you would then have all VHF stations competing on an equal economic basis with equal natural facilities and you would have all UHF stations also competing on a similar economic basis. Also, such a plan would give the average television viewer the greatest selectivity of programs by maximizing network affiliations, as well as promoting local programming. I further believe that by this reallocation you would stimulate the building of more UHF stations and you would immediately stop the turning in of construction permits at the rate they are now being turned in. Therefore, you would encourage new businesses in many, many communities and, in that way, you would be helping the employment situation throughout the country, as well as establishing a truly nationwide competitive television system.

STATEMENT OF GARY COHEN, VICE PRESIDENT OF WBUF-TV

My name is Gary Cohen. I am vice president of WBUF-TV, a UHF television station in Buffalo, N. Y.

I am here to give the subcommittee the history of WBUF-TV to show the problems which its management encountered when it accepted the public trust

placed upon it as the holder of a television channel allocated to Buffalo to provide that community with the best program service possible.

The organization which became WBUF-TV was first formed in June 1952. Its members were some 20 public-spirited businessmen, all from the Buffalo-Niagara Falls area. At that time we had only one television service in our area. As the Buffalo-Niagara Falls area constitutes the 14th largest retail market in the United States, and includes within its limits a population of over a million and a quarter people, the Federal Communications Commission awarded it 3 VHF channels and 2 UHF channels—for commercial purposes—and 1 UHF for educational purposes.

On August 8, 1952, the WBUF-TV group filed an application for a UHF channel, channel 17. At that time one VHF station was on the air and competing applications were on file for both the VHF channels. The other UHF channel—channel 59—was vacant but subsequently another group applied for and was granted that channel.

When WBUF made its application it had two choices before it. One, it could join the competition for one of the two VHF channels or two, it could file for a UHF channel. Under the rules governing the processing of applications that were in effect at that time, there appeared to be no likelihood that any VHF channel could be granted in less than 3 years. The prospects for immediate grant in UHF looked good. WBUF-TV realized that many economic obstacles lay in the path of successful operation of a UHF television station. However, with the objective of bringing an additional television service to Buffalo at the earliest possible date and with the hope that a 3-year headstart sufficient UHF receiver circulation could be built up to make the enterprise worthwhile.

On September 10, 1952—approximately 1 month after WBUF filed for its UHF channel—it placed an order for UHF transmitting equipment contingent only upon receipt of a construction permit. The Commission granted the application in December 1952. An immediate order for the delivery of the equipment was placed with the manufacturer. Delivery was promised in March of 1953 but it was August 15, 1953, before a transmitter was delivered. And I am sorry to say that the transmitter that was delivered was a 1 kilowatt transmitter whereas we had ordered and expected a 5 kilowatt transmitter.

It will be recalled that the Commission granted WBUF its television construction permit in December 1952. Beginning in January 1953 WBUF inaugurated a strenuous campaign to promote the conversion of existing VHF only sets and the sale of all-channel receivers. From early January 1953 to the middle of August 1953, when WBUF went on the air, numerous meetings were held with local distributors and servicemen. WBUF ran—and is running—daily ads in the local newspapers to acquaint the public with the programing of WBUF and the need for conversion. WBUF representatives constantly visited appliance dealers in order to assist them in merchandising UHF sets. No effort was spared nor is now being spared.

We did not make the mistake that is ascribed to other permittees of trying to get on the air too soon and with inadequate preparation. The day we took the air—I am proud to say—the quality of our picture was as good as that of the VHF station and the quality has remained good to this day. Moreover, the quality of our programing the day we started operation was as good as that of the VHF station and has so remained to this very day.

The public responded beautifully to our efforts. From August 17, the day we started on the air, until the middle of December 1953, conversions proceeded at a most satisfactory pace. By the first of October approximately 14 percent of all sets in the Buffalo-Niagara Falls area were able to receive WBUF-TV signals. The percentage of conversion continued to increase so that by the end of December 1953 almost 27 percent of all receivers were able to receive UHF programs.

Even more encouraging than the conversion picture was the fact that from August until December it was not possible, as a practical matter, for dealers to sell new television receivers unless they were equipped with UHF. UHF-equipped receivers were more expensive than VHF receivers but the public would not buy a receiver that did not enable them to receive the quality programs that they could get only by tuning in to WBUF-TV.

The picture changed abruptly in the middle of December 1953. What happened was that on December 8, 1953, a merger was effectuated on channel 2. Although it was several months later before a final grant was made in that case the newspaper publicity beginning on December 8, made it clear to everybody in

the Buffalo-Niagara Falls area that a second VHF station was imminent. The results were immediate. The other UHF station, which had been operating in Buffalo, closed its doors. The public stopped converting their sets with the result that whereas up to December 8 conversion had been proceeding at approximately 5 percent per month, it dropped to approximately 1 percent per month. Moreover, for the first time, dealers began to sell new sets which were VHF only.

The reason for the change was obvious. So long as there was only 1 VHF in the market, WBUF-TV was able to carry the programs of at least 2 networks. However, with the advent of a second VHF station, it became clear to the public that they would henceforth be able to receive the programs of all 4 networks from the 2 VHF stations. The incentive which formerly existed for spending additional money for UHF equipment thus disappeared.

I do not want you to infer from what I have said so far that we have lost faith in UHF. We definitely have not. It is our experience that when we have good programing available to us that the public cannot receive from any VHF station, they will pay the extra money needed to buy UHF-equipped receivers and once they buy those receivers, we can take care of ourselves. A very vivid illustration of the effect of good programing is presented by the experience which we have had in the past several weeks in televising the Army-McCarthy hearings. Since we are the only station in Buffalo that televised them live in their entirety, our share of the audience has increased and an increase in conversion has again become apparent. This shows that if we are able to get good programing, we are able to take care of ourselves.

To show our faith in UHF and in the efforts of this committee to do something about UHF, and in order to keep faith with the thousands of people in the Buffalo-Niagara Falls area who have converted, are converting and will convert, WBUF-TV has made arrangements to install a new transmitter which will increase our power from something less than 20,000 watts to more than 200,000 watts. This requires a purchase of a 12-kilowatt transmitter, whose market price is more than \$150,000. Final arrangements have been made for the acquisition of this transmitter and we have every confidence that it will be on the air as of June 15 of this year.

You can realize from what I have said so far that the key to success for UHF stations, or any television station as far as that is concerned, is the availability of good programing. Speaking generally, good programing is available on a consistent basis at the present time from only two networks, NBC and CBS. In my opinion the principal reason for this is that the other two networks have been unable to secure clearances on enough stations that have good circulation to be able to attract sponsors. That is why it is so important for this committee to do something about saving UHF. As the Commission has told you, there are not enough VHF outlets to assure a nationwide competitive service. UHF must be relied on for this purpose and if UHF is placed on a sound economic basis it will be possible to have 4 strong networks rather than 2. And our experience has shown that if we are able to receive good programs, we are able to compete effectively.

The fate of WBUF-TV is important not only for commercial purposes but also for educational purposes, because upon the survival and the success of WBUF-TV rests the fate of WTVF—the educational television station in Buffalo. This is true not only in Buffalo but in many cities throughout the country where the educational stations must rely upon UHF channels. In order to encourage educational television in Buffalo, WBUF-TV is offering the use of its facilities to the board of regents in an effort to train their personnel in the technical aspects of broadcasting and to enable them to acquire experience on the programing end. Our efforts and the board of regents' efforts, however, will be in vain if commercial UHF stations are forced to go off the air and the public stops buying UHF receivers.

The solution to the problem lies in an immediate freeze of all new VHF grants. Only a freeze can buy the time necessary to work out the complicated problems reasonably and intelligently. Only a freeze can save television now. If a freeze is not imposed, any solution that is worked out is bound to be academic. The accelerated rate at which UHF stations are closing the doors shows that a remedy must be found within days, not months.

[From the New York Times, April 18, 1954]

THE CRISIS IN UHF—DIFFICULTIES AFFECTING TV OPERATION IN NEW BAND ARE MANY AND VARIED

(By Jack Gould)

A growing crisis is affecting television across the country and it can be summed up in one phrase: Ultrahigh frequency." In jeopardy are many of the high hopes held for the nationwide development of television, both as a commercial service bringing diversified entertainment to the homes of millions and as a new educational force.

The situation already has assumed sufficiently serious proportions that a sub-committee of the Senate Interstate Commerce Committee plans to make informal inquiry to see what can be done. That something must be done is obvious.

The UHF problem has both technical and economic aspects.

The original channels for TV—No. 2 through No. 13—fall within the very high frequency band. This is known as VHF video.

To provide space for more stations, the Federal Communications Commission opened a new band called the ultrahigh frequency band. This is known as UHF television and covers channels 14 through 83.

Virtually all of the 28 million television receivers now in use were designed to receive only the VHF channels. If those receivers are to pick up UHF channels, set owners must spend additional money. First, a UHF converter must be purchased, and this may cost anywhere from \$15 to \$50. Second, in most instances the set owner must install an additional antenna with a new lead-in. Such a supplementary antenna can be extremely critical in adjustment, which means the service charge can be substantial.

The necessity for the public to go to added expense and trouble to receive UHF is the heart of the crisis. It has become painfully apparent that where VHF already exists, set owners cannot be easily persuaded to show interest in buying a supplementary service.

What this has meant is that, while the expansion of America's television is tied to the UHF channels, UHF television is in a tough fight for mere survival. A number of applicants for UHF stations have given up. Some present UHF broadcasters view the future with great apprehension.

OVERALL PICTURE

This is not to say that UHF by any means is a failure everywhere; in some few localities it is doing well. But the overall picture is grave. The UHF broadcaster is in real danger of sharing the economic and technical peril of the frequency modulation radio broadcaster. He is the orphan of TV and must have help urgently and quickly.

If he is operating in a community which already has VHF service, he must build up an audience by persuading tens of thousands of persons to install converters. Yet without an audience, or with a much smaller audience than a rival broadcaster, he finds it hard to obtain sponsorship of programs that set owners will feel warrant the investment in conversion.

But the UHF broadcaster also has a further handicap. The VHF station usually can cover well a much larger area than the UHF outlet.

So, even if a UHF broadcaster has the field to himself, he still has worries. In many cities he must be prepared for later competition from either a new VHF station in his own town or from an increasingly powerful VHF station some miles away.

In this connection it is significant to see where there is provision for both VHF-UHF stations in the same community.

According to the Joint Committee on Educational Television, all 8 cities with a population in excess of 2 million persons fall into this category. So do 30 out of 35 cities with a population ranging from 450,000 to 2 million. So do 48 out of the 72 cities with a population ranging from 150,000 to 400,000. There are few areas, in short, where the UHF problem is not very real, either for the moment or for the future.

The stakes are high. Anything close to a collapse of UHF would lessen competition among networks, which need adequate outlets to attract sponsors, and could have a direct bearing on the quantity and quality of programs seen by everybody. If there is to be educational television in many areas, its future depends on UHF. Without UHF the independent local commercial station, so essential as a complement to network shows, simply would not exist in many cities.

COURSE OF ACTION

What can be done or should be done? Present speculation includes these points:

(1) The set manufacturing industry must face up to the realities of the UHF emergency. Many receiver makers are including the UHF band, but others are either leaving it out or making it optional at extra cost, to gain a competitive retail edge. Even under the best of circumstances it would take years to build up a UHF audience through the sale of new receivers. The manufacturers played a major role in sponsoring programs on VHF stations to build an audience. Should they not do the same with UHF?

(2) The FCC may have to reconsider its allocation tables. Did it not make a fundamental mistake in making many communities a mixture of VHF and UHF? Would not the sounder course be to make a community either one thing or the other to equalize the competitive factors?

(3) A major bombshell, certain to stir up great controversy, is in the offing. This is a proposal that the frequency modulation radio band should be recaptured for television use. The FM radio stations actually fall between channels 6 and 7 on a television set and their removal would permit room for 3 more VHF video channels, which at least would ease the situation.

The argument against FM is that this radio service has not been a success and attracts at most a relatively small minority audience. The majority of FM stations, it is noted, merely duplicate standard radio programs. The articulate few who want FM's better technical quality should pay the price of conversion, it is argued, rather than the millions who want TV. The FM radio broadcasters might as well prepare for battle; the struggle seems bound to come.

(4) Many UHF stations feel they should have a chance to try at least the idea of subscription video. If they could boast of showing brand new movies not otherwise available, they believe they might be able to compete realistically with VHF. If a converter and a gadget to collect or record fees for looking at a pay-as-you-go program were combined in one installation, perhaps the public would be more attracted to UHF. And might not subscription TV be one way to finance educational television?

As is readily apparent, there is no pat remedy for the UHF situation. What needs to be done now is first to recognize the situation, bring it out in the open and then see if fresh and imaginative thinking might not suggest some cures. Senator Charles E. Potter, Republican of Michigan, is scheduled to head the UHF inquiry in the Senate. He can perform a major public service by thoroughly and promptly setting forth all the facts.

Mr. CORRONE. Last night, Mr. Chairman and members of the subcommittee, a group of some 40 to 50 UHF broadcasters met at the Statler Hotel in order to seek to arrive at some definitive regulation that we felt should be made and pressed before this subcommittee as the immediate solution or at least the temporary immediate solution to the problem with which UHF broadcasting is confronted today.

At that time we had a meeting that consisted of the members of the UHF Television Broadcasters Association from whom you have heard, and of our own committee, the UHF Industry Coordinating Committee. It was unanimously determined that we should present respectfully to this subcommittee resolutions which I might state in general terms have not been written down in any specific form but which are as follows:

It was decided that the Commission in light of many things that have happened, particularly the desire of Members of Congress to obtain expedited service in many communities in the United States, that the Commission is now to be considered under a moral if not a legal obligation to expedite the grants of television facilities throughout the country.

It was felt that in fairness to the Commission there should be a complete understanding at this moment that a continuance of that directive might be very, very dangerous to the continued existence of a competitive television system.

Therefore, it was determined and we hope that this recommendation will not be considered presumptuous and we hope that it is considered in the light of the very strong feeling of all these people that they are in a desperate plight and that national television is in a desperate plight.

It was therefore decided unanimously that a request be made to the Federal Communications Commission that the Commission immediately, and when I say immediately—everyone meant immediately—suspend the grant of all applications for initial construction permits or for modifications of construction permits. They could do that by placing, as they have done in the past in the pending files or pending applications for such facilities, that the commission also suspend that and all grants made in the 30 days preceding the action which is here to be taken, namely of suspension of all grants.

And that the Commission suspend also all requests for so-called special temporary operation with respect to facilities that have already been authorized under construction permits. That would not preclude the last—that suggestion would not preclude anyone who has a construction permit to proceed to construction pursuant to the provisions of that construction permit, with the exception of those which have been granted within the last 30 days to proceed to construct their facilities under the permit originally granted, but would merely prevent them from obtaining an authorization which permits them to engage in an interim operation with some what lesser facilities than are normally provided in the construction permit.

The word that was used was hiatus. By any other name it is still a freeze.

We think that the period of time for which that equipment hiatus or freeze should be in effect should be the period of time that this committee may require in order to consider the evidence that it has before it and in order to complete these proceedings.

We would leave that period of time to the absolute judgment of this committee. We would be presumptuous to suggest any particular period of time.

We have said and you have heard from many witnesses that the only solution to this problem is immediate steps looking toward eliminating this competitive inequality between the UHF stations and the VHF stations, and we have said and taken the position rather firmly that the correct approach is the institution by the Commission of such necessary proceedings as might eliminate that differential.

In plain words, gentlemen, we have come to the conclusion that the goal toward which such a reallocation should look is a complete transition from VHF to UHF.

That may sound like a drastic proposal, but we would like to say that we do not believe we are suggesting anything more drastic than the suggestion upon which all television broadcasting itself was instituted in this country.

The committee heard the words from Mr. Weber who pointed out to the committee that the very first time that the Commission made a reallocation of the radio spectrum after the war, the Commission, in allocating 13 VHF channels to television, stated that it is not possible for a nationwide competitive system to be constructed upon the 13 VHF channels, which are now 12, that had been provided. The Commission specifically stated that television

must find its home eventually in the upper portion of the spectrum known as UHF. The Commission again said it when it was forced, by virtue of the pressing demands of the other services, to delete channel 1. The Commission again raised that point and repeated its prediction or expression that television broadcasting must find its lodging in the upper portions of the radio spectrum. That was in 1947, I believe, which was just before the Commission instituted the proceedings which led to what we have come to know as the freeze order.

We have heard a great deal about the drastic consequences of such a proposal in terms of the impact on the public. If we analyze this for just a moment and if we may accept as doctrine the Commission's own statements that have prefaced every important move in respect to television broadcasting over the years, we see that all we are doing is in effect carrying out the expectation of the Commission itself with respect to television broadcasting. If that expectation was that all television broadcasting and all television reception should be such that UHF can be received by the public, we are doing no more for the public than the Commission expressed initially. What is the difference? What are the crossroads?

The simple question is, have we arrived at that crossroads today? If we have not arrived at that crossroads today we will never get to the Commission's ultimate expectation of what the television situation should be in this country. We think the committee has heard enough to indicate what the crossroads is so that at least we may start on a course which looks toward the realization of this initial expectation.

Senator PORRER. What do you think of the suggestion made by Mr. Poller that you conduct simulcast during the transmission period until they could finally move into the UHF?

Mr. CORTONE. I was going to get to that.

We discussed last night that there is unquestionably going to be the necessity for a transition period here and, as Mr. Poller stated, it will become necessary in that period of transition to provide for simultaneous operation for some period of VHF and UHF stations. There would be this common ownership for some period of time which should be geared and related to some reasonable period of amortization of existing VHF facilities that pertain where there would be two services from a single operator. In and of itself, the provision of duplicating of programing by the same operator cannot be successful.

In FM there was the provision for duplication of programing. The Commission thought at one time it would be in the public interest to require separate programing for FM to develop as it felt it should develop. Duplication became the order of the day and we have never had any separate programing in the FM field, any of it that has been of any assistance to the development of FM. But it being plain that network broadcasting is the only means whereby there can be an inducement to the public conversion, it is our suggestion and I may say that we have appointed a committee that is a representative group of the two organizations from which you have heard testimony, to work out the outlines, the details of a plan which is designed to accomplish this transitional period by a method which provides for distribution of network programing between the commonly VHF and UHF owned stations in the same community.

Their plan contemplates a method whereby a certain number of hours of network programing will be distributed as between the VHF and the UHF station commonly owned during this transitional period, with the goal of eventually and moving gradually into the situation where that programing by the end of the period when the transitional period has been completed, all of that programing will be conducted on the UHF station. I do not wish to imply that we have worked out, in any definite form, that suggestion. We have basic outlines. We feel that it is quite important to give any plan very deliberate thought and we hope that we may be able to come back to you before these proceedings are over and if we will be given that opportunity to do it we will welcome it to come back to you with the details of that plan in a manner which may be considered feasible and in any event it would seem quite proper should be provided for the consideration of every possible feasible method of accomplishing what I believe we all agree is the ultimate goal toward which television broadcasting must go.

Senator JOHNSON. Mr. Chairman, may I ask a question?

Senator POTTER. Yes.

Senator JOHNSON. Do I understand you to say that each licensee for a VHF station would be given a UHF station and he would either be permitted or compelled to broadcast on both UHF and VHF until such time as the Commission was ready to remove the VHF broadcast? Is that the way it would work?

Mr. COTTONE. That is generally the plan. In other words, that period of time would be geared to two things: First, the period of normal amortization of the VHF facilities; and, second, relating that period to the normal period of replacement of the television sets, and we have had some testimony yesterday and the day before on that normal period, what it would normally be. It would be 4 years or thereabouts, I believe, and there are some statistics that can be provided on that.

Senator JOHNSON. Would the 4-year dual operation work quite a hardship on the station if they had to broadcast in both UHF and VHF?

Mr. COTTONE. Perhaps I should have answered your question by saying that there will be no compulsion to continue to broadcast on VHF. That choice would be left to the broadcaster.

Senator JOHNSON. But that would be allocated?

Mr. COTTONE. Yes, in other words, they would be given the opportunity to have a UHF channel which could be utilized for simultaneous broadcasts during a period of time which might be considered the transitional period.

Senator JOHNSON. And their use of the UHF channel would be their own choice, at their own peril.

Mr. COTTONE. The UHF channel?

Senator JOHNSON. At the end of 4 years the VHF would have to be given up and if they haven't trained the audience to listen to the UHF, it would be their hard luck.

Mr. COTTONE. You say give up the UHF?

Senator JOHNSON. I mean the use or the lack of the use of it.

Mr. COTTONE. Yes, that is exactly right, sir.

One of the other proposals we thought we should lay before the committee is that we are now at the opening of an era of color television. If we are right in proposing eventually going to UHF, and

since we are in a period where there is going to be the commencement of substantial investment in color television, we believe and believe firmly that color television if it is started during this period of transition should be permitted only on UHF.

Senator POTTER. Does that conclude your statment, Mr. Cottone?

Mr. COTTONE. No, sir, I am exceeding the time but I have been addressing myself to certain points and I haven't completed the additional proposals that this group would like to be considered as supporting, if I may.

Senator POTTER. All right.

Mr. COTTONE. Before I am through I am afraid I am going to get Senator Johnson mad at me. Let me take Senator Johnson's bill first.

Senator JOHNSON. That bill was put in for hearing purposes and to bring the question out so that it might be discusseed, and I am very grateful to Senator Potter, the chairman of this subcommittee, for holding hearings on it. I am not taking my own bill seriously.

Miss HENNOCK. Which Johnson bill?

Mr. COTTONE. There are two bills. We support one of the bills.

Senator JOHNSON. The one that you do not support, I am not taking seriously.

Mr. COTTONE. Let me say that the one that we do support is the one that provides for the removal of the excise tax on all-channel receivers. We believe that that might be a very strong incentive to manufacturers and distributors to get out to the public receivers that are capable of providing at least a part.

Senator POTTER. That is passed on to the consumers.

Mr. COTTONE. That is a problem, and frankly how that problem can be avoided or how anything can be written into law to avoid it, I have been unable to solve. It is in that area where you can hope that the good faith of the manufacturers will see to it that the savings of the excise tax will not go back in their own pockets. That also goes for the distributors.

The bill pertaining to additional ownership of stations by a process whereby depending upon the number of VHF stations owned no additional stations may be owned and help to—and I thing a maximum of 10 is the expression—we have grave misgivings about that bill. We are concerned with attempting to alleviate a situation which we are recognizing as very dangerous from the standpoint of construction and concentration of these stations in the hands of a few and monopoly. We do not believe we would be consistent to come before this committee and approve the elimination of one kind of monopoly, urge it, and have substituted for it a different kind of monopoly.

Five stations are a tremendous amount of power. Ten stations will be twice that amount of power. Five stations are a tremendous amount of concentration. Ten stations will be a far greater amount of concentration.

Secondly, we cannot understand and we have not heard any valid, factual or other kind of an argument as to how that is going to help UHF. We have had no representations—and I have looked for them—on any specific kind of plan if we say that this is to benefit the network—we have heard no statement as to what intention the network or other multiple ownership has in implementing this idea for advancing the interests of UHF.

Senator JOHNSON. May I suggest to Mr. Cottone that in discussing this proposal that he keep in mind the proposal before the Commission, to give the folks holding 5 VHF's 2 extra UHF's, which would be 7.

Mr. COTTONE. That is a greater evil, I believe. I believe that a combination, if we are to assume that we will continue under the same order of things, a combination of 5 VHF's and 2 UHF's is less to be desired than 10 UHF's. Assuming that we continue under the present order of things, that is. Of course, if we have all UHF's and they are all equal and we have 1 type of television broadcasting system and they cover 5 VHF's, multiplied by 2 under your bill, Senator Johnson—the group that met last night feels that that wouldn't—they would like to take this proposition up with respect to the so-called Bricker bill. We have said that you can best obtain the attainment of an equal nationwide competitive system by providing the basic groundwork for equal competitive opportunity among broadcasting stations. That concept is implicit in the statutory principle of the fair, equal distribution of facilities.

Having provided that kind of pattern of ground rules, it seems to me that there is less necessity for governmental intrusion into the area of regulation.

I think that one of the things that should be considered on this score is that, if we examine the pattern of governmental regulation such as provided for in certificates of convenience and necessity, any attempt to regulate under the so-called common-carrier concept really is productive of a different kind of monopolistic situation.

In some areas that kind of monopoly may be in the public interest. One might be able to say that telephone regulation is in that area because of the waste and duplication that exists.

In the field of broadcasting we have started out with the concept that there should be opportunity to all, not only to the broadcasters, but to all who wish to get into the field of supplying programs to broadcasters.

It is a very dangerous possibility that by regulation of that nature you will limit the field of those who may provide programing to the American public to what we have today.

Senator POTTER. Do you envision more than four networks?

Mr. COTTONE. I do not today envision more than 4 networks, but I would not today wish to shut the door on more than 4 networks.

Senator POTTER. Do you envision that, going on as we are going on now, there will be only two networks?

Mr. COTTONE. Oh, as we are now, we are on the way to just two networks. But we believe that the way to cure that is to put this on the level where individual initiative, given the equal opportunity, can bring about the equalization in that field. I do not wish to be understood as saying for this group that we do not believe that there should be no attempt whatsoever at governmental regulation of this matter. I sincerely and deeply believe that the consequences of so drastic an action as that could not assist us in achieving the goal we are trying to achieve by the reallocation method and I think it becomes vitally necessary to do it by regulation. That should be considered an alternative.

Senator SCHOEPEL. But you are now asking for some governmental regulation to get yourself out of this mess.

Mr. COTTONE. I am only asking that the Federal Communications Commission, as a result of the authority traditionally recognized, set up the facilities in such a way that everyone has an equal competitive opportunity in the open market place.

Senator SCHOEPEL. At one stage of the game that is what they thought they were doing.

Mr. COTTONE. That is right.

Senator SCHOEPEL. And they did not do it.

Mr. COTTONE. Yes.

Senator SCHOEPEL. And now when they started gobbling them up, you say somebody will have to unscramble that, and obviously we are not going to get it done by letting it up to those who have preempted some rights, so somebody should step in.

Mr. COTTONE. Yes; but I am suggesting that there is one form of stepping in that is much more to be desired than another form.

Senator SCHOEPEL. I get your position on that, but you cannot breathe hot and cold. You will have to take some degree of regulation, but we all hope that it is going to be equitable, fair, and consistent with what is in the public interest, and the investing public has millions and millions of sets.

Mr. COTTONE. I agree with that. I was not suggesting that there should be hands off on regulation. I say if we cannot accomplish this in the way that we should try to accomplish it, by this freeze, by this effort toward reallocation, and by, in the interim period, providing that kind of regulation as to programing that assures this distribution of programing between VHF and UHF, then I say that it becomes vitally important.

Let me put it this way: I think the authority should be given to the Commission. Whether the Commission should exercise the authority and issue rules and regulations should depend very strongly on what has been accomplished by having proceeded on this other method. I do not disagree with the purpose of this bill, nor does this organization, but what the Commission does should depend upon how successful it has been in proceeding in the other direction.

Senator SCHOEPEL. But at this stage of the game it looks as if there was either an error in judgment or not knowing what the technical advances we may have missed are.

Mr. COTTONE. Yes, sir, precisely; and I should like to say one word about this question of intermixture.

Senator SCHOEPEL. Unfortunately. I have to leave. I would like to ask one question before I go, and I do regret that I do have to leave.

Mr. COTTONE. I do, too, sir.

Senator SCHOEPEL. How far should the networks be regulated and by whom? Have you got a judgment factor to express on that?

Mr. COTTONE. I think the networks should be regulated to the fullest extent of the concepts under our antitrust laws that prevent any kind of restrictive practice, prevent that kind of advantageous arrangement that networks may be able to obtain by virtue of their stronger bargaining position.

I believe that to the extent that the Commission could implement the antitrust laws and keep out those restrictive practices and keep out those exclusive arrangements in a sense from creeping into the relations between networks and stations, I even say that there is no reason

why networks, for example, should have any kind of a privilege to have any particular kind of an option or exclusive right on the time of a station. That was the path along which we went in 1943.

Senator HUNT. Do you feel that the networks should offer the same programs and let everybody who wants to buy them?

Mr. COTTONE. I feel that there should be at least an opportunity for competitive bidding or bargaining in the market place for everyone who would like to have this program to have an opportunity to do so to carry it on their stations.

Senator HUNT. Your answer is that those willing to pay the price should get them?

Mr. COTTONE. Yes; but in a competitive market the price will adjust itself to a reasonable price, I would say.

Senator SCHOEPPLE. I would like to ask this other face of my two-pronged question: By whom would you have the regulation of the networks?

Mr. COTTONE. I would have the regulation under the Commission, present regulations and insistence upon the provisions of those regulations by the Commission, and enforcement of the provisions of those regulations and that goes beyond merely the written arrangement that might exist between networks. It requires a far greater staff than the Commission now has to investigate these practices and investigate the type of arrangements that may exist by understandings between networks and stations than the Commission now has.

Senator PORTER. You say the Commission has the authority to do it now?

Mr. COTTONE. I say the Commission has the authority to do many things.

Senator JOHNSON. I want to find out whether you think that there are sufficient standards for the Commission to act now in the regulation of networks or that Congress should lay down some specific standards?

Mr. COTTONE. I would say that for the reason that if the Commission were to proceed on the basis of its present authority it would be tied up in court for years and it would be desirable for Congress to reiterate the authority of the Commission in that field so that there can be no question about it. We are going to have whatever kind of regulation is adopted by the Commission and we are going to have bitter fights about that.

Senator JOHNSON. If Congress passes the law placing the regulation of networks under the Commission, there will not be necessity for reiterating anything, but if Congress does place them under the jurisdiction of the Commission, should then Congress follow up with the specific standards of that regulation, or should it be left to the general law as now exists, the general congressional law?

Mr. COTTONE. I would say that, if you could reasonably expect that the Commission will regard its own utterances with regard to competition with respect to the desirability of the avoiding of practices that may be restrictive and monopolistic in principle, and the Commission has said that the policies of the antitrust law are embodied into the act, if they could be reasonably expected to do that, I think it would be unnecessary to write any standards in the form of legislation.

However, I think there will be a great deal of difficulty in doing that. If Congress could prescribe the standards, it would be of great

help to the Commission to reexamine the basic authority of the Commission and the standards could be written by law on the philosophy and theory of our antitrust laws.

Senator HUNT. Is there any network that does not own broadcasting stations?

Mr. COTTONE. Dumont does not own any radio broadcasting stations. They own television stations.

Senator HUNT. The art of programing seems to me is today under the jurisdiction of the Commission. Now the regulating of the station is, but it seems to me network programing is a separate and distinct part of the bill altogether. Do you feel we need additional legislation on that?

Mr. COTTONE. I think what you are thinking of is that the Commission may not have any authority over the content, but the Commission has the authority over the relationships that lead to arrangements for the obtaining of programs. That has nothing to do with the content of the program.

Senator HUNT. No authority over the placing of network programs.

Mr. COTTONE. Except indirectly. I think that the Commission does have authority to prescribe, and I am sticking my neck way out.

Senator HUNT. Do you know of a case where the Commission has said such and such a station will carry such and such a network program?

Mr. COTTONE. No.

Senator HUNT. That is what I meant.

Mr. COTTONE. But I see no reason why under the same token the Commission might not regulate the networks with respect to how many options the stations can arrange for with networks and various other provisions that have to do with the furnishing of programs by the networks. The Commission could not provide a standard as to how much network programing can be obtained from any specific network by a station.

Senator HUNT. Do you think that up to this time the allocation of network programing has been fair and equitable?

Mr. COTTONE. I do not. I most certainly do not.

Senator HUNT. That is what I am getting at, and if it hasn't been and the Commission has the authority to see that they are, then the Commission has not been diligent or they do not have the authority.

Mr. COTTONE. I do not hold to the view that the Commission has as little authority as some people claim for it. We have gone through this question of the authority of the Commission. It came up before. There was bitter opposition, and there were all of the legal talents of the broadcasting industry all arrayed against the side of the Commission on the question of jurisdiction under the network regulation. You gentlemen know the history of that. The Commission adopted the network regulation but those networks went to the Supreme Court and the Commission's authority was sustained.

The Commission has exercised rule-making authority in many fields. It is true that in the network field they did mention that Congress had certain views on the subject and had said something about authority to write rules about network regulation, but the Commission has exercised this rule-making authority in the general public interest.

I would like to cite the lottery case. There were two grounds upon which the Commission's authority was attacked, that the Commission

had no authority whatsoever to adopt rules, that the Commission was getting into the business of regulating programing and censorship and the various other arguments that had been held since way back in the days of the network rules and regulations.

The Court held that some of the Commission's lottery provisions had not properly interpreted the penal statute. The authority of the Commission to make rules in that area was sustained by the district court in New York and by the Supreme Court. So that the Commission's rule-making authority then is not as limited as some would have this committee believe.

Senator HUNT. Would you agree with me that the networks' hold over these UHF stations is that of life or death?

Mr. COTTONE. I certainly do believe that, Senator Hunt.

Senator HUNT. It is tremendously important that we look at that phase of the problem.

Mr. COTTONE. It most certainly is.

Senator POTTER. Even if the Commission has the authority to regulate the network, I assume you are aware of the problem of possible court action which could delay it for many years.

Mr. COTTONE. Precisely so.

Senator POTTER. It would seem to me, and this again would be a matter of high policy, that it would be necessary for the Congress at least to act in this field if action is needed.

Mr. COTTONE. I would most certainly think that the way to be assured of action is for the Commission to relieve—

Senator POTTER. If the Commission has authority now, I would assume that that authority relates more to the field of the antitrust laws, whether it is a restraint of trade rather than to the rules and regulations as far as the broadcasting is concerned or their affiliations, how they shall make the affiliations. I don't know.

Mr. COTTONE. I think it is a little broader than stating that they may stick to the letter of the antitrust laws.

In the Supreme Court decision in the network case the Supreme Court said that the Commission does not have to find that there is a violation of the antitrust laws, but it is enough for them to determine that it is in violation of a broad public interest policy which stems from the antitrust laws. It is much broader than a restriction to the letter of the existing laws.

I think that the Commission's authority is geared directly to the factors that Congress said must be considered in deciding where the public interest must be served.

Senator POTTER. But if you were a Member of the Congress you would want an expression from Congress.

Mr. COTTONE. I most certainly would welcome it. There are some other matters which I would like to take up. There was some discussion about the attainment of the ultimate goal which should be done by the process of attempting intermixture elimination. I think that will be a complication of the task of the ultimate goal of going to UHF. There is no way you can eliminate intermixture.

The Commission, because of the powers and height—and I say this in no critical sense—but it has become most difficult to keep the service areas of VHF entirely separate and distinct from the service area of UHF, and any consideration of any proposal, even the Du Mont proposal, will illustrate that, that it is a tremendously difficult job.

The concept that should be followed is one that looks to the single market concept. In other words, obtain a kind of television broadcasting system that looks to service to his own market or the trade area or the community of interest for which that television channel was assigned.

The present system of permitting the great spread by tremendous heights and powers of service areas makes that very difficult in areas where you have a smaller station, in a smaller community, where you have a small station, and it is very difficult for that smaller station to be outside the shadow of the larger station in the larger market which can be built to tremendous heights and powers because the market can more readily support that kind of an operation.

Let me say also on the question of the difficulty of arriving at a plan that will provide enough channels for a nationwide competitive system of UHF. One thing is overlooked, and in some of the questions that were asked this morning attention was not addressed to this problem. I think one of the reasons asserted for the inability of the UHF band stems from the 7 channels in New York and the 7 channels in Los Angeles. If because the 7 stations in New York and the 7 stations in Los Angeles it becomes impossible to get enough spread of UHF throughout the rest of the country, New York and Los Angeles are just going to have to sacrifice a little bit, and there should be methods and means of adjusting that without doing any injury or serious harm to anybody. Some of these stations in New York have not been able to operate over all these years in the period of lush profits at a profit, as Senator Pastore mentioned. There should be some way whereby that operator could set up in business somewhere else which offers more promise of success for his operation, but should not be permitted to deter at least a consideration of the possibility.

With the plans we have in this industry it cannot be accepted as dogma and I want to add that I am not a technical man, that it is impossible to attain a nationwide system on UHF. I say you cannot accept the premise necessarily of the heights and powers today which of course makes it more difficult to place these stations where they want to place them.

I would like to state also that the people who have been working on this matter and who are here before you are people who have a great deal at stake. I think, in the words of Jack Garrison, who testified this morning, there is a serious, serious danger if something isn't done very quickly that we will not have any UHF, and if you accept the premise on which this was started you will not have a nationwide television system. It is an irrefutable fact that cannot be ignored.

Thank you very much.

Senator POTTER. Thank you. Are there any other questions of Mr. Cottone?

We will hear from Mr. Burton and Mr. Craig at this time.

**STATEMENT OF DONALD A. BURTON, PRESIDENT AND TREASURER
OF UHF STATION WLBC-TV, MUNCIE, IND.**

Mr. BURTON. My name is Donald A. Burton, and my residence address is 420 Alden Road, Muncie, Ind. I am president and treasurer of the permittee of UHF station WLBC-TV, Muncie, Ind., and am general manager of this station.

Early WLBC-TV history. We at WLBC-TV have affirmed our faith in UHF. We believe that a UHF station can succeed even in a VHF-dominated market. This we believed when applying for a construction permit. This we believe today, after more than a year in operating WLBC-TV on channel 49 at Muncie, Ind. When WLBC-TV began commercial telecasting on May 8, 1953, Muncie, Ind., had a television saturation of more than 67 percent of all homes, according to a national survey made in June 1953. This survey disclosed that television reception from a total of 10 different channels was available to more than 1 percent of the TV homes in Muncie, with channel 6 in Indianapolis available to about 98 percent of these television homes, and stations in Dayton, Cincinnati, and Louisville available to 5 percent to 20 percent of these TV homes. This survey made about 6 weeks, which was June 15, 1953, after WLBC-TV began telecasting also disclosed that approximately 26 percent of the television homes had converted to channel 49 at that time.

UHF conversions: The problem which we faced was that of all UHF stations starting in a market previously dominated by a VHF station. In spite of the high VHF saturation, it was obvious to anyone who knew the difference between a good and a poor picture that the VHF pictures received in Muncie were not actually of good quality, although the majority of viewers stated that they received excellent VHF pictures. Thus, our first step in facing the VHF problem was to be certain that the picture received from WLBC-TV was the best obtainable and continued to be far superior in quality to that of the VHF stations.

We believed our problem to be twofold—technical and programing. We felt that UHF conversions could be obtained if our potential audience was given the best in video fare both technically and programwise. We believe that we solved these problems to a great extent. I shall outline for you the first step—the technical. Mr. William F. Craig, who is vice president and commercial manager of WLBC-TV, and as such has had general supervision of the station's programing, will then cover programs, sales, and the final results of our first year of operations.

WLBC-TV technical operation: The technical aspects of the operation of WLBC-TV consisted of the following:

Obtaining the best possible pictures and full power from our RCA transmitting equipment. We relied on personnel from the RCA Service Co. to make the initial adjustments to this equipment. Our chief engineer, Mr. Maury Crain, and his staff have kept the equipment in optimum operating condition since this initial adjustment with occasional assistance from the engineers from the RCA Service Co.

A second aspect of our efforts to stimulate conversion to UHF was largely educational in nature. In this effort, we stressed the better pictures that could be expected from WLBC-TV, our expected coverage, operating hours, program schedule, and types of converters and receiving antennas necessary for good reception. In this respect we believe the following items were most important in implementing this phase of our efforts:

1. Many talks by me on the foregoing items before civic clubs and TV servicemen's organizations. These talks were given in Muncie and in the towns and cities within a radius of 35 miles of Muncie.

2. Promotional and educational spots, programs, and news stories on our radio station WLBC and advertisements and news stories in many papers in the area.

3. Mr. Crain, Mr. Craig, and I made an effort to attend all of the manufacturers', dealers', and servicemen's clinics and meetings in the area.

4. After WLBC-TV started operating, we worked very closely in the field with these manufacturers, dealers, and servicemen striving to help them get perfect pictures at every location. This we considered to be important, as we learned very early that poor reception at one home in a given neighborhood was a deterrent to further UHF installations in that area. I was on more than 100 field trips with installation crews, dealers, and manufacturers' representatives, actually going to the rooftops of houses to work out these problems. From these personal inspections many things were learned about UHF reception problems.

5. As a result of this field experience I wrote a booklet titled "Best TV Reception From UHF the Easy Way." We distributed nearly 8,000 of these booklets to set owners, dealers, and servicemen in our area and I am submitting copies to be placed in the record in this proceeding.

Senator PORTER. Without objection the pamphlet will be placed in the official files of the committee.

Mr. BURTON. In addition to these efforts in engineering and education, we believe that the following promotional and technical endeavors are worthy of mention here.

Promotional efforts: In the promotional field, I want to discuss first what we called Operation 49. This was a contest among the sales people of 10 of Muncie's most prominent TV set dealers, for cash prizes given by WLBC-TV to those individuals who sold the most UHF conversions and new sets with UHF installations as a result of door-to-door sales efforts by these sales people.

This contest ran from August 10, 1953, to September 9, 1953. This is a period when set sales are at a low ebb and during this contest many new sets were sold and numerous conversions were made. This promotional effort also gave impetus to the fall and winter set sales.

Another factor which speeded up conversions was the appearance on the market, in our area, in the early fall of 1953, of a good, all-channel converter which retails for \$14.95. The distributors have reported to us that they sold several hundred of these items every week for many, many weeks.

Technical efforts: In an effort to improve our signal locally, we obtained and installed in September 1953 a new type of RCA transmitting antenna. This antenna uses what engineers call offset feed and utilizes a small amount of electrical beam tilt. We made measurements using the old antenna at a number of locations in Muncie and enlisted the aid of servicemen in other surrounding towns and cities to make measurements also. These readings were compared with those taken after the new antenna was installed and operating. We were delighted to learn that most of our local dead spots were eliminated and signal strength increases ranging from a slight to a considerable amount were observed by our friends in WLBC-TV's and grade A and B contours.

Anderson, Ind., which is approximately 20 miles west of Muncie, Ind., and has a population of 46,820 according to the 1950 United States census, is a very important part of the area we expected to serve with our WLBC-TV programs. In order to help the servicemen in this area to obtain good snow-free pictures from WLBC-TV, we cooperated with one of the servicemen's engineering concerns, Howard W. Sams & Co., Inc., publishers of PF Index, in making a series of tests in late September of 1953, in Anderson, Ind. This company used, first a portable tower which could be raised and lowered to various heights from 22 to 42 feet, second, a variety of types of receiving antennas, third, signal strength meter, fourth, TV set, and fifth, a portable power supply. In cooperation with the servicemen from Anderson, Ind., this company made measurements with different types of receiving antennas in eight locations within 2 miles of the center of the center of the city of Anderson.

A part of Anderson is very hilly, and as might be expected a weaker signal was observed at low antenna heights in the depressions or hollows in these hilly areas. However, in 7 of the 8 measured locations more than an adequate signal was received with use of proper antenna and an antenna height of 42 feet or less. In the eighth location which was in a very deep depression only about a 25 percent signal was received at an antenna height of 42 feet, but no greater height was tried at this location and only relatively simple antennas were used. Use of greater height and higher gain antennas would no doubt would give considerable improvement.

Our conclusion from these tests is that a 1-kilowatt transmitter with an antenna height of 542 feet above ground, which is the height of the WLBC-TV tower, can give satisfactory service on our channel to a considerable area.

Conclusion: In concluding this part of our testimony, I would like to stress that we believe that the personal attention on our part from the management level to the problems of obtaining perfect UHF reception was very important in obtaining and keeping the good will of our viewers and that of the dealers and servicemen of our area. We sincerely believe that because we spent long hours working for and with these people we first stimulated the servicemen and dealers to greater efforts in their attempts to obtain perfect pictures from WLBC-TV and that in turn encouraged the viewers to insist that these dealers and servicemen make good and proper installations in their homes. I appreciate the opportunity to tell you about the WLBC-TV success story from the technical standpoint, and Mr. Craig will now discuss the other aspects.

Senator POTTER. Do I understand your station is making money?

Mr. BURTON. Yes, sir.

Senator POTTER. And you have a VHF station in Muncie, Ind.?

Mr. BURTON. No, within 50 miles.

Senator HUNT. Do you have a VHF station in Muncie?

Mr. BURTON. Not in Muncie. In Indianapolis, which is slightly less than 50 miles from Muncie.

Senator HUNT. What is the distance from Indianapolis?

Mr. BURTON. Approximately 50 miles.

Senator HUNT. What is the distance to Dayton, Ohio?

Mr. BURTON. About 67.

Senator HUNT. And the distance to Cincinnati?

Mr. BURTON. About 90.

Senator HUNT. And Louisville, Ky.?

Mr. BURTON. About 90 miles.

Senator HUNT. Isn't your location very, very exceptional, not having any immediate competition from VHF right in your home community and these other stations being at a big distance from you?

Mr. BURTON. We had a 67 penetration of VHF receivers in our market. Sixty-seven percent of the people had sets and they thought they were getting good pictures.

Senator HUNT. It was not a hometown station.

Mr. BURTON. No, sir.

Senator HUNT. And you carry all four networks?

Mr. BURTON. Yes, sir.

Senator HUNT. Mr. Burton, is your company a closely held stock organization, or do you have any stock available for sale?

Mr. BURTON. No stock for sale.

Senator HUNT. Thank you, Mr. Chairman.

Senator POTTER. We will now hear from Mr. Craig.

**TESTIMONY OF WILLIAM F. CRAIG, VICE PRESIDENT, UHF STATION
WLBC-TV, MUNCIE, IND.**

Mr. CRAIG. My name is William F. Craig, and my address is 1505 Granville Avenue, Muncie, Ind. I am the vice president of the permittee of UHF station WLBC-TV, Muncie, Ind., and the commercial manager of this station.

Mr. Donald Burton has outlined the manner in which we tackled our first problem in conversion—the technical side. I shall try to outline some of the things which we believe contributed to our obtaining a high percentage of UHF conversion and the largest share of the viewing audience in Muncie, Ind., according to a national survey.

Senator PORTER. What is the percentage of conversion today?

Mr. CRAIG. Eighty percent today. I want to state, with your permission, that it has been put in evidence here that there are a great many UHF stations who are having difficulty because they are blanketed from the outside and simply because we do not have a competitor within our own doorstep does not mean anything as far as our audience or our problems are concerned, and it is for that reason that we do not feel that we should be included with the UHF industry as a whole, that all UHF shall be in the same category, any more than anybody who is named Bill Craig should be damned for my sins.

On this network affiliation, some of the people laughed when Mr. Burton said we had four networks. Let me tell you we did not get those very easily. We did not walk in to the networks and say we had a grant and it was 50 miles to the nearest station. We had to prepare a great deal of factual matter concerning our population and all that sort of thing. We had to be able to prove to these networks that we did have a population of sufficient size that the national advertiser might be interested in adding our facilities in Muncie. Muncie itself is just 60,000. However, the density of the population surrounding Muncie made it, in our opinion, a very good market.

Senator HUNT. Would you tell us your local market, in population?

Mr. CRAIG. Sixty thousand.

Senator HUNT. What is the population of Muncie?

Mr. CRAIG. Sixty thousand is the population of Muncie.

Senator HUNT. Do you have outlying communities, small towns nearby?

Mr. CRAIG. Yes, sir.

Senator HUNT. What is the total?

Mr. CRAIG. The total potential population would be 500,000 if they were all converted, and that would be within 35 to 40 miles.

Senator POTTER. How many sets receive your station?

Mr. CRAIG. Seventy thousand.

WLBC-TV network affiliations. First, a word about network affiliation. We were able to obtain affiliation agreements with all four television networks. To this end, we prepared a great amount of factual data concerning population, incomes, retail sales, and so forth. It was our premise that a television market must be considered not from the size of the city from which its programs originate but upon the population, retail sales, and so forth, of its potential coverage area. We were able to show the 4 television networks that the population of Muncie itself was a little more than 60,000 and with the density of population of its surrounding area nearly a half million people lived within the potential coverage area of WLBC-TV. We compared this coverage with other Indiana markets and were able to prove that the potential coverage of WLBC-TV was greater population-wise than the potential coverage of other proposed Indiana TV stations, although Muncie itself was smaller than the home cities of these other TV stations. I make this point because I believe many of the stations that have claimed to have difficulty in obtaining a network affiliation perhaps may not have properly presented their case to the networks.

Networks programs carried by WLBC-TV: We believe that network programs were essential to our successful operation, but we realized that affiliation agreements were not enough to assure network commercial programs for WLBC-TV. I do not think that you can legislate by law today to make these networks add these stations. You may be able to do that, but I do not know of any way that you can make the advertiser add that market. You cannot propose in the same way that the advertiser spend 95 percent of his dollar in television.

We believed that it would be necessary for us to go directly to the sponsors and their agencies, and to solicit the cooperation of the distributors in order to obtain our fair share of network commercial programs.

Senator POTTER. Hasn't there been a reluctance on the part of many of the advertising companies to go to UHF?

Mr. CRAIG. I have heard that statement made and I will cover that in just a moment.

Our efforts in this direction have paid off and WLBC-TV now enjoys a lineup of many of the top shows of all networks; for example, Milton Berle, Bob Hope, Howdy-Doody, Robert Montgomery, Hit Parade, This Is Your Life, The Goldbergs, Dollar a Second, Danny Thomas, Ray Bolger, Meet Millie, You Are There, That's My Boy, Herb Shriner, Dennis Day, Fred Allen, Joan Davis, Ford Theater, Break the Bank, the Baseball Game of the Week, Television Playhouse, the Loretta Young Show, Paul Winchell, Dave Garroway, Life of Riley, the Gillette Fights, to mention a few, are examples of programs from each of the networks carried by our television station.

WLBC-TV was not interconnected during our first 8 months of operation; we carried, however, most of these shows via kinescope. I would like to state that we found no evidence whatever that the Madison Avenue agencies or the advertisers they represent are prejudiced toward our station because it is UHF. They expect circulation, audience, and product sale at a fair cost. This we have tried to provide—this is what we have endeavored to sell, and we feel that we have succeeded. May I emphasize again, we have found no prejudice toward UHF on the part of the national advertiser or their agencies.

May I also state in reference to the fact that we have all four networks, there are some stations who have closed the doors who were so privileged too.

Syndicated programs carried by WLBC-TV: While WLBC-TV carries many of the top syndicated film programs, no single package was purchased. It was believed that a wider choice of programs could be obtained by selecting from several producers and then sell the individual film to a sponsor, who in turn signs the film contract with the producer, not the station. Examples of the syndicated films carried by the station are *Badge 714*, *I Led Three Lives*, and *Liberace*, which are the three top syndicated programs in the Nation according to a Videodex report appearing in the May 17, 1954, issue of *Broadcasting* magazine. Other illustrative top syndicated shows carried are *Duffy's Tavern*, *Play of the Week*, *Cisco Kid*, *Boston Blackie*, etc. Some of these programs are carried by the VHF stations coming in the market, and arrangements were made with each producer to carry their show before it was presented by the VHF station under the theory that WLBC-TV did not cover the home city of the VHF station while there was some viewing in Muncie of the outside VHF stations. Thus, locally WLBC-TV was considered as a station which "beat the others to the punch."

Local programs presented by WLBC-TV: It was the belief of the program department that top network and syndicated shows are not enough, and that any station must establish a local flavor by presenting local live programs. It was discovered that eastern Indiana was blessed with sufficient good talent to present such popular programs as *Teen Canteen*, in which the best teen-age talent is presented, and the *Forty-niners*, an hour long barn dance held each Saturday night complete with square dancers and varied talent. We realize the importance of the children in our viewing audience and devote the early part of our evening program schedule to them. Such programs as our *Corral Club* which brings eastern Indiana kiddies in front of our camera, in our opinion, has been an important factor in our obtaining conversions. Each evening during our *Western Theater*, we have asked the children to send us photographs of themselves which we in turn televise as a part of *Western Theater*. Parties held for these children at such places as *Kiddie Land* and the local drive-in theaters have helped create a great amount of goodwill for WLBC-TV. As one of the features of our *Corral Club* program, we conducted a *Conversion Contest* among the 6,000 members of the *Corral Club*. We offered such prizes as bicycles, and so forth, to the boy or girl who obtained the greatest amount of conversions to channel 49. We feel that the very fact that hundreds of boys and girls went house to house knocking on neighbors' doors and asked that they convert to

channel 49 was a wonderful publicity opportunity for WLBC-TV. WLBC-TV has demonstrated the importance of local news in TV and presented two nightly newscasts which include photos and news of national and State importance; but more important in getting and keeping a news audience—news and pictures of eastern Indiana events and people are being presented, and I know that there are some stations that do not use news on camera particularly.

Muncie is in the hotbed of all basketball enthusiasts, basketball being the most popular sporting event in Indiana. While our field-house holds 7,800 people, all season tickets were sold with thousands of local people unable to obtain seats for these games. Consequently, WLBC-TV filmed the Friday night home games of the Muncie Bearcats, condensed the games to a half hour, and played them via this film the following Wednesday night. We placed them opposite one of the most popular network programs carried by the Indianapolis VHF station and naturally, because of the extreme local interest in these games, obtained a large share of the audience.

These are only a few of the many gimmicks that we use and had to use in order to obtain conversion. Our path has not been a bed of roses in any manner of speaking.

Conversion success for WLBC-TV: How well our policies have paid off is evidenced by the fact that more than 70,000 homes had converted to channel 49 by May 1, 1954. This 70,000 figure is based on surveys by two national organizations.

1. The April 1954 survey made by one of these organizations for Delaware County, in which Muncie is located and is the county seat, discloses that more than 75 percent of all homes in that county have television and, that of these television homes, 80 percent have converted to channel 49, Muncie. In Delaware County WLBC-TV now has a 60 percent saturation of all homes—a larger saturation of all homes than many VHF stations.

2. A survey made April 1 to 15, 1954, by the other national organization disclosed that the following counties currently receive the UHF signal from Muncie. They are Delaware, Madison, Grant, Randolph, Wayne, Henry, Jay, Blackford, with partial coverage in these additional seven counties—Hancock, Wells, Rush, Tipton, Fayette, Hamilton—in Indiana and Darke County in Ohio.

Senator POTTER. How far out does your signal go?

Mr. CRAIG. That depends a great deal on the individual location. We have a very good signal out about 28 to 30 miles. We have had reports from farther than that, but frankly I do not believe that the signal is what one would like to listen to or view.

In these 15 counties 53.7 percent of all television homes are receiving channel 49, Muncie. In other words, while the conversions in Delaware, our home county, total 80 percent, the average conversion in our full coverage territory is 53.7 percent. With more than 130,000 television homes in the counties just mentioned, and 53.7 percent of them equipped to receive channel 49, Muncie, WLBC-TV now has a set count of more than 70,000 homes, with 19,000 of these in our own county.

A survey made in March of 1954 disclosed that WLBC-TV enjoys a viewing audience of more than 65 percent of the sets in use, day and night. The Berle show, for example, had a 68.9 percent share of audience and a 35.2 rating; Howdy-Doody had a 70.2 percent share

and a 20.7 rating. The WLBC-TV Barn Dance had a 63.2 percent share and a 21.5 rating. News and weather had a 68.2 percent share and a 21.5 rating. I should like to point out in passing that four of the VHF area stations from which a signal can be received in Muncie were operating on maximum power when these surveys were made. In no way, however, in my opinion, does their picture quality compare with that of our UHF picture. And, as stated by the editor of TV News, published in Indianapolis, Ind., which published 10 different TV station programings, in the May 7 issue concerning station WLBC-TV:

As of today—Muncie's UHF channel 49 stands as a small giant among many television giants. Within a video-wave's throw of 49 are located some of the Nation's most powerful and best channels. If this proves disturbing to channel 49, they show it only by continuous program improvement and extended hours.

Hour for hour, minute for minute, there just is no better program service offered viewers than that offered by "the little giant."

This combination of the best picture and good programs has been the reason for our high conversion and largest share of audience.

Senator POTTER. Do you find any reluctance on the part of the customers to switch the dial over to 49?

Mr. CRAIG. Which customers do you mean?

Senator POTTER. The set owners.

Mr. CRAIG. Oh, yes. In the early days we did. They thought they were getting good pictures from the outside. Their programs were established. We had to compete with established habits. We had to convince them first by giving them the best picture and the local interest and then gradually giving them network shows. It was a sales job to the viewer and the advertiser.

Senator POTTER. I have heard it was more or less a psychological block to switch over.

Mr. CRAIG. At the present time networkwise we are operating from 1 in the afternoon to midnight, 7 days in the week, and of that we are only carrying approximately 23 hours of network commercial.

Senator HUNT. I am speaking of local advertising now. What is local advertising now? What is local advertising carried on the VHF stations that were getting into your community?

Mr. CRAIG. Not very consistently. However, we did have some local people who were spending money on the Indianapolis VHF station.

Senator HUNT. I presume you have practically all of that advertising now, no doubt. Are there still outside stations carrying any Muncie advertising?

Mr. CRAIG. There is little on the Indianapolis VHF station.

Operational requirements for success: Of prime importance in a successful operation is technical know-how and good programs, but these alone are not enough in our opinion to guarantee success. A new station must not be overstaffed as many have been. The reason why we are in the black is that we are operating a radio and TV station combined with approximately 35 people.

It is necessary to have a staff of well-trained, well-paid individuals willing to work and grow with the station. It is always possible with the proper staff and good management to have the correct relation between income and expenses. Whether it be a VHF or a UHF station, unless it is properly programed, properly sold and properly

managed, a television station cannot succeed. With these essentials and given a market of sufficient size, any UHF station can become a dominant station. Final proof of the success of UHF in Muncie is the fact that station WLBC-TV is operating in the black.

On behalf of WLBC-TV we want to thank you for the opportunity to present this account of the success story of WLBC-TV, and hope that it will prove helpful to this subcommittee in its UHF considerations and also to UHF stations which have not yet found success.

We feel that there are a great many successful UHF stations in this country who have been able to get networks through sheer hard work, get network programming through their own sheer hard work and sales ability.

We believe that they are located in communities which are covered from the outside by VHF stations. We think it unfair that UHF generally be presented as it has been presented in this hearing generally.

Senator POTTER. On the allocation plan is Muncie allotted a VHF station?

Mr. CRAIG. It is not.

Senator POTTER. So your competition is from other VHF stations that may be in the area, or is that UHF?

Mr. CRAIG. That is right, sir. There are three VHF stations allocated in Indianapolis, 50 miles away. There are two coming in from Dayton.

Senator POTTER. What about other UHF?

Mr. CRAIG. No, no other UHF. There are allocations, but no stations.

Senator POTTER. There are allocations?

Mr. CRAIG. Yes. Anderson and Marion.

Senator HUNT. Do you feel you could operate successfully without network programs?

Mr. CRAIG. I believe that we could, and I will tell you the reason why. We have been in the radio business in Muncie since 1927 and during the early part until 1943. We operated as an independent station.

You talk about the difficulty of getting network affiliation agreements. We worked for 6 years before we could convince one of the major networks to add us radiowise, but through sheer determination we finally got a network, radiowise.

Senator HUNT. I am interested in that figure of the cost of a converter. You mentioned the figure of \$14.95. We have had other testimony that it ranges to about \$40 and installation brings is up to \$75 and \$80.

Mr. CRAIG. That is a technical question that I will try to answer. It is an all-channel converter. In addition to that it would be necessary to put up an antenna which, depending upon your location, and a lot of people have done it themselves in Muncie and have done it satisfactorily.

Senator HUNT. How do you account for the discrepancy between the price of \$40 for a converter and your price there of \$14.95?

Mr. CRAIG. I do not know, sir. I do not know what is available in other markets but I do know there is a \$14.95 converter available in our market and as a matter of fact there is a new one being presented by the Tarzian outfit that retails for \$8.95.

Senator POTTER. Who makes the \$14.95 converter?

Mr. CRAIG. Regency.

Senator POTTER. Thank you for your statement. Are there any further questions?

Thank you very much, Mr. Craig?

We will now hear from Mr. Mortimer W. Loewi of station WITV, Fort Lauderdale, Fla.

**STATEMENT OF MORTIMER W. LOEWI, PRESIDENT, STATION WITV
FORT LAUDERDALE, FLA.**

Mr. LOEWI. My name is Mortimer W. Loewi, and I am president of the Gerico Investment Corp., owners of Station WITV, channel 17, Fort Lauderdale, Fla.

My background in television dates back about 20 years at which time I was instrumental with Dr. Allen B. Du Mont in the organization of Allen B. Du Mont Laboratories, Inc., and for a number of years until the middle of 1951, was director of the Du Mont television network.

WITV channel UHF 17 has a pattern covering an area from Palm Beach to the Keys. There are presently authorized for this Florida area 10 television channels, of which 5 are UHF, 4 are VHF commercial and 1 educational, all of which are capable of covering the same territory from Palm Beach to the Keys, and a picture quality that I do not think is surpassed by any station in this country and I recommend that any inquiry will develop that fact.

Of these 10 stations, there are presently on the air, 1 VHF transmitter, channel 4, 2 UHF channels, 17 and 23 in Fort Lauderdale, and channel 21 in Palm Beach, and by October 1954 1 additional VHF transmitter will be on the air in Palm Beach.

WTVJ channel 4 in Miami has been on the air for approximately 4 years and was recently granted permission to move out of Dade County and is now operating in Broward County, some 15 miles from Miami, their original allocation, and are now to within 1,000 yards of our own tower. Our tower is 762 feet and their new tower is 1,000 feet. Also, their power has been increased with this move from 16 to 100 kilowatts. Their operation started about 4 days ago on their new location, and with your permission I will show you the advertisement as an exhibit in which they warn you that it costs no extra money to receive their station and that they cover the 4 networks, the choice programs from 4 networks.

Incidentally, our tower is 762 feet and their new tower to which they recently moved is 1,000 feet.

WTVJ channel 4 has primary affiliations with 4 networks, and our channel 17 WITV has secondary affiliations with 2 networks, Du Mont and ABC, but unfortunately for us, the channel 4 affiliation being a prime affiliation, gives them a prior call on any programs of the 4 networks and they have and they can take from us any programs that they desire. They are presently advertising to the public that they carry the best shows from our networks and that it is unnecessary for the public to spend any additional to get their signal. This has discouraged the public from buying converters, and because we are never certain of how long we can keep a show due to their first call on same, we find this competition unbearable, particularly if other VHF stations are sanctioned to begin operations in this same territory.

A number of witnesses before this committee have directed their attention to the disadvantages of UHF stations located in markets where they are in competition with VHF stations. I have no doubts as to the ability of UHF operators to provide equipment and facilities which will give the public at least as satisfactory a television picture as any VHF competition. We are doing it. I would not be in the business if I didn't believe that this was true.

The difficulties lie in other directions. For example, under the arrangements presently in effect with the sanction of the Federal Communications Commission, the telephone company has exclusive control of the operations of intercity network connections. Under its tariffs and in formal agreements, it will provide or release the cables or relay necessary for a television station to interconnect with the network systems only on order of the network. It follows that unless a station can get a primary affiliation agreement with an established network which has an allocation of these cables, it cannot participate in programming of national importance or in the conventional entertainment programming sponsored and supported by the national advertisers.

This can preclude a UHF station without affiliation from receiving the benefits of participation in the nationwide system of broadcasting and compel it to provide exclusively local programming with limited possibilities of securing revenue from national spot advertisers.

It has already been explained that where connections of the cable system are required the primary affiliates of the networks have such services provided by the network as a portion of its cost of operation, whereas a secondary affiliate is obliged to provide such services and at times to pay large additional sums to the telephone company for them in order to obtain occasional programming which is released by the primary affiliate; and in our case we are paying \$6,000 a month for this connection.

Senator POTTER. If you have a primary affiliation with a network, they pay for all the—

Mr. LOEWI. They pay for the loop, but they demand normally in the network business a certain number of free hours; and it seems unfair for a network to carry a line and pay the costs of it, which is very expensive, without some guaranty that they will get some return from that. Therefore, we are placed in the position of either not having a network or paying these costs.

So, you see, there is not equal programming opportunity for all stations, although they all encounter the same competition for audience attention.

I should explain that the relationships between networks and television stations are governed by affiliation agreements under certain very general rules of the Federal Communications Commission.

These agreements are supposed to be filed with the Commission and are maintained in confidential files where they are not accessible for general public scrutiny. They may include the results of long association of the network and a broadcaster in the radio field.

The primary agreement assure the broadcaster of preference in the receipt of programming, and since VHF stations, through earlier establishment and other relationships with networks, are preferred for such agreements, they are in like manner preferred in the clearance of valuable and desirable network programming.

I might say uniquely I have been an operator of a network, of the Du Mont network, for a great number of years and find myself now in the position of an affiliate trying to get network service. So, I feel I have had a little experience on both sides, although, unfortunately, I have not been able to find such utopia as I just learned from our last witness exists in Muncie, Ind.

A secondary agreement really means nothing except a general arrangement to handle the occasional crumbs from the table in programming when the primary affiliate is so congested with programming from one or more networks that it doesn't care to handle the program.

Under such arrangements, stations like my own can negotiate for and secure excellent and popular programming through prompt action only to find the program taken away when the audience is established and given to the primary affiliate.

This action may be upon the demand of the agency handling the advertising, upon the demand of the primary affiliate, or by action of the network itself.

All of these conditions require prompt and effective remedy.

I should explain that, with the foresight that was exercised in the location and construction of our UHF station, we can compete effectively for audience, given a fair break.

My basic concern in appearing before you arises from my realization that as a UHF station I cannot be fully successful unless the entire system of UHF operations is strong and an integral part of television broadcasting throughout this country.

The failure of UHF stations elsewhere affects me in discrediting my type of service in the minds of advertisers and producers of programming, in my relationship with the networks and, in fact, with the viewing public, who, incidentally, unless I can provide the entertainment and programming that the VHF provides will not go to the expense of putting in the converter, which I can tell you in our territory runs nearer the \$85 average and not the figures that have been given here today, and in many cases are not too well put in, and we have, with our engineering staffs, made corrections in many of these antennas and tuners.

The constant decline on the market for UHF receivers is alarming, as the smaller production inevitably means higher production costs and sales prices and greater difficulty in my own market to secure for my viewers reasonably priced and satisfactory equipment.

The withdrawal of UHF broadcasters elsewhere means greater delay in the perfection of UHF transmitting equipment, harsher credit terms and higher prices.

Above all this, I cannot accept the universal conclusion of all persons in the industry that ultra-high-frequency must eventually embrace all television without recognizing that something must be done now in order to preserve those who are pioneering in the development of the upper spectrum.

Now, I left a great deal of testimony out, mainly because so much of this had been covered prior to my coming on the stand, and I dealt only on the individual station.

I would be very happy to return and try to present to this committee 4 to 5 years of the networking end, but it is my honest belief that unless the networks are controlled and there is some diversions the

two networks cannot live and UHF cannot live—and that is my conclusion.

Senator POTTER. Thank you, Mr. Loewi.

Have you any questions?

Senator HUNT. No.

Senator POTTER. Thank you for your statement.

Mr. LOEWI. Thank you, sir.

Senator POTTER. Mr. Tarzian.

You may proceed with your statement.

**STATEMENT OF SARKES TARZIAN, OWNER AND OPERATOR OF
STATION WTTV, BLOOMINGTON, IND.**

Mr. TARZIAN. Thank you.

My name is Sarkes Tarzian, and I am owner and operator of Station WTTV in Bloomington, Ind.

Senator POTTER. Is that far from Muncie?

Mr. TARZIAN. Actually, we get into Muncie, too, even though they didn't admit it. So, they have two VHF station signals in that area.

Our company has the unique experience of being one of the largest producers of TV tuners—a pioneer in this field—as well as a TV broadcaster covering a large territory—2½ million people with one-half million sets—operating from a small community of Bloomington, Indiana.

This is our fifth year of TV broadcasting. Therefore, we have gone through all the growing pains and all our experience has been gotten by trial and error.

We believe for TV stations to be successful they must give a service that a sufficient number of people want and are now not getting. This is true whether the TV station is VHF or UHF. If this basic requirement is not met, the TV station is doomed to failure.

Whether it is VHF or UHF, if a station has a service that a large number of people want, it still takes time to acquaint people as to what is available and to sell them on the idea of buying equipment to watch their programs.

In the early days of television this period lasted from 2 to 3 years. During this time the station generally lost money. Far-sighted management would provide for this contingency.

Of the pioneer 108 TV stations, only a small number operated profitably from the day of commencement.

After the freeze, I believe that many UHF broadcasters started operations with the expectations that immediately their stations would be profitable, and it was on that basis they went into business. Since they were speculating rather than trying to operate on a long-term basis, some of them were disappointed.

Due to this haste to get on the air and reap a fast profit many started operations with low power and low tower height, with attendant poor coverage.

The broadcast equipment and TV sets manufacturers have also been at fault. They made promises on performance of equipment which they could not meet.

At FCC hearings on UHF it was implied that high-power transmitters would be available, as well as satisfactory TV receivers. Yet,

engineers knew—and I was one of them—that these were at least three or more years off.

Unfortunately, when any one manufacturer makes an unrealistic statement, everyone else agrees to it so as not to be at a disadvantage competitively. They feel that if one fellow can do it, they can do it, too. As a result—

Senator POTTER. The first liar doesn't have a chance, does he?

Mr. TARZIAN. No; they are all on the same basis.

As a result, the broadcasters and the public suffer—and that is what is happening with UHF today.

We have 50 kilowatt VHF amplifiers commercially available to broadcasters. However, the highest UHF amplifier is 10 to 12 kilowatts.

VHF receivers have excellent fringe-area performance. UHF receivers, until we recently came out with our Model UV-13 tuner, have had about one-third the fringe-area performance of VHF sets.

That is what the UHF receivers had had—one-third the performance, the ability to get weak signals—one-third.

Senator POTTER. When did you come up with that?

Mr. TARZIAN. I will get into that in a moment.

With strips this figure can be as low as a fifth—not one-third, but a fifth.

With low-power UHF transmitters and relatively poorer performing UHF receivers, UHF stations have had a very serious disadvantage up to now; and, also, a reasonably good UHF receiver has cost from \$30 to \$50 more than a straight VHF set.

We feel as far as future VHF and UHF sets are concerned they are now on an equal basis.

We have here developed a UHF-VHF tuner, which is very simple and compact.

Now, this is what the industry has had to use in the past.

There is a VHF-UHF tuner.

See how complicated this is, with all this gear drive, reduction ratios, and so on and so forth.

That is one type—relatively simple type.

But look at what one manufacturer, well-known manufacturer, is now using to get VHF-UHF coverage.

Now, look at the difference in the two.

We can save the manufacturer \$10 on his chassis by going to this tuner, and this tuner now is as good as the VHF tuner, whereas the UHF that is in this thing to the public would cost \$30 to \$40 more and is only one-third as good as this one or the VHF tuner.

Senator POTTER. How much will this sell for?

Mr. TARZIAN. This will sell for \$17.95 to the manufacturer. The VHF portion of it will sell for \$11.70. So, for \$6.25 you get full range UHF performance, the UHF performance that is as good as VHF, which up to now we haven't had.

Senator POTTER. If we remove the excise tax, that would—

Mr. TARZIAN. That would make UHF-VHF sets cheaper than straight VHF sets, if you remove the excise tax.

Now, the other thing is: If the manufacturer wants to, he can send a set out in the field with just the VHF one and all you need is a screwdriver to put on the UHF in the field. You don't have to be

a technician or do a lot of soldering, and so forth, to make the two work together.

I have photographs of this, if you would like to have them.

Senator POTTER. Is this on the market now?

Mr. TARZIAN. Yes. Several manufacturers have started to use them.

We now have available a UHF tuner which only costs a manufacturer of TV receivers \$6.25 for full-range coverage. This comes to a cost of about 9 cents per channel—for 70 channels, 9 cents per channel—whereas VHF tuners cost 90 cents per channel for 12 channels.

This new UHF tuner has comparable fringe-area performance to VHF.

If receiver manufacturers can be persuaded not to mark up the \$6.25 for UHF tuners to the customer, by a factor of 3 to 1, which they ordinarily do, then there can be a mass distribution of UHF receivers. Everyone will pay \$6.25 additional for their television set to have full UHF coverage.

We are selling these UHF tuners, for \$6.25, at our cost as our contribution to the future of the TV industry; and if receiver manufacturers will do likewise, I am sure that at least one big bottleneck, higher cost of UHF receivers, as well as comparable performance, will be solved.

Our UV-13 there covers full range, both UHF and VHF or 82 channels. In many cases it means a saving of at least \$10 to manufacturers over UV tuners they are now making, which have poorer performance on UHF.

Senator POTTER. Is that what is normally in a set?

Mr. TARZIAN. That is right. That is what has actually come out of a current production of one of the leading manufacturers in this country. I don't want to give their name because they may feel ashamed of it. I don't know.

Here are two tuners that we build and sell to our customers, up until now, until we came out with this.

So, you can see the complexity, and also the fact that the UHF performance is only a third of the VHF performance.

Senator POTTER. Who buys this from you?

Mr. TARZIAN. Westinghouse is buying it from us now. Farnsworth—Capehart-Farnsworth—is buying it from us now.

We are dickering with a lot of other people who want to get into it, too, after they make field tests.

Up to now all the comments of manufacturers have been very, very favorable, and we have facilities to produce it for them.

Senator POTTER. Do you think you will ever be able to get that cost down lower than even that?

Mr. TARZIAN. We are selling it for six and a quarter, which is our cost, and, as I will point out later, if we can eliminate the excise tax on full range, not stripped—I hope the committee recommends full-range, real, honest-to-goodness full-range UHF-VHF receivers—then these UV receivers will actually be lower priced than a straight VHF set, and everybody will want full range.

I mean that is one place where I think the UHF broadcasters have been at fault. They haven't gone out and promoted UHF nationally, in this sense: That if you buy a straight VHF set, even though cheaper by \$20, \$30, or \$40, you are buying an obsolete set.

They haven't done that. So, people don't know, unless you tell them, and, as a result, people are price conscious and they are going to buy what is cheaper.

Now, if the UHF broadcasters would gang together and, instead of fighting court suits, and so on, spend that money in promoting UHF to the American public, and what it means to them, I think we would all be better off.

Senator POTTER. Are there many receivers now on the market with that type of tuner in them?

Mr. TARZIAN. They are just coming out, Senator.

Senator POTTER. They are just coming out.

Mr. TARZIAN. This is a brand-new development, and this is the first time it is being shown in the public.

We have worked with our customers in developing it and testing it, and this is the first time we are showing it.

So, we are pioneering in this thing. I know other people are going to duplicate it. They are going to copy it, and to be competitive it will carry an equivalent price tag. So, everybody will have it, I am sure.

The UV-13 tuner is designed so that the UHF tuner, if desired, can be installed in the field by anyone who can handle a screwdriver—this design.

We have also developed a single-channel and dual-channel converter which stations can buy for \$8.95. These units can be installed with outdoor UHF antenna and sold to the public for \$18.95—that is installed—thereby permitting owners of straight VHF receivers to watch UHF broadcasts.

The only way you can do that, Senator, is not to depend on the servicemen to do this job for you. These stations have to set up their own installations' crews, and just like a newspaper will spend money to build up its circulation—they have to do the same thing: Sell this at cost, whatever it costs them, and they can do that job and increase their circulation and build their viewing audience by making it available to the viewers at a relatively low price, so that they can afford it.

Now, just to give you an example from our own personal history: When we went to channel 4 in Bloomington, Ind., we had a reasonably good signal in Indianapolis; but to be sure that you got an excellent picture under all conditions you needed an outside antenna. If we sat in Bloomington and waited for the Indianapolis serviceman to install those antennas, it would take 3, 4, 5 years; but what we did was to get the best, low-price, all-band, all-channel antenna that we could get hold of, and we set up our own crews, and they are out today, every day during the week, installing 300 to 400 VHF all-channel antennas in Indianapolis, and we are selling it for \$12.95.

Now, the servicemen in Indianapolis got up in arms about that—"You're taking the bread out of our mouths."

And we told them, "Look, if we get more people to view channel 4 and, as a result, more people will have variety of programs, instead of just having one station to watch, they are going to buy more sets; they are going to watch television more, and you are going to get more business. We are not in the service business. You can keep that."

And now they are seeing the light. Now the service people are the ones who are installing it for us at twelve ninety-five; but in the beginning there was just the revolution. They even boycotted us.

I just want to give an example of some of the things that can be done, that the UHF broadcasters have to do, if they want to increase their circulation.

However, UHF broadcasters, I think as a rule to date, have been negligent in promoting ideas of this kind to increase their audience. They have to help themselves by aggressive promotions and services of this type, just like the station in Muncie did.

The only other item remaining to put UHF technically on a sound basis is a reasonably priced hundred-kilowatt amplifier. We don't have that yet, but that will come.

UHF is not as good as its promoters painted it, nor is it as bad as some people are trying to make it today. It has its place but, like all businesses, it must give a service that people want and be well managed by people who know the facts and are willing to work to achieve success.

Constructively, Congress can help UHF by eliminating excise tax on UHF converters and full-range UHF-VHF receivers—not strips. The lowered price will help equalize cost to the consumer between straight VHF sets and full-range, 82-channel receivers. However, this reduction in excise tax should be limited to full-range sets, not makeshift strip arrangements which have been a delusion, because every time a UHF station comes on the air you have got to go through the whole rigmarole of getting the guy to buy another strip, and that is just energy wasted. It is time wasted. It should be done properly and done in the beginning.

At WTTV we will be happy to train UHF station personnel on the methods of running a low-cost, economical operation.

Our company is also developing a low-cost, complete-package UHF station for smaller communities. We hope to have such a station in experimental operation by fall of 1954 in Bloomington, Ind.

We already have our license for such an experimental station.

Now, while I have been waiting here to testify—I was supposed to testify at 9:15 this morning—I have heard a lot of comments, a lot of answers, as to how this whole problem can be solved. One of them is: Push everybody into UHF, that that will create equality—something like the Russians: make everybody poor and we'll all be better off.

Now, to me, it seems this way: That if you allow some UHF stations—and that's the standard today—to have 2,000-foot towers, to have thousand-kilowatt amplifiers—and to do all that takes a lot of money—it is going to take \$2 million to do such a thing.

How many of these gentlemen who are here can put \$2 million into such an installation?

Those VHF stations who now have basic affiliation with the networks can do it, and those stations that are now owned by the networks will do it.

So, where is your equality?

You are still going to have the problem of UHF stations with 2,000-foot towers, thousand-kilowatt transmitters, covering a big area, blanketing everybody else.

So, that isn't the answer.

Now, the other thing is programing. These gentlemen say, "If we could just get programing, why, we would be all right."

But let's also face the facts, gentlemen. There is only so much programing available in this country, programing that people want

to watch, and an advertiser wants to make that programing available to the public in this country at the minimum possible cost to him.

Now, whoever does that job for them at the minimum possible cost is going to get the business. If the VHF's do it, they are going to get it. If the UHF's do it, they are going to get it. If everybody is UHF and they have high power and high tower, they are going to get it because they can do it more economically.

So, we come down again basically to things I don't think any legislative body can do. It's just a case of supply and demand, and those people who were willing to take the gamble in the early days of VHF and get in on the ground floor and lose money and have a facility there that people want—now, I don't think it is a good idea now to make these VHF broadcasters go to additional expense to go to UHF again, a second time.

Now, someone said here there are three VHF stations in New York who are marginal operations, losing money. If you go to those people and tell them, "Now, you have got to go to UHF; we're sorry; we made a mistake," do you think they are going to go to UHF when they haven't been able to make a go of VHF?

Why should they go and spend more money and go to trouble with something else when they are already having trouble operating at the present time?

So, you are going to lose people. You are going to lose broadcasters.

All I can say is all the things that have been suggested here are like trying to take away something from some people who were, let's say, foresighted enough or foolhardy enough or crazy enough to go into television in the early days and set up a service; and they would like to get in it, too, but there is just so much of it available. No matter what you do, there is just so much available; and whatever the supply and demand and the amount of money that is available to spend—those are the people who are going to get it.

Now, I do not believe that it is the function of government to guarantee a profit for every broadcasting enterprise. Profit should be earned by successful service to the people. The early TV broadcasters had no guaranties.

We in Bloomington, Ind., in 1946, applied for channel 10. In a little town of 15,000 people, we applied for channel 10. At that time there wasn't a commercially available channel 10 transmitter. We had to build it to get on the air.

There were five VHF allocations to Indianapolis, Ind. Not a single radio station wanted any of these.

Maybe we were crazy fools. We went to the Commission and said, "We want channel 10. Will you give it to us?"

And the Commission did, and it took us 2 years to get the station on the air; and we lost money for 3 years, but we have gradually developed the thing.

Now, I ask all of you: Is it fair to come around to a VHF broadcaster who has pioneered, who has done a job, who is giving the service, who spent money, and say, "Well, boys, it's too bad. Now, we've got to start all over again?"

Senator POTTER. When did your station go on the air?

Mr. TARZIAN. We went on the air in 1949. This is our fifth year.

Senator HUNT. I didn't understand whether you are VHF or UHF.

Mr. TARZIAN. VHF.

Senator POTTER. You lost money for 3 years?

Mr. TARZIAN. Three years.

The early TV broadcasters had no guaranties. In fact, for several years, prospects were very dark and many, without the guts and vision, handed in their construction permits, just as some are doing with UHF today.

Senator POTTER. Do you have any questions?

Senator HUNT. No.

Senator POTTER. Thank you for your statement.

Mr. Lutz.

STATEMENT OF VINCENT J. LUTZ, PRESIDENT, ASSOCIATION OF TELEVISION SERVICE COS. OF GREATER ST. LOUIS, INC.; VICE PRESIDENT, NATIONAL ALLIANCE OF TELEVISION & ELECTRONIC SERVICE ASSOCIATIONS

Mr. LUTZ. My name is Vincent J. Lutz of St. Louis, Mo.

After listening to some of the witnesses, I would like to qualify myself a little further as a witness, other than I stated.

I might state that my radio experience goes back to 1914, prior to World War I.

Since 1923, I have made a living in the radio and electronic and television business solely.

I am the president of the Association of Television Service Cos. of Greater St. Louis and the vice president of the National Alliance of Television & Electronic Service Associations.

Some of these ideas are my own and some of them are a consensus of both our local and national organizations.

Listening to some of the men who made previous statements, I began to wonder whether we are all working for each other or entirely for ourselves.

We have to remember, somebody mentioned, this may be one of the most important hearings that was ever held here, when we take into consideration that 7 years ago television was a nonexistent industry, practically so, and today it is the third largest. In 7 years it has gone from nowhere to be only surpassed by steel and automobiles.

The men from Muncie apparently have no problems, but it would be like saying that we in St. Louis do not have trouble with Dodger fans throwing bottles at the umpire because we have no Dodger fans in St. Louis.

We have had other men say they were against monopoly, but the previous witness, not only a broadcaster—he is a manufacturer, and now he suggests that the rest of the broadcasters go into the business of selling, delivering, installing, and servicing the equipment in order to make the stations a success. I don't know how much more of a monopoly we might suggest getting into.

Some of the things I know. I know that as president of our association I needed Senator Johnson when he was the chairman of your committee in getting stations for St. Louis. I know I wasn't the only one. We also needed the FCC the same way to get us more stations.

The proper place to start, in my opinion, would be to give to the committee the number of UHF sets, converters, and aerials in metropolitan St. Louis and their value, the value of inventory of retail

dealers and wholesale distributors, and the value of the three UHF transmitters in the St. Louis area.

In 1953 RETMA reports state that their members delivered in the metropolitan St. Louis area 102,000 new TV receivers equipped to receive UHF, valued at \$35,700,000. That is a retail value.

Local distributors claim 120,000 installations of UHF aerials and/or converters, valued at \$12 million.

Based on accurate estimates, but conservative estimates, \$8 million has been added to the above 2 items since January 1, 1954.

Manufacturers not belonging to RETMA are estimated to have put in the hands of the public another \$11½ million in equipment up to May 1, 1954.

Retail dealers and wholesale distributors claim another \$71½ million in UHF sets and equipment to be in their present inventory.

The total investment in the 3 UHF transmitters in St. Louis is \$21½ million.

These items come to a grand total of \$66,700,000, which is a considerable increase over the figure which I gave you, Senator Potter, in my letter of April 20.

The original figure was thought to be an accurate estimate, but closer checking with more dealers and distributors caused me to revise the figure upward to \$66,700,000, which in my opinion is an honest figure.

Someone previously stated that they thought the serviceman had not pushed the installation of UHF converters because they didn't make any money on them.

Well, I don't believe that fact to be wholly true because in many instances I made estimates figuring 8 man-hours to make an installation and ended up doing the job and furnishing as high as 15 to 20 man-hours for the same price in order to get the set to function properly—that is the UHF installation—because we are not in business for today. I have been in business a long time, and I intend to stay there. So, satisfied customers are necessary, and we haven't made any money, but we have made the sets perform in many instances.

Senator POTTER. Does it take considerably more time to install a UHF receiver than a VHF receiver?

Mr. LUTZ. Much more time. It is a much more critical installation.

It is the consensus in St. Louis that if the UHF system fails the \$66,700,000 would be a total loss.

As stated in my letter of April 20, 1954, the failure of the FM radio system, while causing many, many complaints, was not too serious. This was due to the fact that there were not near as many FM radio installations as there are now UHF television installations and that the average cost of each FM installation was but a fraction of a UHF television installation.

I am talking here from the point of the little man that uses it. Try to get an overall picture of 166 million people that are trying to get television entertainment and service.

Now, if the people in the St. Louis area were to no longer be able to receive UHF programs and the \$66,700,000 in UHF equipment were made useless to them through the failure of the UHF system, the hue and cry would be so loud that it could be heard here in Washington.

I am sure that our two good Senators from Missouri and our Rep-

representatives from the St. Louis area would not want my fellow St. Louisans to suffer such loss financially.

The loss of the programs which are brought into the St. Louis area as a public service and necessity are not to be overlooked.

In creating the UHF system the Federal Communications Commission caused the people of St. Louis to spend over \$66 million so as to be able to receive these programs.

The FCC apparently put their stamp of approval on the UHF system and thereby caused the public to accept the fact that their Government was backing the UHF system.

By allocating UHF channels and granting licenses to three UHF stations in St. Louis, the FCC, in my opinion, has caused the expenditure of the aforementioned \$66,700,000 in St. Louis and, therefore, have an obligation to see that this investment is protected.

This protection of other UHF stations is needed in all UHF areas.

I thought that, but I see now there is one that doesn't need it.

Senator POTTER. As I understand, you have two UHF stations there.

Mr. LUTZ. Well, we actually have three. One is not operating. I will cover that further.

The amounts of money invested in other areas are not known to me, but I believe would vary proportionately with the relative population of each individual area.

The total loss would exceed, I believe, a billion dollars should a nationwide breakdown on UHF occur.

Many retail dealers and service dealers in St. Louis and throughout the country, depending entirely on television for their income, would be financially ruined should the entire UHF system fail.

With business in general declining, the failure of UHF cannot be tolerated, especially when the public was against the idea in the beginning and all television dealers in St. Louis put themselves out on the limb with their customers, selling an idea created by the FCC.

What new ideas on electronics or home entertainment could be sold to the public by us if UHF fails?

This applies to color television, which has not even reached St. Louis, and is heralded as a new era in home entertainment.

Just how long would color television have to be in existence before the public would be convinced it would not go the way of FM and UHF?

In my opinion, it would take years, if ever.

Now, let us consider the technical aspects.

I am not talking as a broadcaster because I am not on that end, but this is from my end, on the receiving end, and from the hundreds of thousands of customers that myself and our affiliated members in the association serve.

UHF television will give a sharper, cleaner picture than VHF; a picture seeming to have more depth than VHF; a picture not affected by ignition and man-made interference like VHF is affected.

More UHF stations can be allocated in the same area without interfering with each other.

People I know living in southeast Missouri cannot receive a decent television picture because the VHF station in St. Louis interferes with the VHF station in Memphis, Tenn., even though the two stations are approximately 300 miles apart. This would not be true if the

two stations were telecasting on UHF. In fact, many stations could be spotted in between St. Louis and Memphis without causing interference.

That is true in the general area. I don't mean in a beeline.

Senator POTTER. Yes.

Mr. LUTZ. If and when all the UHF stations the FCC allocated go on the air, almost everyone in the United States could expect good television reception. This would have been impossible with the original VHF allocation made by the FCC.

Let me finally present the programing situation.

Channel 14 is bankrupt because they were unable to schedule a single network program with any network. Yet, many good programs are presented by the networks that are not coming into St. Louis.

Why is this?

I would like to mention another fact here that was brought up by someone stating the thinking it was not proper for a newspaper to own a television station. Channel 5 CSA-TV is owned by the St. Louis Post-Dispatch, which is a good newspaper, and channel 5 is a very good station. It has some very good public service programs, but up until recently they carried in the Post-Dispatch the three UHF station listings and their own channel 5 VHF listing. The VHF listings were carried in very bold type. They owned the paper that printed it. They owned the station. The UHF stations were carried in very small type that you had to put your glasses on to see; and only when the UHF stations finally got together, after a long time—now the programs are printed in the same size type.

I am of the opinion that in some way this action may be construed to be in restraint of trade. At least, programs of public interest are being withheld from viewers in St. Louis.

An outstanding example of this is the Dennis Day show, an NBC show, scheduled every Monday at 8 p. m. St. Louis time. KSD-TV, channel 5 VHF, in St. Louis, is reputed to be one of the better NBC basic outlets, yet they do not carry the Dennis Day show. Repeated requests have been made to NBC to put this program into St. Louis for our people, but they say that KSD-TV cannot clear time for the show.

What does KSD-TV, a basic NBC outlet, carry every Monday at 8 p. m.? A CBS show entitled "Mania," and coming as a kinescoped or film show.

The Dennis Day show is a live show, and all live shows are superior in picture quality to film shows.

Now, someone mentioned they didn't know anything about advertising agencies not recommending UHF. I saw the copy of a letter before I left St. Louis from an advertising agency to a client recommending that their show not go into St. Louis until channel 4 was on the air. They had requested to go in on a UHF channel, and they told them to hold off until channel 4 would be on the air.

I am told that efforts have been made by the sponsors of the Dennis Day show and their dealers to get "Mama" transferred to one of the UHF channels and to get KSD-TV to carry the Dennis Day show. Failing to do this, I am told KSD-TV was asked to waive on the

Dennis Day show so it could be carried on a UHF channel in St. Louis. This request, I am informed, was also refused.

KSD-TV also carries another very popular show, the Red Skelton show, at midnight every Friday, on film, a week later than the actual show. I understand UHF stations in St. Louis have unsuccessfully tried to get this show live early in the evening when many more viewers would enjoy it.

Finally, may I urgently request that the UHF stations and the existing investment be protected in some way until UHF is established and can stand alone. The time required may be as long as 2 years.

Something was mentioned about the rate television sets were being manufactured. On projected figures, manufacturers of television figure that by 1956 a general replacement market—that is, a saturation point in television will have been reached and a general replacement market, continuing on from that time of about 6 million receivers a year will be manufactured.

I bring this point out in support of requiring manufacturers to build a full television set, the full tuner, UHF-VHF, and maybe even sometime dropping the combination, so that when a user—when you ask a user, “Are you looking at UHF or VHF?”—that is a hazard today to ask him that—he will say, “I am looking at channel 5,” or, “I am looking at channel 54,” and erase from his mind that there is a difference, that he can get a good picture on both spectrums.

Subscription television on UHF stations only would help, and so would placing color television on UHF only, for a limited period.

Allowing networks on television stations to own and operate more than five stations, if the stations are UHF stations, would provide an incentive for pushing UHF into a self-sufficient position.

Television manufacturers installing UHF tuners in every set they build would establish public confidence in UHF and create a desire on the part of advertisers using television as an advertising medium to place advertising contracts with UHF stations, thereby insuring the station's existence and the public's investment.

Radio Station KWK has recently been granted channel 4 and will be on the air within 3 months. It is rumored that they will be a CBS basic outlet. No one objects to channel 4 coming on the air, but if they come on the air with CBS network and nothing is done concretely to protect the UHF stations, the UHF stations will be seriously hurt, maybe to the point of going off the air entirely.

Since the granting of channel 4 in St. Louis there is something that has gone on in St. Louis that I have heard no one else bring up. It may be in other cities also, but this is a rumor going on that UHF in the St. Louis area is ready to fold up entirely. We cannot pinpoint or find out who is originating this, but people are willing to bet, take bets, that there will not be a single UHF station on the air in the St. Louis area after the baseball telecasting is stopped.

These rumors and offers to take bets have only appeared since the granting of channel 4.

Senator POTTER. Baseball is being televised by one of the U stations; is that right?

Mr. LUTZ. Yes. One of the UHF stations has that outlet, and they also have an option—the sponsor has an option—for next season, that is, the 1955 season, also. So, evidently the sponsor is well sold on UHF, if he has an option for next year.

The decision on UHF help must come quickly to avoid UHF failure in St. Louis as in Kansas City, Mo., where UHF was ruined trying to exist with two VHF network stations.

I might say some of these figures we heard about—fourteen ninety-five converters—some of the dealers who immediately ran up to Kansas City from St. Louis were able to buy converters that we were paying \$32 wholesale for—they were able to buy them for \$5 apiece because those fellows were ready to give up, and they were selling out for what they could get for what they had.

Senator POTTER. You were here when the previous witness testified and showed his all-channel tuner?

Mr. LUTZ. Yes.

Senator POTTER. Do you have any of those tuners in St. Louis?

Mr. LUTZ. Well, those tuners, of course, are coming, evidently, in the late 1954 or early 1955 models.

I would say, in taking a manufacturer's formula for arriving at a list price, or retail price, and using it in reverse, I would say a manufacturer should be able to, at his level, produce a set for about \$2.95 more with an all-channel tuner than he is doing it today.

Now, that is based on the fact that many manufacturers are advertising a VHF only set for just \$20 less than a combination, complete, not a stripped tuner but a continuous tuner, cover all channels of VHF and UHF. So, there is \$20 at the retail level, and my understanding is it probably cost him about \$2.95.

Senator POTTER. What has the experience been in St. Louis with new sets that are being sold? What percentage of them will receive just VHF and what percentage have an all-channel tuner?

Mr. LUTZ. Well, up to now the figures that I have been able to gather from the distributors—most distributors have not delivered anything but combination UHF-VHF sets for the last year.

Senator POTTER. In other words, people who are buying sets now are getting the all-channel tuner?

Mr. LUTZ. That is right.

Now, there is one other figure that Mr. Garrison got that I think is a little pessimistic for the UHF operators, and I got a very recent figure. The figure of 600,000 sets in the St. Louis area given out by the VHF station is gathered from the local power and light company, who get their figures from all of the distributors of television sets in the St. Louis area; but some of those distributors distribute sets in Springfield, Mo., Hannibal, Quincy, Ill., Decatur, Ill., Springfield, Ill., and that is not a primary St. Louis area. So, deleting some of those, plus the fact they do not ever take anything off for a set that is junked or traded in, I would say the fair figure for the St. Louis area would be 500,000, not 600,000; and our figure of 220,000 UHF sets would not make it a 30 percent but almost 50 percent conversion factor in St. Louis.

I think possibly in a little newspaper item I have here we might say UHF has a moral victory, but you don't pay off on moral victories. The station in Spartanburg, S. C., asked to move their tower down within 6 miles of an existing UHF area. The UHF station objected, and it was taken to the Federal Communications Commission, and the tower has been moved, and they report the signal is many times stronger now in the UHF signal than it is in the city to where the VHF channel has been assigned.

Where I get the moral victory for that is Commissioner Hennock was the only one that dissented and said it wasn't fair to the existing stations to move somebody else in on top of them when they are getting along fairly well as they are.

Another article on Senator Johnson suggesting that the manufacturers put a combination VHF-UHF unit in the color television sets—I think it would be a better idea if it went in all sets, not just in the color television sets.

But I am not attempting to blame the FCC or the Senate. It is again something that everybody pushed. Everybody pushed for more television stations. It was done in a hurry, and anything that could start from its birth and reach No. 3 position in 7 years is going to have a terrific amount of growing pains, and in order for a lot of people not to be seriously hurt it is going to probably require some aid or intervention in some way.

Senator POTTER. And you don't think it has stopped growing yet either, do you?

Mr. LUTZ. No; it hasn't stopped growing yet. There are many other things, such as subscription television, and we haven't even had color television, and I heard recently at a national meeting of the national people that a certain manufacturer was now ready to demonstrate his three-dimensional television set.

Senator POTTER. That is all we need.

Thank you kindly.

Mr. Israel.

Mr. ISRAEL. Yes, sir.

Senator POTTER. Mr. Israel, will you identify yourself for the record?

STATEMENT OF LARRY H. ISRAEL, VICE PRESIDENT AND GENERAL MANAGER, TELECASTING, INC., PITTSBURGH, PA.

Mr. ISRAEL. My name is Larry H. Israel. I am vice president and general manager of Telecasting, Inc., permittee of television station WENS, channel 16, Pittsburgh, Pa.

WENS began operation August 29, 1953. It uses in excess of 200,000 watts of power and an antenna height above average terrain of over 850 feet. With the exception of Saturdays and Sundays, when our hours of operation are fewer, we are now operating 16 hours each day.

Our station was built at a cost of approximately \$580,000, and since August 1953 additional investments bring the total fixed assets to approximately \$850,000.

Our corporation is owned by 23 individuals and 1 corporation. All the individual stockholders are residents of the Pittsburgh area or have business and civic interests in that community. The single corporate stockholder, Tyrone Corp., is a Pennsylvania corporation with offices in Pittsburgh.

Pittsburgh is the largest intermixed UHF-VHF market in the nation.

WENS is owned and operated by Pittsburgh people. Its staff has a combined VHF-TV experience of 110 years and 4 months. These people did not become any less adept in their positions when they switched to the UHF band.

I make this point because it has been implied some of the UHF broadcasters are Johnny-come-latelies to TV.

The investors in the station are all active in Pittsburgh civic and business life. Most of them are lifelong residents of the city. They have not invested on a speculative basis.

It was conceived with great care and study. Equipmentwise the station is competitive with the existing VHF station in every possible manner.

Programwise we did not depend on network service as our mainstay of programing, although we would like to point out that ABC and CBS have been helpful and cooperative with us in Pittsburgh to the limit of their ability. For example, in 6 months WENS completed more hours of remote telecasting—major sports and special events—than had been accomplished previously in the market in 5 prior years.

We telecast special sports events from New York, three or more in a series, many times providing service to a regional network, many stations of which were VHF.

We did this at great cost in equipment expenditures and rights charges.

No new station, U or V, to our knowledge, ever worked harder to promote television.

We do not seek any special dispensations for UHF, but do seek the same ability to compete rather than the unnatural handicaps placed upon the new band.

If UHF does not succeed in a major market such as Pittsburgh, it will be academic if it succeeds in the sparsely populated areas, for if a network is to be competitive it must clear time in the top markets of the country and there are not enough television channels to go around in these markets unless UHF is used.

WENS has confidence in the ultimate success of UHF. However, we feel that UHF stations should have the same chance to succeed as did VHF stations.

Now, the rules have been changed to the extent that the FCC, perhaps unwittingly, has created an additional handicap for UHF in Pittsburgh by circumventing its original allocation plan by which most applicants were guided when they ventured into the new band. In other words, the rules have been changed to hasten VHF at the expense of UHF.

After making its original allocation—by “original allocation” I refer to the sixth report—for two V’s and three U’s for Pittsburgh, the FCC, by what I call a special gimmick, circumvented its own allocation. This gimmick, in reality a television gerrymander, was to add a VHF channel in the city of Irwin, Pa., on the outskirts of Pittsburgh—population 4,200. To all practical intents and purposes, this will be a Pittsburgh channel. Therefore, we are proposing that in fairness the hearings on this channel—channel 4, Irwin, Pa.—which were set for May 21, today, be delayed for 1 year pending a reexamination of UHF in intermixed markets.

We have no quarrel with the FCC’s original allocation for Pittsburgh. We were aware of what the competitive picture would be. Therefore, there is no dispute by WENS as regards channel 11 now in hearing. Channel 11 is now in hearing.

The FCC indicates that it is sympathetic with some of the obstacles placed before UHF. The Commission, however, says it has no authority to help. It does seem that if it had this authority to assign new VHF channels after its original allocation was made it would seem logical that the same power and authority could be used to put UHF on the same competitive level as VHF.

If this undue handicap is placed on UHF in Pittsburgh, it could very well create considerable economic hardship from UHF itself. Thus far, based on present UHF conversion and based on a minimum of \$50 per converted set by the public, it would mean a financial loss of \$15 million in Pittsburgh alone. Multiplied by similar markets, the total sum would run into the hundreds of millions. This demise of UHF could, by the same token, mean the demise of the third and fourth networks.

It is generally agreed, with but two networks in this country, such telecasting monopoly could readily lead to thought control. It would end once and for all any thought of a nationwide competitive service, because a network cannot long survive without sufficient affiliates in key markets.

In order to preclude a too-little, too-late proposition, WENS proposes two series of plans:

Firstly—short-range proposals which can and should be effected immediately;

Secondly—long range, which can be made operative over a period of time and on a gradual, transitional basis, if the short-range proposals don't work.

(a) Short range:

1. That channel 4 hearing in Irwin, Pa.—and those similar additions in other intermixed markets circumventing the original allocation plan—be suspended for 1 year pending a reexamination of UHF.

2. That the FCC-proposed multiple-ownership plan—or preferably the Du Mont plan—I, personally, like plan C—be legalized immediately.

Thus far, while ABC and CBS have cooperated with us in Pittsburgh, the networks have had no financial interest at stake. The networks are equipped and geared in a promotional way to build UHF nationwide. This promotion should be spread and shared equitably by the four networks.

I would like to point this out: That, unlike VHF, the difficulty with UHF now is that it is being sold from the bottom up by the individual stations alone rather than from the top down, with all the industry working together, as they did originally in VHF.

3. That an immediate halt should be made to share-time grants and the quickie, overnight mergers.

(b) Long range—if the short-range solutions do not solve the problems, I propose—and I know others have been proposed by the coordinating committee and Du Mont, and I merely toss these in the hopper—perhaps theirs are better:

1. In order to preserve UHF as a competitive service and at the same time solving the intermixture problem in markets so affected, it is proposed that all V's in intermixed markets be transferred to U's over a period of 5 years.

This would indicate to national time buyers that UHF is permanent and would preserve the present U's as a nationwide service.

For any dislocation or replacement of gear that might be necessary for V stations in these markets, possible tax concessions could be made. In other areas where U's have been allocated but not constructed, no such problem exists.

2. As an alternate plan, the replacement of the FM band between channels 6 and 7 could be utilized in the intermixed markets, providing three additional V's, the number of which to be used in a given intermixed market to be based on the number of UHF's presently operating in that market.

I would just like to point this out: Some of the manufacturer representatives here that I have been listening to said they are doing everything possible to sell UHF. Frankly, in my experience, this is mere lipservice.

Let me show you this newspaper from Pittsburgh—and I don't want to use the manufacturer's name, Senator, but I would like to show you this. The headline is "Terrific"—blank—"TV Value, \$139.95"; very small type below, "If you want UHF too, it's only"—and you see the price below.

That is one newspaper clipping. To me, if it isn't dishonest, it is almost, I think, unethical.

Commissioner HENNOCK. What is the price?

Pardon me, Mr. Chairman.

Senator POTTER. Thirty dollars.

Mr. ISRAEL. An additional \$30, which is modest in this case. Most of them are between 50 and 60.

I would like to make that a part of the record.

Senator POTTER. That will be made a part of the official record of the committee.

Mr. ISRAEL. Attached to that is another newspaper, and the article I have reference to is entitled "TV Topics." The headline says "Why Do They Charge Extra?"

I would like to quote very briefly from this:

If manufacturers were making an honest effort to help promote the growth of television, they would discontinue, at once, the practice of charging extra for sets that cover both the VHF and UHF bands.

Almost all the sets being sold in the district are equipped for reception on all channels, including UHF, of course, but there is a "slight additional charge" over models designed for VHF only.

I recall being told by the president of a well-known TV manufacturing company several years ago:

"When UHF comes we will absorb the additional cost of the all-band tuner. It won't amount to much, and there's no reason why all manufacturers shouldn't be able to do the same."

I won't read the rest.

Senator POTTER. That will be made a part of the official files of the committee.

Mr. ISRAEL. All right, sir.

I would just like one final word, if I may.

Senator POTTER. I have a vote waiting for me downstairs.

Mr. ISRAEL. I will make it very brief.

Certain witnesses here have said UHF broadcasters might be faced with and should expect a long, hard road in pioneering, and we are prepared for that. We expect no profit certainly for the first year; and I have pioneered in both VHF and UHF and, believe me, this is

the fallacy: While VHF progressed daily; you could see it grow; it was only a question of time—UHF has now reached an impasse.

Thank you.

Senator POTTER. Thank you for your statement.

I am sorry, but we are going to have to recess until I get back or another Senator gets back from the vote.

(Whereupon, at 4:51 p. m., the hearing was recessed until 5:03 p. m.)

Senator POTTER. The committee will come to order.

We have three more witnesses, and we would like to conclude them this evening, if we can, and we will recess at the conclusion of the hearing tonight until June 3.

Mr. J. P. Beacom.

Mr. Beacom, we will be pleased to hear your statement.

STATEMENT OF JOHN PATRICK BEACOM, PRESIDENT-OWNER OF WJPB-TV, INC., FAIRMONT, W. VA., ACCOMPANIED BY ROBERT M. DRUMMOND, VICE PRESIDENT AND GENERAL MANAGER OF RADIO AND TELEVISION OPERATIONS, WJPB-TV, INC., FAIRMONT, W. VA.

Mr. BEACOM. Mr. Chairman, Madam Commissioner, members of the committee; my name is John Patrick Beacom. I am president-owner of WJPB-TV, Inc., in Fairmont, W. Va., and this is Robert M. Drummond, our vice president and general manager of our radio operations and television operations in Fairmont.

In connection with our television station, WJPB-TV, I also own and operate radio stations in Fairmont and New Martinsville, W. Va., and Butler, Pa.

I am a little reluctant at this late hour, Mr. Chairman, to take up so much of your valuable time. As a matter of fact, I had thought earlier this afternoon of presenting my statement and having it inserted in the record; but in view of some testimony that had been given here in the late hours this afternoon, I felt that it might be proper for the cause of our UHF group that I say a few words, and I shan't be too late.

Senator POTTER. You can do that and you can submit your statement, if you wish, and it will be made a part of the record, and you can discuss whatever points you would like to discuss.

Mr. BEACOM. Thank you very much.

As I say, I am a little reluctant to follow the gentlemen from Indiana, two of them, Muncie and Bloomington, who have told you of the wonderful record of achievement for WLBC and also the V station in Bloomington, for we in our little market, which is, of course, not in the same class as either Muncie or Bloomington, and Indianapolis, feel that we in Fairmont have—

Senator POTTER. How large is Fairmont?

Mr. BEACOM. Twenty-eight thousand people. That is the city.

Senator POTTER. Yes.

Mr. BEACOM. I am speaking of the market now—

Senator POTTER. Yes.

Mr. BEACOM. Which covers Muncie and Bloomington, which is larger, have a success story, nothing like Mr. Burton's or Mr. Tarz-

ian's, but, to be sure, nevertheless, one which we feel merits some consideration by this committee.

Now, Indiana has its full share of success stories as evidenced by what Mr. Tarzian told us here a few moments ago.

I think one of the first statements he made was that no one should go into the television business without sufficient reserve to protect themselves against a long pull of losses. I think he is very wise in that statement, but I can also think of the time—and I have read his success story, I think, in one of the weekly periodicals—where he started in business not too many years ago for less than \$5,000, and he has made quite a success of his business.

So, I would say in this American way of business, of free enterprise, I think it is a challenge for perhaps some of our smaller stations in our smaller communities and smaller markets to see if we can't bring television, the greatest medium of expression today, to the people of our area.

Now, I would just like to say, if I might, Fairmont, as I told you, a city of about 29,000 people, is considered America's smallest market with a camera-chain station, UHF station, for live television programs.

WJPB-TV has been cited in various industry media as the lowest cost chain, camera chain, station on the air to date.

I think that is important for this committee and perhaps for the Commission.

Senator POTTER. What do you mean by "camera chain"?

Mr. BEACOM. We mean by that a station which has a live camera, a camera which takes studio pictures and transmits it over the air for transmission purposes.

Therefore, we feel that our appearance here today before this distinguished subcommittee, and the Commission, may in a measure—and we hope at least will—assist you in your study of the UHF economic problems affecting the small markets and, let's say, the grassroots areas of our country, coining a phrase from our colleagues from Nebraska and Kansas.

Any solution of these economic problems of the UHF television operators must recognize that the American public has a vital stake in any nationwide television system, based upon free enterprise.

Such a competitive television system must be based upon a sound plan for allocation of channels over the country. This was the objective of the sixth report and order of the Federal Communications Commission; yet, in considering the various problems which have beset UHF, it is becoming increasingly clear that with the present allocation system the UHF stations cannot possibly achieve an equality of competitive opportunity with the VHF stations.

UHF in its present stage of development is economically handicapped.

You have heard all about that. The problems are multitude.

A corrective must be found, lest the operation of television stations in the smaller communities, in the grassroots areas, of our country cease to exist.

I shall not attempt, as I told you, this afternoon, in this brief statement, to catalog all the problems already affecting UHF in our area, because most of those factors already have or will be brought to your attention in this hearing.

Aside from the high cost of conversion of VHF sets that we have heard about, the continued manufacture, promotion, and sale of receivers capable of VHF reception only, the very great price differential between UHF all-channel and VHF-only receivers and the failure to manufacturer RF amplifier tubes for practically home UHF reception have contributed greatly to the increasing apathy of the public to purchase such receivers and the lack of enthusiasm on the part of the dealers in these areas to sell UHF.

Now, a small local station, either television or radio, can survive only so long as it can obtain the necessary revenue for operation. This depends entirely upon the availability of programs sufficiently attractive to cause public acceptance of the station.

Today the very existence of any television station is the availability of adequate network programs. For the most part networks are interested in the lowest cost per given number of receivers and, consequently, in most cases they favor the VHF stations.

It is just a natural course of economics.

In the case of WJPB-TV in Fairmont, we are more fortunate in this respect than others. Through the generous and friendly cooperation of the Du Mont Television Network and its owned and operated Pittsburgh station, WDTV, we have been allowed—that is WJPB-TV, our station, has been allowed—to pick up off the air all Du Mont Network programs, which we could not otherwise have carried had it not been for the willingness of Harold Lund, the general manager of WDTV, and the Du Mont Television Network, through E. B. Lyford, the station relations manager, to help a little grassroots television station get started.

WJPB-TV is not interconnected by American Telephone & Telegraph Co. to network cables.

We are also affiliated with the National Broadcasting Co. and the American Broadcasting System on what is termed a nonconnected basis.

We receive little revenue from the network for the programs carried, but we do have the advantage of good programing through these networks, which, after all, means dollars and cents in other ways.

Our agreements with the American Broadcasting Co. and the National Broadcasting Co. are such that they can be canceled by the network at any time within 60 days' notice.

Experience has shown that even though a UHF station with a network affiliation has been established in a community for some time, whenever a new VHF station comes into the market it is usually able to obtain the network affiliation.

In the case of WJPB-TV, we are wondering what effect the coming of VHF to nearby Clarksburg will have on our present network affiliations.

That is approximately 25 miles from Fairmont.

Frankly, should we lose our network affiliations, we would be inclined to discontinue the operation of our television station, unless something in the interim would develop which would prove otherwise.

All attempts by WJPB-TV to work out an agreement with the Columbia Broadcasting System to affiliate with the CBS network has met with a series of rebuffs. The attitude of that network has been anything but cooperative insofar as WJPB-TV is concerned, this despite the fact that CBS does not have an affiliation anywhere

in this area which furnishes a grade A television signal to the Fairmont, Mongantown, or Clarksburg area, and by that I say they have no affiliate in Pittsburgh, in Johnstown, or the Wheeling area that will get them into Fairmont, even a hundred miles away.

Now, we are very interested in CBS for one reason, one particular program, that is, the Westinghouse Studio One, because in Fairmont we have the largest Westinghouse plant for the manufacture of fluorescent bulbs in the United States. They employ some 5,000 people. They would like to see their program. They would like to see it on a local station. We can't bring it to them. We told them we would carry it for free; we would take it as a public service, but that had no effect upon their decision with respect to feeding WJPB-TV any CBS programs.

I point this out merely to show you we can get cooperation from some networks, but we certainly haven't had it from CBS.

The inadequacy of UHF coverage—and later in this report I shall discuss this more in detail as it concerns WJPB-TV—the high cost of conversion, interference, and other problems are frequently exploited by VHF operators to the further detriment of UHF stations, and the competitive efforts of those interested in other than UHF television are frequently directed to playing up such inadequacies and the necessary extra investments required by the public to enable them to receive the UHF stations in the area.

It is in this direction, gentlemen, that I suggest the members of your committee look, for we in Fairmont, a very small community and small market, are encountering an economic threat to the very existence of WJPB-TV through the accelerated expansion of the unregulated and uncontrolled community antenna systems.

Fairmont geographically is located some 78 miles from Wheeling, where there is 1 VHF station, 115 miles from Pittsburgh, where there is 1 VHF station and 2 UHF stations, and 125 miles from Johnstown, where there is 1 VHF station and 1 UHF station. Each of these cities operates one or more television stations.

According to the Commission's engineering studies, none of the television stations in the above-mentioned cities should provide a signal of sufficient strength to serve Fairmont. Thus, on the surface of the Commission's findings, Fairmont would not expect to have television, other than that furnished by its own VHF station, WJPB-TV, on channel 35.

Now, the situation becomes complicated because the J. H. Whitney interests of New York, through their Jerrold Electronics Corp. in Philadelphia, have come into West Virginia and, under the name of the Fairmont Television Cable Corp. in Fairmont and the Clarksburg Television Cable Corp. in Clarksburg, have built a network offering closed-circuit television service to these communities with programs from Wheeling, Pittsburgh, and Johnstown stations.

The Fairmont Television Cable Corp. picks up off the air the signals of the above-mentioned stations, with or without their consent, amplifies it and, for an installation fee of \$137, plus \$3.75 per month, pipes it to the homes of the subscribers. As a result, Fairmont, with only 1 television station, only 1 allocated by the Commission, channel 35, allocated to it for geographic and economic reasons, now has, for all practical purposes, 3 nonallocated TV stations competing with the local UHF hometown station.

Senator POTTER. What kind of an operation did you say this was?

Mr. BEACOM. A community antenna system.

We will get into that in just a moment with some other data here that I would like to furnish the committee.

I am bringing this out because it has not been brought to the committee's attention until now.

To further complicate our problem, WJPB-TV was added to the closed-circuit system of the Fairmont Television Cable Corp. when it went on the air in March. Two days later, without notice to its subscribers, that is, the cable subscribers, the public, or the station, WJPB-TV, their signal was removed from the closed-circuit system.

Much publicity and advertising pointing out that Fairmont's own television station, WJPB-TV, would be carried by the Fairmont Television Cable Corp., making it unnecessary for the several thousand subscribers to convert their sets to the UHF channel 35, had been given previously, adding further confusion.

In that connection, I should like to submit to the committee here this full-page advertisement out of the Fairmont paper which, as you can see, says: "Welcomes Fairmont's Own TV Station, WJPB-TV, and Will Carry WJPB-TV Programs on the TV cable."

In effect, they are saying: "You don't have to convert. Don't convert. It won't cost you anything."

There, if you will accept it, please, Mr. Chairman, is that advertisement.

Senator POTTER. Yes. That will be made a part of the official records of the committee.

Mr. BEACOM. We would like to put in the record they are unregulated and uncontrolled, and the statements they can make in the press are such that they are not borne out in their actions, and it certainly does affect the stations that have come through the regular and proper channels, designated by the Congress, in setting up the rules and regulations for the operation of the television stations.

It is important that in communities where UHF stations are operating, and perhaps some VHF stations are operating, that these unregulated community antenna systems must be brought under some sort of supervision or regulation, whether it is as a utility, so they can't raise the rates, which they can do at any time now, or whether to determine by the Commission or some regulatory body how they can operate.

I think it is extremely important that we point out that we are not in an economic depression as far as WJPB-TV is concerned. Our station, as we have said at the outset here, went on the air for the lowest cost of any operation to date in the country, a little less than a hundred and eighteen thousand dollars, with a camera chain.

Our operating costs—and I will go into those in just a moment—have been sufficiently low, I believe, as to indicate we can operate a television station and stay in business at reasonable cost; but the point we make is that television suffers where these unregulated community antennas operate, and we hope you will consider this in your deliberations on this committee.

The paramount consideration of public interest which should be recognized by the Senate subcommittee, aside from this, of course, is that the public has a vital stake in the preservation of existing television stations as a competitive force in the industry.

This consideration is based upon the basic governmental determination which is implicit and explicit in the nationwide television allocation report and plan that the existing VHF channels are inadequate to assure the attainment of a truly nationwide competitive television service.

We have attached to the original copy of our statement copies of some newspaper advertisements covering some of the points we have discussed concerning the Fairmont Television Cable Corp., some of which I have already presented to the chairman, some of which we have here which we will also present.

I would also like to enter for the record a copy of the advertisement of the Jerrold Electronics Corp., of Philadelphia, concerning the closed-circuit community television system, from which I quote:

Serving the public in over 220 cities and towns in 34 States and Canada, subscribers by the thousands get live network programing on Jerrold community television systems from distant stations out of range of ordinary reception.

I respectfully submit this to you for your records, too.

Senator PORTER. Yes. That will be made a part of the official records of the committee.

Mr. BEACOM. I respectfully draw your attention to this again because it certainly affects our grassroots UHF rural stations.

The foregoing impels me to point out that only recently the FCC saw fit to authorize the construction of a special microwave relay for a community antenna system in Poplar Bluff, Mo., to feed station signals from Memphis to community systems to be built in Poplar Bluff and Kennett, Mo. Immediately the two Memphis television stations served notice they would not consent to the use of their signals by community systems.

Community operators say they aren't concerned with the station's objection and are going right ahead with plans to take the signal. If such is permitted, then the action of the FCC opens new towns and areas to community cable systems at the expense of the UHF hometown, grassroots, television stations.

Now, in fairness to the FCC, it should be pointed out to this committee that the Commission is in doubt about its authority over community antenna systems, and in connection with this and in commenting on the matter the Commission has said—and I quote from a recent decision:

The Commission is not making any express or implied decision as to the existence or extent of any jurisdiction it may have with respect to the installation and operation of any community TV systems.

In view of the already serious economic effect the community system in Fairmont-Clarksburg has had on WJPB-TV, I urge this committee's careful consideration of the matter of recommending legislation to regulate and control the community systems so that UHF stations in other sections of the country will not be subjected to the same competitive handicaps we suffer in Fairmont.

It is also important, I think, for your committee to have the information, as I have told you, concerning the building of WJPB-TV at a low cost of approximately \$118,000 and the operating figures for the first 2 months of television in Fairmont.

Our operating expenses for April—and we operated approximately 8 hours a day—were just under \$8,000. This figure will be increased slightly for May.

Revenue for April was less than \$5,000, and will be about the same figure for May.

Our losses for the first 2 months will be cushioned somewhat by the revenue and profit from radio operations. However, we cannot hope to exist for long on the strength of radio revenue. We are hopeful of breaking even before August, because our programing is good and the network cooperation is now shaping up so that we can expect cooperation and support there.

We also feel that, despite the reluctance of the Madison Avenue group and despite what has been said by the gentleman from Indiana to the effect they have had no trouble with the Madison Avenue time buyers—I might say that Mr. Drummond here, who is not only our general manager but is one of our top sales experts, has found it pretty hard to even get in the door of some of those boys along Madison Avenue.

But we are in business in Fairmont. We are going to stay in business. We think the UHF operation we have will be a success and that success in part is due, I would say, to the wonderful cooperation that we have had from the equipment manufacturer who has furnished us with our equipment.

I am making a part of this original report a letter and data furnished by the General Precision Laboratory of Pleasantville, N. Y., who have described in detail, with pictures, the necessary equipment to furnish WJPB-TV to start television operations at the low figure I have told you.

In this connection I should like to say that the cooperation and support we have had from the General Precision people has been one of the highlights of our television experience to date. If we don't make a success of UHF in Fairmont, it won't be because our equipment isn't good or because the equipment people haven't cooperated to the fullest with us.

The difficulties of UHF operators are compounded by the burdens of paying the higher cost of UHF equipment.

Equipment may be purchased on a deferred-credit basis from the manufacturer, but the credit terms extend over a relatively short period which is not realistically geared to the period of time which UHF operators necessarily require to become established and to overcome their existing handicaps. These handicaps, of course, make more difficult the availability of adequate credit terms from normal banking sources, because of the risks involved. It becomes increasingly apparent, therefore, that the Small Business Administration must assist the good, sound UHF television operator by underwriting long-term loans if others are to go into the business or some of them that are already in the business are going to be able to exist, because they have millions of dollars worth of equipment and these investments might be wiped out by short-term credits.

I recommend to the committee that some consideration be given—not for WJPB-TV, but for some others than I know that could be helped by the Small Business Administration who, because of rules or regulations, cannot now under the present setup make loans to the television stations. They think it is too risky.

The problem of survival of a competitive television system in the Nation should not be rendered academic by the extinction of all UHF broadcasters.

That, of course, is important.

In order to avoid complicating a solution to the problem, pending completion of this committee's proceedings, there should be, I think—and we certainly endorse the recommendation of the Madam Commissioner here for the immediate suspension of further grants of applications for new television permits and for any changes in existing television authorizations affecting coverage.

I think you should also, if I might say, in this committee—I would like to point this out—call in the military to see what their needs will be in the future in the VHF spectrum. It may be the VHF channels will be needed for our military defenses, and that is important to check in the consideration of this.

One other point before I close here: I should like to say that the Commission has been most helpful to our small operation.

I believe the Commission is willing to do its full share to help the small stations exist and continue to operate, if this committee will make some recommendation to them so that they can have something to hang their hats on. Let's put it that way. I am sure they will work with you.

And I would like to make one other statement, if I might, before closing: It has been stated by our friends from Muncie, Ind.—and I can't help but get back to that—that they have the utopia for all UHF in Indiana. Well, Indiana is a great State. We like it in West Virginia, but we think we can do the same kind of a job in West Virginia.

We have 3 networks—1 a recent one—but we still have 3 of the 4—and we still aren't making money yet. We are going to. We are having our struggle, but bear this in mind: That all UHF stations are going to have their problems when the VHF signals get into their market, and today Muncie doesn't have that competition. One station in Indianapolis is getting into Muncie without any degree of competition.

They say you need good management to stay in business. Well, we like to think we have some fair management in our little stations. Our radio stations have made money. So, there is no reason why our television stations can't make money.

The Muncie group, WLBC, say they operate on 40 people. Well, we operate both radio and TV in Fairmont on 20, and we are still not making money.

So, it is a problem. It is an important problem—and I am talking today not for WJPB-TV in Fairmont, but all of the other smaller market TV stations in the United States; and I certainly hope that this committee will, in its wisdom, be able to work out something that is going to save the basic economic free-enterprise television system that we have today in the United States.

I appreciate being here, Mr. Chairman. Thank you for giving me this time.

Senator POTTER. We are glad to have your statement.

Commissioner HENNOCK. Mr. Chairman, may I ask permission to ask one question?

Senator POTTER. Yes.

Commissioner HENNOCK. Mr. Beacom, the president of Jerrold—I have forgotten his name now—he is an engineer—

Mr. BEACOM. Yes.

Commissioner HENNOCK. Was in my office. I voted for this last decision you are talking about.

Mr. BEACOM. Yes.

Commissioner HENNOCK. I want to take my share of the blame again, and I asked him what effect these community antenna systems are having on ultra high and he said to me he was duplicating your program on the community antenna system—not only yours, but all of the UHF stations—and, therefore, enlarging your coverage.

Now, you have given me an entirely different picture, and again I am just so terribly distressed by having hurt you with my vote.

Mr. BEACOM. Well, Madam Commissioner, I appreciate this: That—let us say this—whether or not we are on the cable in Fairmont, WJPB-TV is still going to exist; we would be more helped if we were on it, but I am thinking of other areas that are going to be opened up, and if they come in without some sort of regulation it is going to hurt them badly.

Commissioner HENNOCK. I didn't know he was advertising and saying, "Don't convert."

Mr. BEACOM. Well, there is the advertisement.

Commissioner HENNOCK. I think that is highly unfair.

Mr. BEACOM. We thank you very much.

Senator POTTER. Thank you, and these advertisements and other data you have submitted will be made a part of the official records of the committee.

I wish to submit for the record at this point a telegram received from Blair Foulds, vice president of the General Precision Laboratory, Inc.

WASHINGTON, D. C., May 20, 1954.

COMMUNICATIONS SUBCOMMITTEE OF THE INTERSTATE AND FOREIGN COMMERCE
COMMITTEE OF THE SENATE,

Senate Office Building.

(Attention of Mr. Zapple.)

The General Precision Laboratory, Inc., respectfully withdraws its request to appear before you in the UHF proceedings since we feel that others closer to the operating problems can be more constructive on this serious UHF matter. However, we respectfully wish to bring to the committee's attention forcefully the possible effect that the uncertainty of the future of UHF can have upon technical progress with regard to high-powered transmitters for UHF.

Only the incentive provided by a healthy potential industry can justify the magnitude of the investment required of the manufacturer to rapidly develop high-power UHF-TV transmitters and further justify the large capital investment required of the UHF-TV broadcaster to acquire and place in operation such high-power transmitters.

In spite of the present unsettled climate in UHF, we are proceeding with the development of high-powered equipment. We will deliver our first GPL—continental 50-kilowatt UHF transmitter in July 1955. The actual recommendations that will assist in resolving the current UHF-TV economic difficulties must be left for those closer to the overall operational problem than ourselves. We can, however, attest and attest strongly to the need of the UHF-TV industry for positive corrective action.

BLAIR FOULDS, *Vice President.*

Senator POTTER. Mr. Merryman.

I understand, Mr. Merryman, you agreed to just testify on your recommendations now and you will be back with us later for the balance of your statement; is that correct?

Mr. MERRYMAN. Yes, sir; if that is acceptable to you.

Mr. BEACOM. Mr. Chairman.

Senator POTTER. Yes.

Mr. BEACOM. There is one thing important I forgot to state, and I would like to add that I would like to endorse the principles of the Bricker bill which is pending before you.

Senator POTTER. I am glad you mentioned that.

Mr. BEACOM. Thank you.

Senator POTTER. Thank you.

STATEMENT OF PHILIP MERRYMAN, PRESIDENT AND GENERAL MANAGER OF SOUTHERN CONNECTICUT & LONG ISLAND TELEVISION CO., INC., TELEVISION WICC-TV, BRIDGEPORT, CONN.

Mr. MERRYMAN. Senator Potter, I do have a prepared statement which I would like at this time to have accepted for the record in full.

Senator POTTER. That will be made a part of the record at this time.

(The prepared statement submitted by Mr. Merryman is as follows:)

STATEMENT OF PHILIP MERRYMAN, PRESIDENT AND GENERAL MANAGER OF SOUTHERN CONNECTICUT & LONG ISLAND TELEVISION CO., INC., TELEVISION STATION WICC-TV, BRIDGEPORT, CONN.

My name is Philip Merryman, I am president and general manager of Southern Connecticut & Long Island Television Co., Inc., owner and operator of UHF television station WICC-TV, Bridgeport, Conn. My background and experience in radio and television broadcasting are summarized in appendix A hereto.

With your permission, I would like to address myself first to the general problems facing ultra-high-frequency television broadcasting as we see them after more than a year of operating a UHF television station; and then comment briefly on particular problems affecting our own operation in the highly competitive situation in which we find ourselves in Bridgeport, Conn.

We undertook the operation of a UHF television station under what have now proven to be erroneous assumptions. In the fall of 1948 the Federal Communications Commission discontinued the issuance of authorizations to construct television stations while they restudied the problem of how to provide a truly competitive nationwide television service. They rightly concluded that the conditions under which they were allocating television stations prior to 1948 would lead to a monopolistic situation. The Commission studied this problem for nearly 4 years, and in the course of their investigation took testimony from broadcasters, manufacturers, educators, and organizations primarily interested in seeing that the public was not deprived of a competitive television system.

Much testimony was introduced by the manufacturers of television receivers and television broadcasting equipment that technically, a new band of frequencies extending from 470 megacycles to 890 megacycles offered practical opportunities for television broadcasting. Consequently, the final conclusion of the Commission was that they would maintain the existing 12 VHF frequencies for television and establish 70 new frequencies in this UHF band for additional commercial and educational stations. In so doing, the Commission, relying upon testimony introduced by the manufacturers, said it was its considered opinion that there would be adequate devices manufactured at a price the public would pay for adapting existing television receivers to stations in the new band.

The Commission further stated that the manufacturers of television receivers would very quickly convert their production to receivers capable of tuning all the television channels including the 70 new channels in the UHF band. Unfortunately for us, these statements of the manufacturers in actual practice proved to be a hope rather than a fact and the result is that after 14 months of operation, we are faced with the fact that the manufacturers have yet to put on the market an all-channel converter which is technically satisfactory at a price the public is willing to pay. Of course, if the only way the consumer can get a television program or, if his existing VHF television service is limited,

either in the quantity or the technical quality of his VHF reception, he will make this additional investment. We are not only faced with this price situation but the manufacturers of television receivers never reached more than 30 percent of the total output with all-channel receivers and what is more alarming, the percentage of such receivers had declined from its peak to somewhere around 20 percent at the present time. To add further to our discouragement we are advised that most manufacturers of colored television receivers are not incorporating and do not plan to incorporate tuners for the UHF band in the color television receivers they will sell to the public.

All of this amounts to public rejection of UHF television whenever and wherever VHF television is available and that, of course, creates a favorable climate for increasing the monopolistic situation which exists in most areas of our country today in the television broadcasting field.

I am not certain in my own mind what this committee can do to alleviate the situation since the monopoly arises from public reaction and attitudes toward the system of allocating television licenses created by the FCC. It is my feeling that this committee should investigate and determine how this monopoly came into being. I am well aware that there is nothing this committee can do to control the natural economic law of supply and demand and, indeed, I would not ask this committee to attempt to impose artificial limitations on the natural workings of our free enterprise system in our great democracy. It is for that reason that I cannot subscribe to the theory that the public interest would be served by clamping another freeze on the construction of new television stations either in the VHF or UHF band of frequencies. I do, however, think that it is this committee's business to examine the facts as to monopoly in the television broadcasting field, and to ascertain whether or not there have been artificial limitations placed on free private enterprise in the television broadcasting field by the Government itself.

It is my conviction also, that the companies now enjoying this monopoly understandably will seek out and use every device available to perpetuate this situation. This monopolistic effort extends into the field of programs so that two of the networks, NBC and CBS, would deny their network programs to individual markets such as ours on the assertion that they already serve our market with another television station located in some other city, and they would thus deny to stations such as ours the great entertainment programs to supplement the programs we present which look toward satisfying the needs of our community for its own local television programs designed to help develop a healthier and happier community.

The crux of the matter is that UHF television stations find themselves, under our great free enterprise system, attempting to compete in a highly competitive field without the opportunity to compete on an equal basis. The conditions for this unequal competition were created by the Government itself through its independent office—the Federal Communications Commission. In other words, prospective operators of television stations had only two choices when the FCC finally reopened its door to applications for the right to operate a television station in 1952: (1) Either to give up the prospect of operating a television station in the interests of its community or, (2) to undertake such an operation with handicaps not suffered by television stations prior to the freeze in 1948, or by the existing VHF stations. Most of us chose to undertake operation of television stations for the benefit of our communities with the handicaps, rather than to subscribe to the idea that our communities were to be deprived of the benefits of this great new public service medium.

I would think that it would be your desire to make some recommendations to the FCC looking toward the elimination of monopolies in the broadcasting industry. When I say monopoly, of course I mean the monopolies enjoyed by VHF television stations individually, and by CBS and NBC in the network field.

It appears to me that three courses are open:

(1) That the Commission create new VHF channels in the frequency band of 88 to 174 megacycles, and particularly in the band of frequencies from 88 to 108 megacycles. It would seem to me that 3 new television channels could be encompassed in the 88- to 108-megacycle region without seriously affecting frequency modulation broadcasting. Such a solution, of course, raises the problem of the public's investment in UHF conversion devices and would present any UHF television station proposing to switch to a new VHF frequency not now incorporated in existing VHF television receivers with a public relations problem of some proportions, since those consumers who had invested in UHF converters would now be asked to invest in still another conversion device in order to continue to receive his local television station. It is for that reason that we do not feel this is the most advantageous solution to WICC-TV's problem.

(2) A second course would be to require all television stations to operate in the UHF band so that all stations would then automatically be on an equal basis. Such a course seems impractical when we consider that the public has, according to Broadcasting-Teletasting magazine, invested some \$6 billion in VHF television receivers; and while their television receivers themselves would not be obsolete, each of them would require a UHF converter.

(3) A third solution, and the most practical one that occurs to me, would be that the Commission withdraw from its position that directional antennas and/or lower powers and antenna heights than the prescribed maximums should not be used on VHF frequencies.

In practical application, I believe that VHF stations utilizing maximum power and height under the Commission's allocation plan for VHF have entirely too much coverage. Some restriction of VHF station coverage of that now permitted, and which aggravates the monopolistic situation existing in television broadcasting, would permit the creation of many additional VHF stations and thus solve the problems of many UHF broadcasters.

Indeed, it would be possible to create many new VHF stations without even infringing on the monopolistic coverage of the existing VHF stations. In our own case, for example, we could operate on channel 6 without any appreciable interference to VHF stations and I submit herewith an exhibit (appendix B) to show how this could be done. Under such operation, we could immediately present a local television program service to every existing receiver in our community and thus in our own community we would have an equal opportunity to compete with the alien service arriving in our market from New York City.

That we could compete with alien services in the broadcasting field is well demonstrated by our experience in sound broadcasting where the program service we render has proven so satisfactory that even though there are some 12 stations that can be received satisfactorily in Bridgeport, our radio station WICC at times has 78 percent of all radio sets in use tuned to it. Such a good showing by a local station is, of course, important to the business community since by radio, at least, consumers in our market are not constantly exposed to the advertising of the New York market merchants who are constantly endeavoring to entice the buyer in Connecticut into their New York stores. With the ever-growing dominance of television as an advertising medium, our Bridgeport merchants face the loss of business to New York merchants unless there is local Bridgeport television through which they may advertise. I do not believe that it is too extreme to state that unless Bridgeport has local television the community's prospects for retail business growth, even more for maintaining its present competitive position, are severely impaired.

If we could, with our television station, achieve an equally high interest in our programs (and I think we can if we are given an equal opportunity to compete with the New York stations which are now enticing Connecticut consumers away from our local stores) the business climate of our area would be greatly improved.

I understand that even though directional antennas have been designed and prove workable, the Commission feels that it should not adopt the practice of assigning stations with directional antennas because applicants would not then seek assignments in the UHF television frequencies. In other words, it appears to be a method of forcing prospective television broadcasters to use VHF even in those cases where VHF could be assigned.

Now, gentlemen, this situation has a precedent. Prior to about the year 1931, radio stations were allocated by the Commission on the same basis they now allocate television stations. That is, by the use of mileage separation tables so that there would be a separation spelled out in miles which would not be violated by any one assignment. Separations applied not only to stations using the same channel, but there were additional tables for stations on adjacent channels. That is the formula whereby television stations are allocated today. Now, such a solution to the problem of assigning television grants is a nice neat one from the bookkeepers point of view, but it does not, to my mind, meet the mandate of the Communications Act of 1934 to provide television service as far as possible to all people of the United States; and to provide a fair, efficient, and equitable distribution of broadcasting stations to the several States and communities, nor does it utilize the technical possibilities for full utilization of VHF television frequencies to create new television stations and furnish additional population of the United States with television service.

The assignment of desirable AM radio station grants had about reached its maximum in 1930. Under the then mileage separation table system of allocation, the total number of stations had reached 612. It was then that engineers

came forward with a plan for applying some simple principles of physics to radio broadcasting station antennas so that additional assignments could be created without encroaching upon the service of the existing stations. It was the application of this principle, for example, that permitted our radio station WICC in Bridgeport to operate on the desirable frequency of 600 kilocycles. This grant was made some 20 years ago. Since that time, the number of radio stations in the United States increased from 612 to more than 2,600 and still new assignments are coming forth from the Commission regularly. Thus, the authorization of the use of directional antennas by radio stations solved the problem of extending a fair and equitable distribution of radio stations throughout the United States, so that practically every community in the United States which really needs one, has one or more radio stations. And, of course, these new radio stations were not forced to establish themselves in the face of a requirement that the owners of radio receivers in the area they proposed to serve had to invest additional money in their receiving equipment before the new station, competing with radio service arriving from alien communities, could put the system to the ultimate test of the nature and attractiveness for the public service it offered.

There was, of course, the abortive attempt to establish frequency modulation broadcasting beginning in 1940, which was said to have superior technical advantages over the existing AM service. Frequency modulation has been a dismal failure and has not in any degree superseded the AM broadcasting stations largely, to my mind, for the basic reason that people would not invest in a new frequency modulation receiver. And in a situation where only about 5 percent of the total population of the United States would get superior technical service from FM broadcasting, it has not proven to be a practical competitor to AM broadcasting.

At the outset of the Commission's plan to extend television allocations through the assignment of UHF stations rather than by the selected use in VHF of directional antennas and power and height combinations tailored to the needs of the communities to be served, I, along with a great many others, maintained stoutly that there was no parallel between frequency modulation as related to AM broadcasting and UHF television as related to VHF television broadcasting. There was no new technical system of broadcasting pictures involved. There was only a difference in frequency on which the broadcasting was done. But with each passing day, it becomes more apparent that these original conceptions were erroneous, simply because, with each passing day, the public demonstrates emphatically, except for a very small percent, that they will not invest in UHF converters if they have a reasonable choice of VHF television programs or stations to choose from. And, with each passing day, it becomes more apparent that for the foreseeable future UHF stations will be successful only in those areas where there is no satisfactory VHF television service.

The type of station that could be established by the use of directional antennas or lower powers and heights on the existing VHF frequencies obviously would not be the superpower monopolistic station we now think of as a VHF station. Its service would, necessarily, be restricted in certain directions and it would be limited in the power with which it operates and the area it serves; but, we do not need in Bridgeport a superpower monopolistic station. We are not so self-seeking that we want to get the advertisers' money not only for services to our own community, but for services to other communities whose needs are alien to the needs of our own particular community. All we want or need is a station that would enable us to help integrate and unify the forces working for the benefit of our particular community.

I have said that we will ask the Commission to make an exception to their rule so that we could operate on channel 6. It appears that it would also be possible to operate in our area on channel 10 or channel 12 so that this proposal on our part does not foreclose the establishment of a competitive television station in our own or nearby markets. I make this statement because television antennas are much more susceptible to directional application than are AM radio station antennas, since the factor of skywave is not important in VHF; and, it should be possible to design accurately antennas so the service of the existing VHF stations are tailored to fit the contours of their rightful coverage area, even though it might somewhat restrict the farflung coverage the stations have come to regard as their rightful domain.

I would, therefore, recommend to this committee that they request the Federal Communications Commission to reconsider their policy with respect to VHF allocations and make a thorough engineering study, both as to the number of stations and the total population that could be served. It is my conviction that

they must necessarily conclude that a great many cities could have adequate VHF stations and, in the final analysis, that far greater numbers of people would be served than provided for by the present plan.

In reevaluating its VHF allocation policy, the Commission may conclude that it is no longer necessary to retain an allocations table and, instead, that applications may hereafter be filed, as they are in AM, for channels in whatever areas they may be fitted. Under this plan the Commission would consider all applications on their individual merits, granting them or denying them as the public interest may require rather than, as now, refusing to accept them for filing because minimum mileage separations are not always met. The FCC no longer need be concerned that a return to the AM method of allocating stations would result in the VHF channels being concentrated in the larger markets, for the allocation table has been implemented by grants already made to the point that the reasons for its establishment have been satisfied. It is an axiom of good administration, both in government and in business, that when the reason for a rule ceases to exist, the rule itself should cease to exist.

In our own case, we are asking the FCC to make an exception to their rule which prohibits such operation (or to change the rule) because our situation seems peculiar inasmuch as 7 New York VHF stations, and 1 VHF station in New Haven, Conn., serve our area with varying degrees of success, thus creating what is probably the most highly competitive situation facing any UHF broadcaster.

After nearly 14 months of operating our station in the public interest (see appendix C) we show a substantial operating loss and a public response such that less than 10 percent of the receivers in our area are capable of receiving our channel. It seems to us that we have exhausted every approach to the problem of presenting a program service locally produced, of interest and benefit to our community, and still the public will not spend the sums ranging from \$12.50 to \$37.50 to equip themselves for our channel 43. Now these prices were arrived at only after intensive effort on our part to get the prices down. I do not see any prospect of this rate of conversion to channel 43 in Bridgeport substantially increasing, and thus I foresee a long period of time which could be a minimum of 3 years but which could last up to 10 years or more during which we compete unequally for the audience in our own community with the supertelevision stations assigned to other communities.

I would like now to introduce an exhibit (appendix D) prepared by our sales manager to show the extensive and extremely burdensome efforts we made to get the costs of WICC-TV conversion devices down to a reasonable amount and to get adequate supplies of them. We even went so far as to purchase converters, antennas, and transmission line directly from manufacturers and resold them at no profit to servicemen and dealers in this effort.

I would like to point out that we have found through experience in our area that persuading the television set owner to purchase the equipment for channel 43 is only the first step in the problem I mentioned earlier—that no manufacturer has yet manufactured a satisfactory conversion device at a price the public is willing to pay. The existing devices, while simple in operation to an engineering mind, present great difficulties to the nontechnically trained television viewer. In a great many cases, the devices, after they are installed soon become unworkable and require the attention of a qualified serviceman; but even when working satisfactorily it is so much more difficult to tune channel 43 than it is to tune the VHF frequencies, that most users simply will not take the trouble to tune the station in and, thus again, our opportunity to compete has been further curtailed.

I have spoken of the encroachment of the New York stations on the consumers in our own community. I would like now to present in evidence a letter I wrote to Dr. Frank Stanton, on June 9, 1953 (appendix E) and the reply of the president of the Columbia Television Network dated June 19, 1953 (appendix F). It is clear from this correspondence that the Columbia Broadcasting System, which is probably the most powerful of the network monopolies, is determined to claim Bridgeport exclusively for Columbia Broadcasting System network programs for its own New York television station, WCBS-TV, even though that television station must devote itself primarily to the service of its own community, namely, the metropolitan area of New York, and cannot possibly program so as to meet the community service needs of Bridgeport, other than through the entertainment value of its programs.

Furthermore, CBS is maintaining the right to bombard our Bridgeport community with the product advertising of New York merchants. This attitude is in sharp contrast with that of the American Broadcasting Co. and the Du Mont

Television Co., who have extended both commercial and sustaining program service to us even though their New York stations serve our area almost as well as do the New York stations of CBS and NBC, who have refused us program service. ABC has been particularly cooperative. They have extended us a primary affiliation contract and have shown every consideration to our needs that any individual television station could possibly expect from its network. I think it fair to state that this cooperation not only has made it possible for us to render a full program service to our community, but that, as of now, it is largely responsible for our continuing ability to operate a television station at all. Without the ABC programs we now carry, I doubt that our meager income from sales would permit a sufficiently extensive program service to warrant WICC-TV continuing to operate.

Another matter that I would like to bring to the committee's attention is the policy of the Small Business Administration to refuse to extend loans to UHF television stations, even though they are certainly small business and certainly in need of relief, because the SBA says it cannot be accused of attempting to influence the policies of companies engaged in public communications. On February 3, 1954, within a few days after the SBA was opened for business, I wrote the New York office of that agency (appendix G), pointing out that because our WICC-TV building was located in a rural area and was, perforce, a specialized building unsuitable for other business use, we had not been able to obtain an adequate first mortgage from any bank or insurance company or other reliable financial organization at a reasonable rate of interest. Instead, we had had to accept a much smaller mortgage at a high interest rate and had been deprived thereby of the additional working capital we so desperately need. The SBA replied on February 16 (appendix H) that we were not eligible because of their policy not to extend relief to companies engaged in public communications. I would like to suggest to this committee that they recommend to the SBA a relaxation of their rules so as to guarantee mortgages to television stations. I cannot, under any circumstances, conceive how the guaranty of a first mortgage by a Government agency could possibly influence our public service policies.

Thank you very much for your attention.

APPENDIX A

PHILIP MERRYMAN, BIOGRAPHICAL DATA

1918: Licensed by Radio Division, Department of Commerce, to operate radio telegraph stations.

1922: Constructed two broadcasting stations in Astoria, Oreg.

1922-26: Attending school.

1927-47: Employed by National Broadcasting Co. as transmitter engineer, operations supervisor, Washington, D. C.; director of facilities, development and research, station relations department, National Broadcasting Co., New York; director of planning and development, National Broadcasting Co. research department.

1947-49: Consultant to broadcast stations on engineering and management problems.

1950: President, general manager of Bridgeport Broadcasting Co.

1952: President, general manager of Southern Connecticut & Long Island Television Co., Inc.

APPENDIX B

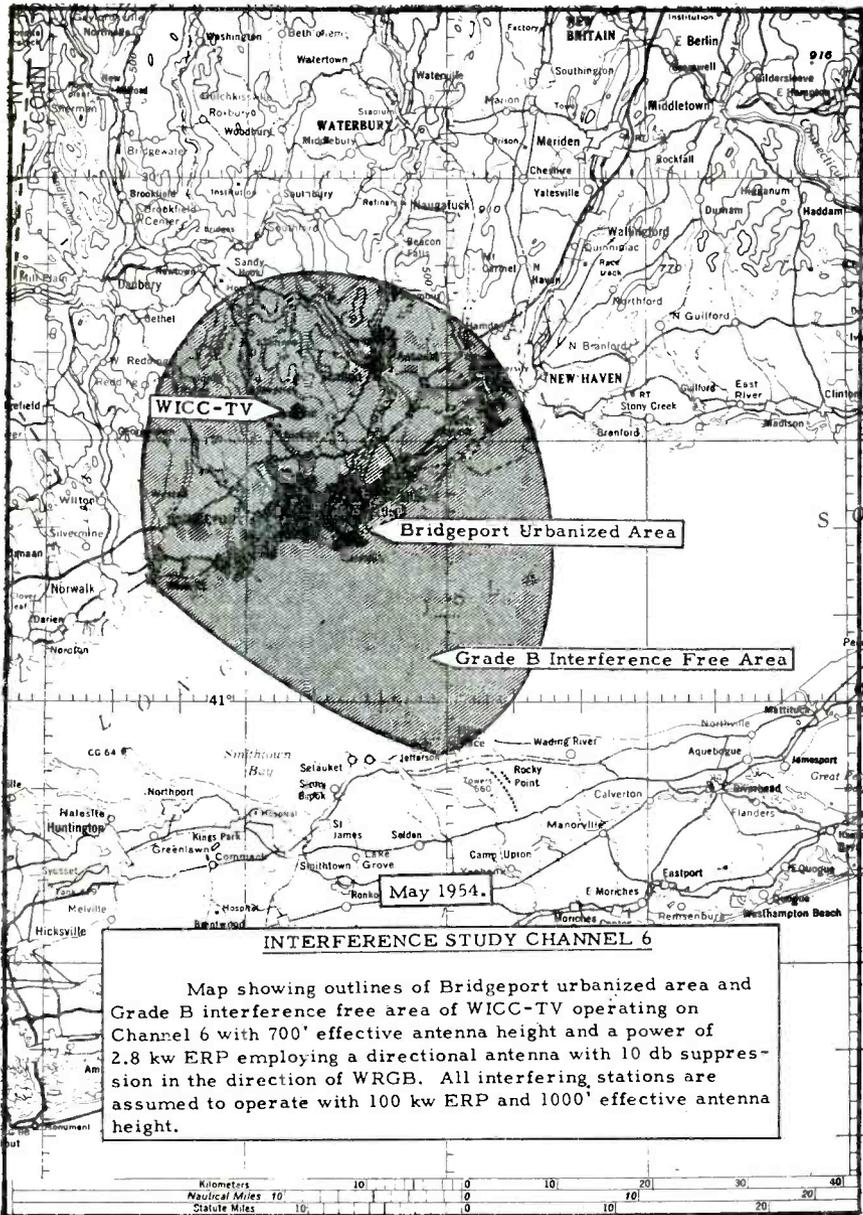
USE OF CHANNEL 6 BY WICC-TV, BRIDGEPORT, CONN., UTILIZING A DIRECTIONAL ANTENNA

The attached map shows the grade B interference-free service area that would be provided by WICC-TV operating on channel 6 with 700 feet effective antenna height and a power of 2.8 kilowatts ERP employing a directional antenna with 10 decibel suppression. The transmitter site shown for WICC-TV is the site now utilized in the operation of its UHF station, which also utilizes the 700 feet effective antenna height.

The directional antenna selected for WICC-TV and represented on the attached map complies with the directional antenna requirements presently specified by the FCC. Advancements in the art permit the use of directional antennas with even greater suppression ratios; if a more modern directional antenna were utilized more service could be provided by WICC-TV without causing interference to existing stations.

In designing the directional antenna for WICC-TV represented by the enclosed map, the radiation in the directions of cochannel stations in Philadelphia and Schenectady has been maintained below that permitted for stations operating with the maximum power and height and minimum mileage separation values provided by the present FCC rules. In other words, operating as proposed on channel 6, WICC-TV would cause less interference to cochannel stations in Philadelphia and Schenectady than would be caused by maximum power and height stations allocated at the mileage separations provided for in the rules.

(Map showing grade B interference is as follows :)



APPENDIX C

PROGRAMING—A COMMUNITY SERVICE

The philosophy on which WICC-TV programing has been based during its first year of operation grows out of a conviction that our real reason for existing (and at the same time our best chance for success) lies in the performance of a community service not available to our potential audience on any other channel. With this in mind, WICC-TV's consciousness of the personality of its community and the needs to be served, played a large part in the very early planning stages of the company. The total audience, it was felt, could best be served through a policy of providing entertainment peculiar to the nature of the area, of disseminating news and other information of particular interest to the area and of giving strong emphasis to publicizing the local aspects of various civic and charitable ventures. This might include a block-party being put on by a local church or cooperation with the local chapter of a national organization such as the American Red Cross. No bazaar, no charity picnic, no teen-age dance would be considered too unimportant for note by the community's only locally operated television station.

It was also felt that it would be necessary not only to cut across the lines of specialized community activities in the manner described above, but also to serve and appeal to those specialized groups which in the aggregate create the personality of the community. The area served is made up of people of many different national origins, religious affiliations, age groups, educational levels, occupational ties, and social interests. These are some of the highlights of the station's efforts to serve these people within the framework of their particular interest.

From the first day the station went on the air there has been a program on the schedule 5 days a week designed for the particular purpose of serving as a publicity medium for civic and charitable enterprises. A local popular personality has served as host to representatives of over a hundred different organizations which had something to say to the public at large. With words and pictures this program has been able to tell the story of such activities as the Connecticut Symphony Orchestra, the 4-H Clubs, the Girl and Boy Scouts, the YMCA, YWCA, Jewish Community Center, various CYO's and many more too numerous to mention—but all served by this open-house policy. It can truly be said that since the coming of television to Bridgeport, no organization of any kind with a need for TV coverage has failed to get it.

In the field of youth activity, WICC-TV has approached the problem from two points of view. One is information for youth; the other is participation by youth. Information for youth has been generally channeled through spot announcements or through the medium of established local personalities with a special appeal for the younger people. In the more important field of actual participation by teen-agers, we have in this first year produced a 26-week series of teen-age panel shows entitled "The Younger Generation" and are currently presenting a 1-hour weekly "Junior Journal" which is actually written, produced, and performed by representatives of all high schools within our coverage area. The younger members of the youthful set (those not yet in their teens) appear regularly as guests on any 1 of 7 different half hours per week. We estimate that to date over 2,000 children from the community have been before our cameras. In addition to these studio activities, the station has sent camera crews to do on-location coverage of such activities as our North End Girls Club, Woodfield Children's Village, and others.

Service programs for women have included a half hour daily At Home show featuring daily guests chosen from the feminine public and a half hour daily cooking program geared especially to the low-budget economics of the average housewife and the cosmopolitan tastes of this particular community. Service programs for men have included a locally produced series on fishing and hunting and a novel twist to a nightly sports program on which the guests are members of the public rather than name figures.

Service programs of general appeal include the weekly locally produced Connecticut Town Meeting dedicated to the discussion of purely local and regional topics and a nightly quarter hour news commentary on which the commentator again turns to John Q. Public for his guests—seeking out their opinions rather than the opinions of the experts.

The Hungarian-American Theater (the first Hungarian television program on the air) makes a special attempt to serve the largest national group in this area—the Hungarian-American. Plans are presently afoot for producing a similar effort

on behalf of the large Polish population in this vicinity. The most popular Negro personality in this area produces a weekly half hour variety show.

The predominant religious group in this area is Roman Catholic. They are now served through the medium of a nightly quarter hour during which the Family Rosary is said. This series was locally produced on film by WICC-TV at the specific request of the diocese of Bridgeport. Our TV chapel is a purely non-commercial and nondenominational Protestant half hour originating in our studios each Sunday afternoon. Cooperation with members of the Jewish faith has rested largely with our response to their specific requests in cases of civic and religious activities as they arose.

Undoubtedly the greatest single effort at community service undertaken by WICC-TV in this first year of its existence has been its program of cooperative production with the University of Bridgeport. This experiment has been unusual enough in its nature to have attracted a good deal more comment in the national press than is usually afforded a local station. During each semester of the school year, the station makes available to the University of Bridgeport 8 hours a week plus all its production facilities and personnel for the televising of actual classroom courses. The instructors and their students meet in simulated classrooms and proceed exactly as though they were on the campus. There is no attempt at making a show of higher education. The cameras merely look expertly in on the classroom proceedings on behalf of the viewers at home or at such specific places where monitors have been set up. The university has arranged that home viewers may earn regular credit by participating in these televised courses and reporting for examinations at the end of each semester. In entering into this unusual agreement, the station fully realized that this type of programming offered little hope of financial reward and realistically faced the fact that such programs would probably not earn better than minimum audience. We have felt, however, that here was a true community service that could be performed only because of the existence of the local television station—operating as a service medium—not purely as an entertainment vehicle.

Before actual operations began last year, the WICC-TV program department set out to find a really attractive and at the same time worthwhile format for a children's program. A meeting was arranged with a panel of experts in the field of child study. Dr. Ilg, of Yale; Dr. Smolen, of the Bridgeport Family Service Society; and others met with our program staff and discussed those features which would both entertain children and at the same time provide them with a wholesome and worthwhile influence each afternoon. A well-qualified woman was employed to produce the program which arose from these conferences, and she succeeded in presenting an extremely good show. Such people, however, command substantial pay; and when the problems of UHF placed the station in an economically unsound position, this noble experiment had to be dropped.

Such a case history has resulted in our being somewhat timorous about starting other shows which we have designed and believe could be of real community service. We have in mind shows on how-to-do-it, shows on sewing and dress-making, on amateur photography, on PAL boxing and on Little League baseball. The implementation of such ideas, however, calls for economic support which to date has not been forthcoming.

WALLACE DUNLAP,
Director of Television Operations,
WICC-TV, Bridgeport, Conn.

APRIL 29, 1954.

APPENDIX D

UHF CONVERSION PROBLEM

After 13 months of operation, I would like to report to you some of the problems with which I have been faced in the field of public relations with dealers and servicemen who in the final analysis hold the key to the success or failure of our venture in UHF. I would also like to report to you later in this memorandum on my efforts in the national sales field to secure network programs from the advertising agencies sponsoring programs on NBC-TV and CBS-TV.

My first contacts with dealers and servicemen in the field began 17 months ago on or about November 12, 1952. It was at this time that I began the effort to organize the dealers and servicemen in the Greater Bridgeport area into a group for purposes of establishing uniform conversion rates and for instruction in the technical phase of UHF installations. While it was almost a simple matter to organize the group for concerted action, the purposes of the organiza-

tion were never achieved. This can be attributed to several reasons, of which two primarily stand out.

One, the dealers at that time were able to purchase only high-price continuous UHF tuners and antenna systems for which there were no uniform prices. Since there was no central purchase point to supply the various dealers and servicemen with this material for UHF conversion, each member deals with distributors and manufacturers to the best of his ability. Since the dealers and servicemen varied in size and since their business philosophies varied equally so that the profit motive was a prime factor, it was impossible to get them to agree to a standard price.

Second, the servicemen almost to a man with 1 or 2 exceptions, and here pride and their personal egos were involved, resulted in our inability to convince them that a UHF installation was a relatively simple matter but completely different or different to a degree from a VHF installation. As a result, two things immediately happened when we first took to the air. The dealers sold UHF conversions at grossly unfair prices ranging between \$85 and \$110, and installations were so poor that contracts for installations were rescinded within days of the installation. Servicemen then came to the incredibly inaccurate conclusion that it was almost impossible to make a decent UHF installation without alienating their customers. In order to protect their public relations with their customers, WICC-TV became the target of their abuse since the servicemen could find no other excuse for their own inefficiency. It wasn't many weeks after we were actually in operation that I learned through my contacts with them that the organization which originally had close to 50 member groups had almost completely disintegrated.

It was also at this time that I learned that dealers had almost to a man (there were 1 or 2 exceptions) decided it was too expensive and costly in terms of public relations to sell a WICC-TV conversion. As a result, when potential viewers made some effort to convert their present sets to WICC-TV, they were literally talked out of it by both the dealers and the servicemen on the grounds that it was too expensive and too critical for them to handle. Even though we are providing them with a service which was local in nature and which they could not receive from any other channel, the dealers and servicemen then set out on a campaign to establish that WICC-TV could offer nothing in the way of service that the viewers couldn't presently receive from the existing VHF signals from New York.

At this point, you will recall we decided that the only way we could solve the conversion problem was to establish on a limited basis our own distribution of UHF materials such as converters, antennas, and lead-in wire. This was achieved in July of 1953 by purchasing RCA U₂ two-channel converters, DiCo bow-tie antennas, and Anaconda 270-ohm lead-in wire. You will recall further that we sold all of these materials to servicemen and dealers in the area at cost so that in effect we suffered slight losses since we absorbed the shipping charges for these materials. Although we did manage to stimulate some interest among dealers by virtue of this action, for the most part we were unsuccessful in our ultimate purposes because most of the servicemen continued to charge \$45 and \$50 for installations even though they were now saving considerably on parts. The futility of this operation became evident within a matter of 60 days with the result that we suspended our activity in this field. During this period we probably achieved approximately 150 conversions.

Our next step, you will recall, was to establish the WICC-TV salute at eight different locations throughout the area at our own expense. While I will admit we did receive good public relations for a short time, the overall effect was negligible.

Before offering you the conclusion of the summary, I would like to state that during the course of the past 17 months, I have been in contact personally with 117 servicemen and dealers in an area embracing Bridgeport, Stratford, Fairfield, Milford, Ansonia, Shelton, Derby, Seymour, New Haven, Danbury, and Waterbury. It is my feeling now that the time spent in this effort was to a great degree wasted since even today only about 10 percent of the receivers in the dealers' stores have continuous tuning heads on their sets or, to put it another way, somewhere between 80 and 90 percent of the sets on display are still strictly VHF models.

The past year has seen converters reduced considerably in price and to this day, I have not seen a UHF instrument whose value is comparable to its counterpart in VHF. It is this last which has made this effort so terribly frustrating.

In the national sales field, I made every effort with interested clients to use their programming on WICO-TV. While the wall of resistance was almost in-

surmountably high, I did manage at Needham, Louis, & Brorby in Chicago to get an order from the Johnson's Wax people for the Robert Montgomery program originated by NBC-TV. However, while this order was sent to the network, it was never registered in New York because the network was unwilling to handle the program since we did not have an affiliation agreement with them. This same situation occurred at the Russell Seed Co., the agency handling the Schaeffer Pen account. In this case, it was the Jackie Gleason show on CBS-TV. Again the order was sent to New York and again also not registered because we did not have an agreement with CBS-TV to carry their programs. These are the two major cases where clients obviously were willing to place their programs in Bridgeport, but the network was not. After facing the realism of this problem and the frustration attached to it, I decided my effort in this direction could only be fruitless and, therefore, I suspended this type of sales effort in May 1953.

MANNING SLATER,

Business Manager, WICC-TV, Bridgeport, Conn.

APRIL 20, 1954.

ADAM YOUNG TELEVISION CORP.

New York 16, N. Y.

INTEROFFICE COMMUNICATION

APRIL 23, 1954.

From: Leonard E. Hammer.
To: Manning Slater WICC-TV.
Subject: WICC-TV and National Business.

DEAR MANNING: At your request I am writing this letter which confirms the views and comments I expressed to you during our meeting and discussions this past Tuesday pertaining to the potentiality of national business for WICC-TV.

To begin with, Manning, for the past 14 months I have contacted numerous accounts endeavoring to sell WICC-TV: however, I must admit that I have met with very limited success. Your station in my estimation represents one of the toughest sales that exists in television today. WICC-TV is not only confronted with the problem of being adjacent to 7 television stations in New York and 1 in New Haven, but the Bridgeport market is sandwiched between New York, the No. 1 market in the country, and New Haven, the 33d.

Having been on the air for 1 year, the UHF conversion according to your monthly reports is approximately 72,000, but that figure does not have acceptance among the advertising agencies in New York City. As I mentioned to you, Television magazine, which as far as I am concerned is considered by most agencies as being quite reliable, in the March issue credits WICC-TV with 37,050 sets. Your set count in relation to New York with 4,195,690 sets and New Haven with 634,844 sets, puts you in a very weak position from the standpoint of receiving consideration from national advertisers. In view of the fact that television service emanating from both New York and New Haven certainly does cover the greater part of your service area, the importance and individuality of the Bridgeport market is unfortunately lost.

Here again, based on my experience with advertising agencies which to date have shown little or no interest in Bridgeport television, to be basically honest with you and myself, it is absolutely impossible for me to project or estimate the amount of national business that I can place during the next 8 months. Frankly, at this writing and as I told you on Tuesday, I do not have one "hot" prospect for WICC-TV.

With your very competitive situation, the selling of WICC-TV has to be eventually predicated on a cost per thousand factor, as determined by surveys and ratings. This necessitates a tremendous increase in the number of set conversions. In terms of just television homes, WICC-TV will have to have approximately 150,000 sets before we can commence to evaluate your station on a cost per thousand basis in relation to that of WNHC-TV, New Haven. There is a strong possibility that the Brooklyn Dodgers baseball schedule might very well give great impetus to the growth of set conversions and the month of September could very well give evidence that there are 125,000 sets which can receive WICC-TV's picture. Then and only then, and assuming that your station has some well-rated periods, will we be able to approach the sale of WICC-TV on a competitive basis with New Haven.

You know the local sales story much better than I. From what you told us Tuesday, local sales hit a peak in November-December 1953, and then suffered an appreciable decline. I feel that certainly for the time being while you are going through this period of growth and expansion, the great bulk of your revenue must come from local sales, national sales representing a small percentage of the overall gross.

As far as I am concerned, Manning, the above represents the hard, salient, and realistic facts which surround the selling of WICC-TV. And yet with this situation at hand, every effort is being made to sell aggressively WICC-TV and the Bridgeport market which it is serving to national advertisers.

Best wishes.

Very sincerely,

LEONARD E. HAMMER.

APPENDIX E

JUNE 9, 1953.

FRANK STANTON, Esq.,

*President, Columbia Broadcasting System,
New York City, N. Y.*

DEAR FRANK: Just for the record I thought you should know the subject matter of my conversation with Fritz Snyder on May 26, which ensued following several days of unsuccessful effort to reach your vice president in charge of station relations, Herbert Ackerberg, in regard to the order by the Russell Seeds Co. for their clients for the Jackie Gleason show for 26 weeks beginning June 20 which had been placed with CBS in Chicago, referred to the New York office for approval and then rejected because WICC-TV does not have a working agreement with CBS.

I advised Fritz that this was either the third or fourth incident of this nature: that we were not asking you for an affiliation agreement, although we would be receptive to having one, but merely a working arrangement to clear these individual programs when the client requested you to add us to their station list. You could thus relieve your sales department of the embarrassment of trying to sell a UHF station to your clients or of affiliating another UHF station with the CBS network.

Fritz proceeded to tell me that you were not going to clear these programs to us and poke a big hole in the coverage of your network key station; that your picture was tops in Bridgeport and there was, therefore, no reason for adding the Bridgeport station. Whereupon I asked about New Haven and he again replied that you could argue that question until doomsday and nobody would ever find the answer and that the decision had been made not to furnish programs to WICC-TV and that was that. I found this hard to believe, Frank, but then advised Fritz that in my opinion you were making a serious mistake since WCBS-AM once dominated the Bridgeport market and it was now a poor second to WICC; that the same thing would happen with TV, and that one day you would be coming to us for time and we would not have time available. This Fritz construed as a threat whereas I meant simply that because in a matter of time we would be so in demand by advertisers there would be literally no time available.

I think the position of CBS is interesting inasmuch as it seems to me that the company's position as the operator of a network and its position as the operator of a TV station assigned to the New York area seems to be in conflict. As a network you are engaged in the business of syndicating programs some of which are for sale in such manner as to cover simultaneously a large percentage of the total population of the United States. The success of this enterprise as a business depends on making the package attractive to advertisers, but in our case the advertisers requests were rejected on the grounds that it interferes with your other business—that is, a slight decrease in the sales attractiveness of WCBS-TV.

I wondered if you were informed of this action since all of us who operate radio stations by grants realize that we are licensed to operate a station in the public interest, convenience and necessity and nothing whatsoever is said in the license about running an advertising business. This led me to the question of what made Fritz assume that as the operator of a station licensed to the New York metropolitan area you are authorized to encroach upon the services of a station licensed to Bridgeport, Conn.? Your primary responsibility as the operator of WCBS-TV must necessarily be to serve the needs of the community

in which you are authorized to operate. You cannot do that and at the same time so operate that station to serve the needs of the people in the State of Connecticut. WICC and WICC-TV are so operated.

As a long-established station WICC is the station the public in our area look toward for their community service. As a fledgling, WICC-TV is working toward that objective. However, the economics are burdensome. Should such unnatural factors as a decision by the management of CBS to boycott WICC-TV be thrown into the balance, the question of whether the station can survive its period of formation to later serve the interests of the people of Connecticut arises.

Also, I am enclosing a map prepared by our consulting engineers which shows by FCC standards the limits of metropolitan coverage by WCBS-TV, WICC-TV and your nearest other affiliate WKNB-TV, New Britain, Conn. As you will note, there is no duplication. On the contrary there is considerable gap between the areas.

I should appreciate an early reply to clear up the matter since we would like to fulfill our order by the Russell Seeds Co. for their clients if possible.

Very sincerely yours,

PHILIP MERRYMAN,

President and General Manager, Southern Connecticut & Long Island Television Co., Inc.

APPENDIX F

CBS TELEVISION,
DIVISION OF COLUMBIA BROADCASTING SYSTEM, INC.,
New York 22, N. Y., June 19, 1953.

MR. PHILIP MERRYMAN,
President, Bridgeport Broadcasting Co., Bridgeport, Conn.

DEAR MR. MERRYMAN: Dr. Stanton has asked me to reply to your letter of June 9, 1953, to him.

In our opinion, we best serve the public if the CBS Television network is constituted so as to (i) make CBS Television network programs available to the largest number of people and (ii) provide efficient, economical coverage for advertisers. Fulfillment of the second objective aids us in attaining the first.

In our opinion, the addition of WICC-TV would hinder rather than assist us in achieving these objectives, irrespective of any effect WICC-TV might have on CBS-TV. Incidentally, I don't think it would have any effect.

Finally, I would like to point out a number of inaccuracies in your letter of June 9:

1. If the WCBS-TV contour shown on the map you enclosed is intended to show the grade A contour, it is in error. A proof of performance survey by CBS-TV engineers shows the median field at the contour shown to be 4.5 mv/m.

2. Nowhere in either (a) FCC rules, or (b) trade practices generally employed in appraising the coverage of television stations, will you find support for your contention that a television station cannot serve a metropolitan area outside of the 4.5 mv/m contour (or the grade A contour, whichever your map was intended to show).

3. Field strength measurements indicate that WCBS-TV delivers a median field of approximately 60 dbu (1 mv/m) in Bridgeport. We believe this is an adequate signal.

4. Supporting the adequacy of the WCBS-TV signal in your area, the Nielsen Coverage Service shows WCBS-TV with an evening circulation of 95 percent of the television homes in Fairfield County. In fact, it shows that 82 percent of these homes watch WCBS-TV on 6 or 7 nights a week.

5. In the third paragraph of your letter, you state that WCBS (AM) is now a poor second to WICC. The latest Hooper survey fails to substantiate this claim, showing WCBS to have a 27.9 percent share of the audience for all periods rated, versus 25.3 percent for WICC.

Very truly yours,

J. VON VOLKENBURG, *President.*

APPENDIX G

SOUTHERN CONNECTICUT AND LONG ISLAND TELEVISION Co., INC.

February 3, 1954.

SMALL BUSINESS ADMINISTRATION,
New York 16, N. Y.

GENTLEMEN: It has been called to my attention that we might obtain relief through you for a problem which causes us some concern.

We are a new television station and have been in operation less than a year. In late 1952 and early 1953, we constructed a new building for our operations at a total cost of \$163,100. Repeated efforts to obtain a first mortgage on the building through the usual channels of banks and insurance companies were not successful, largely because our building was a special purpose building located in a rural area and, we were a new company without an operating history. Finally, and in desperation, we secured a \$50,000 first mortgage from the builder at an interest rate of 10 percent. We feel that a higher first mortgage was justified and that an interest rate of 5 percent should be adequate.

The purpose of my letter is to inquire whether we can seek relief through the Small Business Administration and, if we are eligible, information as to the proper procedure.

I would appreciate your advice on this matter.

Sincerely yours,

PHILIP MERRYMAN, *President.*

APPENDIX H

SMALL BUSINESS ADMINISTRATION,
New York 16, N. Y., February 16, 1954.Mr. PHILIP MERRYMAN,
*President, the Bridgeport Broadcasting Co.,
Bridgeport 3, Conn.*

DEAR MR. MERRYMAN: This is in response to your inquiry of February 3, regarding the eligibility of a television and radio station for financial assistance from this Administration.

We regret to advise you that, under our policy, loans to any sources which disseminate information to the public of the type carried by newspapers, magazines, radio broadcasting or television broadcasting companies, or similar enterprises, are ineligible.

Very truly yours,

DAVID J. DUGGAN,
New York Regional Office.

Mr. MERRYMAN. The statement was drafted before the hearings began, and I have some additional suggestions, which I feel will take a long time to develop the reasons fully for.

Senator POTTER. Surely.

Mr. MERRYMAN. So, I would like to submit the recommendations at this time.

Senator POTTER. Surely.

Mr. MERRYMAN. And be permitted to come back and develop the reasons for them.

Senator POTTER. Yes.

Mr. MERRYMAN. Now, I was very happy yesterday to hear the RCA witness say that RCA had proven in Bridgeport that UHF commercial television was practical. I wish they would get out a press release to the boys on Madison Avenue, advising them they have discontinued their experimental operation in Bridgeport 2 years ago, because our experience in Bridgeport leads us to believe that the boys on Madison Avenue think we are continuing the NBC experimental operation.

Mr. Chairman, I have these recommendations to make. I have divided them into two categories—those looking toward providing

immediate relief in this highly monopolistic situation and those looking toward long-term relief in the industry.

My qualifications to discuss industry problems are set out in the statement and I won't take any time with them now.

I do believe though one thing we can all agree on, as a result of these 3 days of hearings is that there are inequalities and inequities existing in the television broadcasting field, and looking toward relief for those, I have these recommendations for immediate relief:

One: That this committee recommend to the FCC that it relax its rule against directional antennas and the use of lower power for allocation purposes in the VHF band and to permit the use of such antennas, even though they would interfere with the secondary coverage areas of existing VHF stations.

I believe that would provide immediate relief to many broadcasters, and will tend to eliminate some of the basic monopolistic conditions which exist.

For our own purpose, as it is set out in my statement, we are filing with the Commission for authority to operate on channel 6 in Bridgeport. It will provide relief in our particular case, and I think it will provide relief in a great many other cases.

It won't be a complete success, of course.

Secondly: I would like to have this committee recommend to the Small Business Administration that they relax their rule against extending relief to companies engaged in public communications, to the extent of taking first mortgages on buildings of UHF television stations when it can be shown that reasonable margins are otherwise unobtainable.

That, I think, would go to some length in extending economic relief to UHF television stations.

The third recommendation to provide immediate relief would be to remove the excise tax from all channel television receivers.

The fourth recommendation would be that the FCC implement its proposed order against exclusive network area affiliations.

The final suggestion that I have for immediate action is that you ask the FCC—with their large engineering staff, I believe they could do it by the time you reconvene the meetings of the committee—to bring to this committee an allocation plan showing only what can be done to serve the public interests, with a truly competitive broadcasting system, using only UHF television stations.

There will be a great deal of argument about whether that can or cannot be done and I believe the Commission could make that information available to your committee to better guide you in evaluating the further recommendations I will now make for long-term relief.

For long-term relief, I suggest:

First, That the committee or Commission restrict the use of color television broadcasting to UHF television stations.

Very briefly, the reason for that recommendation is that we are at the threshold now in the development of color television.

The reason has been brought forth that UHF was impractical because of the public's investment in VHF receivers which, according to Broadcasting magazine is approximately \$6 million and does represent a considerable public-relations problem, that they not compound the error at this time by giving those stations the right to broadcast

color and persuade the public to invest in color television receivers that receive only VHF frequencies.

Now, in order to make that recommendation fair and equitable, I further recommend that the Commission allow each existing VHF broadcasting station to establish a companion UHF television broadcasting station, provided that all of the programs of the VHF station are duplicated on the UHF station.

That would mean, of course, those color programs that were put on UHF—only the black and white portion of them would be broadcast on the companion VHF station.

That, briefly, Senator, are my recommendations.

Senator POTTER. I wish to thank you for submitting your recommendations, and we will be waiting for your complete statement when we meet the following week.

Mr. MERRYMAN. Thank you very much.

Senator POTTER. Mr. Patterson.

You may begin, Mr. Patterson.

STATEMENT OF S. H. PATTERSON, OWNER OF RADIO STATION KSAN AND KSAN-TV, SAN FRANCISCO, CALIF.

Mr. PATTERSON. Mr. Chairman and members of the committee, my name is S. H. Patterson. I am sole owner of radio station KSAN and KSAN-TV in San Francisco, Calif., and sole owner of Radio station KJAY, Topeka, Kans. I have been in radio since March 7, 1926, a little over 28 years. I have owned and operated radio stations since September 1, 1933, ranging from 100 watts to 5,000 watts. My son, Norwood J. Patterson, is a consulting engineer, practicing before the FCC for various stations. My daughter and her husband own a radio station in Portland, Oreg. I am one of the oldtimers in radio. KSAN-TV, channel 32, is my first ownership in TV.

KSAN-TV, channel 32, was granted approximately April 20, 1953, and it went on the air with a pattern on March 20, 1954, and regular programs April 6, 1954.

San Francisco Bay area has a population of 2½ million, in a radius of about 50 miles.

Our present power video, 20,000 watts; audio, 10,000 watts. It has CP for video of 87,000 watts and for audio of 46,800 watts.

The antenna is AGE helical, 16 bay, a power gain of 24, and transmitter GE 1 kilowatt.

Location on mountain in the center of San Francisco, near Twin Peak.

Antenna height above ground, 531 feet.

Antenna height above average terrain, 1,261 feet.

Antenna height above sea level is 1,326 feet.

Listened to from 40 to 50 miles away.

Total equipment cost is about \$235,000.

Total VHF receivers, about 850,000.

Total UHF receivers, approximately 40,000.

To encourage set conversions, KSAN-TV obligated itself for the 1954 TV rights of San Francisco Seals and the Oakland Oaks baseball teams for the total obligation of \$120,000, televising 4 games each week for the entire season.

All four daily newspapers wrote up for several days the story of Patterson's saving the Seals franchise and televising the Seals and the Oaks. TV conversions to UHF were fast and most encouraging, totaling about 30,000 conversions before regular programing started on KSAN-TV.

The difficulty of UHF converter installation caused the converter sales and installation to slow up tremendously.

KSAN-TV has been on regular programing about 7 weeks and only about 9,000 converters have been installed during those 7 weeks.

There are more than 600 certified TV small and large shops and servicemen in the KSAN-TV coverage area. That means about 12 sales per man in 7 weeks.

Even the servicemen do not push converter sales now because of the time and trouble of proper installation. When an antenna and a lead-in is particularly designed to make installation simple and easy, their converters would be sold and installed speedily.

There is considerable engineering research and experimental work to be done on the performance of the transmitting antenna which is installed by KSAN-TV:

To determine the cause of certain dead spots that exist within sight of the antenna;

To determine if the claims of manufacturer are working out in the field that the antenna is so designed as to throw the TV signal down and serve the people living within a mile or two of the transmitter.

Norwood J. Patterson, the consulting engineer, is proceeding with this research. This takes time, expense, and the operation of KSAN-TV until this has been accomplished. This may take several months of research and experimentation. Once this is accomplished the findings may well be a great benefit to all UHF installations in other locations of hilly country like San Francisco.

I might divert here just a moment to explain to you our operations so that you may know we went into UHF with the full knowledge we would not get a network.

There are three VHF stations in San Francisco, and others are coming on. They monopolize all four networks, and all the networks have refused us any programs, even though they were not released by any station in San Francisco.

We went to this extent to get programing to attract the people, programing that wasn't on any radio station. If it were not for the difficulty of the installation of the equipment, our picture would have been different.

I recommend:

1. All manufacturers of TV receivers to build only all-channel receivers, with components adequate for dependable receptions, so the public moving from one locality to another can still use their TV set. Also the new sets will soon replace the old part-channel sets.
2. The speedy delivery of higher power transmitters.
3. The full consideration for financial loans from the Government, as for other businesses, perhaps of less importance to the community.
4. Networks cooperate with UHF stations in releasing network programs to UHF stations.
5. For full TV coverage of our Nation, UHF is essential, in time of peace and war, and for a competitive TV service to our Nation.

Accepting that UHF is an essential business, and should have equal consideration and cooperation in loans as the Government gives other businesses, then I recommend that the policymakers of the Small Business Administration consider including loans to TV stations on the same basis as other businesses, especially UHF stations that are faithfully striving for a place on the earth.

I wish to speak of the condition that is responsible for the plight of the UHF telecaster today. If we get to the cause, then we may find an immediate assistance.

The real cause is the receiver does not receive the UHF signal. In 1934, when the Government passed laws to control the sending of radio and TV signals, it could have passed laws to control the receiving of such signals; then the FCC would have been empowered to order on April 11, 1952, when it authorized the use of UHF bands, the manufacturer to make only sets capable of properly receiving such signals. Then UHF could have and would have lived in a fair competitive system.

If the manufacturers say they do not want Government control of manufacturing, then the manufacturer must take the full blame and responsibility for creating this terrible calamity on the public and on UHF telecasters.

Instead of the manufacturer coming to this committee and acknowledging he is wrong, as did Miss Hennock, Commissioner of the FCC, Mr. Glen McDaniel, president of Radio-Electronics-Television Manufacturers Association came before this committee on May the 19th and asked for a handout of Government aid in the form of a tax reduction, so they can make more millions. At no place in his speech did he say that the manufacturers represented by his association would make only all-channel receiving sets.

It seems to me to be a better recommendation to this committee to leave the excise tax on the TV set and take a part of the \$25 million tax money and distribute it to the dying patient, the UHF telecaster, and save his life now, immediately.

I know this is somewhat a divergence, but let's consider it.

This would insure the manufacturer to make more sets. It would insure the manufacturer that UHF is here to stay and he would have confidence in the future to make a ruling that he would build only all-channel sets. We did not receive positive promise to that effect from the manufacturer that he would build only all-channel sets, even though the tax was removed.

Our honorable Chairman of the FCC, Mr. Hyde, said there were presently 127 UHF stations now on the air, and the FCC had provided for 1,300 UHF stations to be granted.

If the Government made available only half of this tax money to UHF stations, that would be almost a million dollars per station per year, or even with one-half of that amount, the UHF telecasters would show you a nationwide competitive system, with a nationwide UHF network, within 2 years that would be really competitive.

The cause of the condition that now prevails in the UHF bands can and should thus receive immediate assistance without costing the Government anything, by leaving the tax on the receiving sets as now is, and appropriating a part of the tax money to the source, the UHF telecaster.

This could be done through the Small Business Administration or some other plan. If, however, the Government does not see fit to leave the present tax on the UHF receiving set, then I recommend that arrangements be made that the present UHF telecaster, in dire need, may receive a grant or longtime loan from the Government through the Small Business Administration or some other plan immediately. He then can live while future permanent plans are worked out.

The condition the UHF telecaster is now in was brought about by unfair competition, not of his own making, and something must be done.

1. This plan of using the TV set excise tax money for the additional programs in the home is the greatest direct benefit the taxpayer has received for such taxpayment. It is placing the tax dollar back in the form of service to the taxpayer. It is like using gasoline tax money to improve roads. The user gets the benefit.

2. This plan would save the present licensee of UHF.

3. This plan would make it possible for present grantees to construct their UHF station.

4. This plan would encourage and make it possible for new applicants to apply for UHF stations. It would place UHF stations in the hands of many and not a few.

5. This plan would encourage manufacturers to enlarge and speed up the research of and development of better quality and higher powered UHF transmitters and auxiliary equipment.

6. This plan would encourage, if not demand, all manufacturers to build only all-channel receiving sets.

7. This plan would insure the future existence and nationwide confidence in UHF. In a very few short years it would give the citizens of the United States a truly nationwide competitive television system.

8. This plan would be made workable immediately without a long legislative battle by simply appropriating the funds that are now already levied.

Senator POTTER. You have never seen them appropriate funds.

Mr. PATTERSON. I guess not.

9. This is the plan that could eventually, if the Government so decided, move all TV into the UHF bands and have one unified television service.

10. This plan will aid the economy of the Nation, the 70 UHF television stations payrolls; the payrolls of the manufacturer building the transmitting equipment, the receiving equipment, the distributors, salesmen, servicemen, over the entire Nation; the advertising men and the overall increased sales of products advertised.

The Senate bill 3095 tends to further monopolize the UHF band by making it possible for seven large firms to own all the TV stations in the United States. This could happen if all TV were moved to UHF.

The Senate bill 3294 pertaining to advertising of alcoholic beverages, will take another large revenue from UHF and give it to the newspapers, magazines, billboards, and direct mail. If this were not discriminating against radio and television, but including all forms of advertising, it would be more equitable.

Senator POTTER. I had hoped we wouldn't bring up that subject.

Thank you kindly for your statement.

Mr. PATTERSON. Thank you.

Senator POTTER. I think the last witness is Mr. Townsend.

Mr. Townsend, I understand you are going to ad lib your statement; is that correct?

STATEMENT OF S. W. TOWNSEND, PRESIDENT AND GENERAL MANAGER OF RADIO STATION WKST AND TELEVISION STATION WKST-TV, NEW CASTLE, PA.

Mr. TOWNSEND. Yes, sir.

If the Senator and the committee please, I started out here with a statement and there has been so much said and so much of mine compared with it that, in the interest of timesaving, I would rather, if I may, do a little ad libbing.

Senator POTTER. I will appreciate that.

Mr. TOWNSEND. Thank you, sir.

In the first place, since the question came up—

Senator POTTER. I wonder if you would identify yourself fully for the record, give your full name and who you represent.

Mr. TOWNSEND. S. W. Townsend, New Castle, Pa. I am president and general manager of WKST radio and WKST-TV.

Since there is a question about experience, I thought maybe I should get into this a little bit.

I went in the broadcasting business in 1925, became a manager of a station in 1927, have continuously been in the broadcasting business except for 5 years active duty in the Navy, at which time I was the first Naval Reserve officer to be a district communications officer, the Fourth Naval District.

I mention that because I had a lot to do with the telephone company, as far as naval radio stations, in the administration of a lot of radio stations.

Senator POTTER. You are not a novice in the field?

Mr. TOWNSEND. Well, I hope not.

I have been in the UHF television business, on the air, since April 15, 1953.

The thing that alarmed me a little at the beginning was recriminations of whose fault this mess we are in happened to be.

Actually, I think the Federal Communications Commission and the Federal Radio Commission before it have made so few mistakes compared with what could be made that they deserve all through the years a vote of thanks and appreciation.

I think that goes, by and large, for broadcasters; I think that goes by and large for networks, and I think it even goes by and large for equipment people.

However, I think equipment has turned a lot of good ideas into difficulties. They have helped, of course.

My own feeling is, and I noticed that Chairman Hyde, in his original testimony, the first day, made mention, as well as I can recalled it, that they did consider putting all television in UHF during the freeze period, that is, they considered this during the freeze period, but since equipment was not available, either transmitting or receiv-

ing I gathered that was given very little further consideration, and I think that was entirely correct.

There was no UHF transmitting or receiving equipment then available in any sort of quantity at all, and it was absolutely impossible then to do anything about changing the band. It would have stopped television cold.

I don't think the Commission foresaw, and I don't think the industry foresaw, the impact of television originally.

I know I didn't, though I, incidentally, filed for VHF in 1948 and was caught in the first freeze.

I wonder, Senator, if it would be possible since I can't put thoughts in the Chairman of the Commission's mind—I wonder if it would be possible to ask him if, during the freeze, by reason of the unavailability of UHF equipment, they gave detailed examination and consideration to making nationwide television available in the 70 UHF channels?

Senator POTTER. Do you care to answer that, Mr. Chairman?

Mr. HYDE. I would make a brief statement on that, if you please.

Senator POTTER. Yes.

Mr. HYDE. During the Commission's consideration on allocation plans, the idea of shifting the entire service to the ultra-high, so that all stations would have the same type of channel, was considered to a certain extent.

At that time, the Commission was aware of quite a large number of television sets in the hands of the consumers.

By the time the report was released, the figure was about 15 million.

It was, of course, aware of the serious dislocations of service that would be involved in any general shift.

It was aware, of course, of the inconvenience that it would cause to the public.

It was, of course, aware of the impact any such move would have on a new industry just getting started.

Actually in 1952, there were still people holding the opinion that television couldn't operate in the way the broadcast services have traditionally operated in this country.

There were well-known people in the broadcasting field making public statements that television couldn't survive on advertising revenue.

The committee has heard witnesses mention that permits for VHF stations were surrendered. There were 20 such permits surrendered. There were a larger number of applications for television permits that were withdrawn, in some instances quickly, for fear the Commission might grant a permit before the application could be withdrawn.

Now, that indicates, I believe, some of the fear and some of the concern about whether television, as a service, could get started.

In that kind of a psychology, on the basis of that kind of an outlook, and with the dislocations I have mentioned, the Commission could hardly have undertaken a shift of this struggling industry into an undeveloped part of the spectrum.

You may say, "Why did we attempt to extend the industry into that field?"

Wel, we didn't do that without getting the advice and opinion of everyone that can be helpful, and it was done, as the testimony, which has been presented, shows, on the basis of assurances that equipment, as such, would be made available as the allocation was ready for implementation; and, of course, as always, the Commission had to proceed with faith and confidence in an industry which has made remarkable achievements.

The original television allocation was made on that basis.

There were many skeptics who had doubts in the workability of television, not to mention its prospects as a business enterprise.

Now, I believe I mentioned that the usual experience of the first television stations to operate, the universal experience of them, was to lose money. As more and more stations got on the air and set distribution increased, the time it took for a new station to begin to make money was shorter.

That, I think, explains some of the reasons why the Commission did not make an effort to wipe the slate clean and move the whole industry up into ultra-high.

Senator POTTER. Does that answer your question?

Mr. TOWNSEND. Yes, sir; I think that does, in that I believe a complete study now that equipment is available, now that we have operating data throughout the country on UHF—I believe now that there is an excellent opportunity and chance to move all of television to UHF, as the association has recommended, not overnight—certainly not—that would be getting us into a worse mess than we are in—but it can be done, in my opinion.

I don't pretend to be an allocation engineer but I think there is another factor, beyond the fact, as I understand the Chairman's statement, the Chairman of the Commission, that there was not a concentrated effort to plan the 70 channels for use throughout the country alone, because of the consideration of keeping 12 going—

Senator POTTER. I assume also they didn't know the capabilities or limitations of UHF, which they do today.

Mr. TOWNSEND. Yes, sir; I agree with that, Senator.

Another thing—and I want to mention how long I have been in the radio business before the Federal Communications Commission came into being and you opened a station and you got an automatic grant.

We had at one time, I believe it was, 32 radio stations in the city of Chicago. You enacted the Radio Act of 1927 to eliminate the chaotic condition, the interference.

Some of them couldn't get to the city limits of Chicago with all of this interference and that was the first time there was a real upheaval in regulating communications as far as the general public is concerned.

Now, at that time, 900, I believe, it was, total stations in the country was considered way too many, and we got down to, I believe, 600 after the Federal Radio Commission came in—don't hold me to the exact figure, but approximately—and now you know where we are—2,600.

I think the same thing can be done in television.

Now, to get back to the operating costs: I think there was one other thing. I was interested in that \$800-a-month operating figure that someone gave you. I think that is the minimum you can operate the present TV station at the present state. If that be so, and that allowing no profit, and that with only part of the homes converted, that means that you must have a large number of homes per station in the area for

it ever to economically exist, which, in my opinion, means that most of these small city allocations now provided on the 70 channel UHF spectrum will never be built.

That would further tend to relieve the situation that we are now facing.

Another thing that I haven't noticed mentioned directly is that the Commission, very correctly—and incidentally, their propagation figures, I think, are very accurate, relatively speaking—they plan graduated power in 3 different spectrums—2 to 6 a hundred kilowatts; 7 to 13, 316 kilowatts; 14 to 85, a thousand kilowatts.

By reason of the fact that no one has a thousand kilowatt transmitter today, here we go again to this equipment, which I think keeps being our principal difficulty.

Since none of us can go—and I assure you I wouldn't go to a thousand kilowatts; I can't afford a megawatt transmitter—and there is none available anyway—and since that means all stations, even those in large markets with large power equipment, can get above 200 kilowatt effective radiated power, or one-fifth of their designed power, that puts the 2 to 6 and 7 to 13 stations at a great power advantage today over any UHF station.

In other words, if their power were reduced one-fifth, as the UHF stations are by reason of lack of equipment, then you would see a lot less present inequity and much more equitable use of the facilities, which, as I recall, was in the original Radio Act and the Communications Act, equitable distribution of facilities.

I do not want to take any more of your time, and I certainly appreciate this opportunity, sir.

Senator POTTER. I am sorry we had to wait so long. Someone has to be last.

Mr. TOWNSEND. It is all right with me, if it is all right with you, sir, and I appreciate the Commission being through so many of these meetings with us.

I would like to endorse the part of the Du Mont testimony pertaining to monopoly. I think it is extremely important that we have ABC and Du Mont.

Incidentally, they are the two networks that have given me encouragement—and it is not alone that I say that; but I think we need more than two networks. We needed it in radio and I am certain we need it in television; and I think we need stations that can serve the public, which, after all, is all we are all here for, because if we don't serve the people, we won't do any business.

I would like to endorse, therefore, that portion of Commissioner Hennock's recommendations in connection with what to do with VHF and how to help the UHFers—incidentally the unhappy frequencies at the expense of the very happy frequencies.

I guess you probably heard that one.

Particularly, I wish to endorse the UHF Coordinating Committee and the UHF-TV Association's recommendations to you, sir.

I think they are in two parts, for good reason. We need immediate relief and I think you ultimately need a better, overall integrated system.

And I certainly thank you, sir.

Senator POTTER. Thank you.

I want at this time to express my appreciation for the statements that have been given the committee. You are the people who are in the field and face the problems and the only way we know about the problems are the way you present them.

I think you have done an excellent job.

We regret that we cannot continue with this next week but we cannot do so for two reasons: There is a convention, I understand, that takes place next week and the curtain goes up on a show over here at 10 o'clock Monday; but we will continue on June 3, and we hope then to move right on to a conclusion. In the meantime, I hope possibly the committee can get together, possibly in executive session, and discuss some of the proposals that have already been submitted.

I think we must appreciate the fact that in a hearing of this kind, it is unusual for the committee to take any action until all testimony has been heard.

So, I wish to again thank you for your help you have given the committee, and I want to thank the members of the Commission—Chairman Hyde, Miss Hennock and the other members—for being as attentive at the hearings as you have.

We are all interested in the same end—you people in the industry, the members of the Commission, and the members of the committee—and we are looking for that right solution.

Commissioner HENNOCK. Mr. Chairman, may I say something?

I just want you to know that, as I have been here these last few days, most of the broadcasters have come up and talked to me and have remarked about your complete mastery of this subject as a new chairman of this subcommittee in charge of communications. It has been very inspiring to see you learn so much in a short time. I know how long it has taken me to learn the little I know in 5½ years, and I want you to know that they all feel that they are getting a wonderful hearing; and they look to you, Mr. Chairman, for relief, and they know they will get it at your hands and at this committee's hands.

I, personally, want to thank you for your patience with me when I got a little emotional about this, but, as I say, I have taken my share of the blame, and I feel the Commission has been perfectly honest about it, and my colleagues have, from the beginning; and it is a very critical situation, and it is a very difficult one, to place at your door as a new chairman.

I just want you to know we all think you are wonderful.

Senator POTTER. You are gracious.

(Whereupon, at 6:15 p. m., the hearing was recessed until Thursday, June 3, 1954.)

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

TUESDAY, JUNE 15, 1954

UNITED STATES SENATE,
SURCOMMITTEE NO. 2 ON COMMUNICATIONS OF THE
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D. C.

The subcommittee met at 1:32 p. m., pursuant to call, in room G-16 of the Capitol. Senator Charles E. Potter (chairman of the subcommittee) presiding.

Present: Senators Potter, Schoeppel, Bowering, and Pastore.

Also present: Bertram O. Wissman, chief clerk, and Nick Zapple, counsel for the subcommittee.

Senator POTTER (chairman of the subcommittee). The subcommittee will come to order.

The hearings on the status and development of UHF television channels and S. 3095, a bill relating to the multiple ownership of television stations, will now come to order.

During the first phase of the hearings, held on May 19, 20, 21, the committee heard testimony from 31 witnesses. There are 37 witnesses scheduled for this phase of the open hearings.

It is the committee's hope that all the facts concerning this most important problem will be developed so that the committee will have before it a complete and thorough picture when it considers the record.

I have emphasized time and time again, orally and in written statements, that all interested parties are invited to appear or submit statements for the record.

I might mention now that tomorrow's hearing will begin at 9:30 in the morning in this room.

I sincerely regret that we had to postpone our scheduled date for this phase of the hearing; but, as you probably know, I have been busy to a certain extent in another hearing, which, by the way, hasn't been concluded yet, but as far as I am concerned I have adjourned to take up this hearing, which I am sure is conducted in a much more refreshing atmosphere.

I would like to first submit many statements and wires, too numerous to mention, and have them made a part of the record at this point.

(The statements, wires, and letters are as follows:)

WSPA,
Spartanburg, S. C., June 7, 1954.

Senator CHARLES E. POTTER.
Senate Office Building, Washington, D. C.

DEAR SENATOR POTTER: While in Washington recently, Mr. Nicholas Zapple, of the Interstate and Foreign Commerce Committee, kindly permitted me to read the testimony of Ben K. McKinnon, general manager of WGVL-TV, Greenville, S. C., before your subcommittee. In his testimony, Mr. McKinnon took exceptions to the action of the Federal Communications Commission in permitting WSPA-TV, of Spartanburg, to move its transmitter site from one mountaintop in Greenville County to another mountaintop in the same county, both sites being approximately the same distance from Spartanburg.

The Commission on June 3, 1954, passed on a protest filed by WGVL-TV against our modification of construction permit to change transmitter sites. The protest raised substantially the same arguments presented by Mr. McKinnon before your committee. The protest was rejected by a 5 to 1 vote by the Commission. The memorandum opinion and order passing on the WGVL-TV protest is such a complete answer to Mr. McKinnon's objection to our changing transmitter sites that we would appreciate your including it in the record of your hearing.

We would like for your committee to know that our company has been diligently working since 1949 to bring to Spartanburg the benefits of a VHF television service. It was a result of our efforts that channel 7 was allocated to Spartanburg instead of Columbia, as first proposed by the FCC. It was our contention that since VHF channels had been allocated to Greenville, Columbia, Charlotte, and Asheville, all of which compete with Spartanburg for trade, it was necessary to the future growth of our city that we too have the advantages of a VHF channel. We feel it is extremely unfair and contrary to public interest that those who enjoy the privilege of a television broadcasting license in Greenville, as well as Anderson, should resort to the methods they have in seeking to delay Spartanburg having its own local television service.

Our television studios, soon to be completed, are in downtown Spartanburg, and as the Commission so well points out, our entire local program structure is geared to serve Spartanburg and the surrounding area. WSPA-TV is and always will be a Spartanburg station, but we will serve Greenville and Anderson just as WFBC-TV of Greenville serves Spartanburg and Anderson. To do less would be contrary to the public interest.

Greenville and Anderson were both in our city service coverage contour from our original site on Hogback Mountain. These cities will continue to receive city service from Paris Mountain, just as they would have from Hogback. Our service contours from Paris are within those from Hogback and our new site meets all requirements of the FCC. From the very beginning, it has been our proposed intention to serve the entire lower Piedmont section of the Carolinas, of which Spartanburg is the hub, with good television. Had we been contented with UHF coverage, we would never have expended the time and money we did in presenting Spartanburg's case for a VHF channel to the FCC which resulted in channel 7 being moved to Spartanburg from Columbia.

We feel that no television station, whether VHF or UHF, should ask for Governmental action to give them artificial support at the expense of the listening and viewing public. That is exactly what the Greenville and Anderson stations have done in their activities to delay Spartanburg from enjoying its own television station. That your committee may know how Spartanburg feels about this effort to delay this city from having a television station, I am enclosing copies of resolutions and statements adopted by the Spartanburg Chamber of Commerce, the Spartanburg County legislative delegation, the City Council, and the Radio and Television Committee of the Spartanburg Ministerial Association.

When your committee has all the facts, I am sure it will not take any action which would encourage the invalidation of the congressionally approved policy of the FCC which places the public interest above private interest and which is the very life and spirit of the great American system of free and competitive radio and television broadcasting. Our company would appreciate your having this letter and enclosures printed in the record of the proceedings of your subcommittee.

Respectfully submitted,

WALTER BROWN,
*President, General Manager, WSPA-TV,
The Spartan Radiocasting Co.*

KTVQ, CHANNEL 25,
REPUBLIC TELEVISION & RADIO CO.,
Oklahoma City, Okla., May 24, 1954.

UHF-TV statement, from Oklahoma city.

Senator CHARLES E. POTTER,

Senate Office Building, Washington, D. C.

DEAR SENATOR POTTER: The FCC has made it clear that UHF was necessary for establishment of a "truly competitive" television system in our country. This industry now faces a dilemma through costly mistakes made in Commission actions by allowing VHF operators to deviate from the rules just enough to stay "legal" and slip in the back doors to virtually destroy the budding UHF pioneer.

I'm sure there are many UHF operators who jumped into the television business hoping for a bonanza that wasn't there in the first place. Others made costly mistakes in overbuilding with lavish layouts and still others filed for and received grants for stations in markets not able to support TV of any sort.

That is not the case with KTVQ. This operator has had 20 years' experience in radio and television. We carefully analyzed the market potential, our own financial ability and spent a minimum of money on "show" but put our money in programs and promotion.

We are proud of the service record and the ground we have gained at KTVQ. We are in business to stay. KTVQ was the first UHF station in the State of Oklahoma, going on the air November 1, 1953.

We've taken some unmerciful beatings in these 6 months but I'm more than ever convinced that UHF, if properly operated, is good television and equal to all.

Here is the television story in Oklahoma City.

In August KTVQ was given a grant and we started building immediately.

In September the applicants for VHF channel 9 merged and were given a grant for a 1,572-foot tower, maximum power, etc. They immediately started promotion with newspaper space and their AM affiliate KOMA using "Wait for Channel 9, KWTW, no conversion necessary" as prime copy. This seemed highly unethical and on the "dirty pool" side. Backed by a combined \$20 million group,¹ we at KTVQ nevertheless said "Nuts to 'em" and went on. We stuck our necks way, way out and promoted like mad.

Channel 9 went on with "interim power," but never let up for 1 minute on the "1,572-foot tower—tallest in the world—no conversion necessary" campaign. They now operate "interim" but still infer the other.

In the meantime KMPT-TV, channel 19, another Oklahoma City UHF aspirant, went on the air. Two months later they filed for reorganization under the bankruptcy law.

WKY-TV, powerful, newspaper owned, kept up its barrage. The day KTVQ bought a page in WKY's newspaper announcing our antenna mounting atop the First National Bank—that day—WKY-TV ran a page announcing color as here now.

Talk about a change! One VHF for 5 years and in 2 months—November 1 to December 20—2 VHF and 2 UHF.

WKY (4) of course had all the networks at the start. As soon as KWTW (9) hit the air they (KWTW) absorbed all CBS shows. KMPT-TV (19) got Dumont one show—Bishop Sheen, and WKY kept the others. KTVQ (25) got ABC, but only as second choice to WKY. From June through October WKY cleared for as many ABC shows as they could manage to handle, playing back the weaker NBC shows at 10:30 and 11 p. m.

We made an analysis of the WKY-TV schedule the week of May 16-22, 1954:

3 ABC programs were live off the network.

11 ABC programs were delayed kines (79 percent delayed).

28 NBC programs were live off the network.

14 NBC programs were delayed kines (50 percent delayed).

Why were they delayed? To serve the public? Hardly. Some of the delayed programs ran at 10:30 and 11 p. m.

A pure case of gobbling up all network. We don't believe a station can properly serve the public by simply throwing the network switch 80 percent to 90 percent of the time.

For that reason we endorse, in principle, a network regulation along the Senator John Bricker line or as placed before your committee on May 20 by Mr. Allen B. Dumont.

¹ KWTW.

Right here though let me say I find no great beef with ABC. They have been cooperative, but I personally feel they lack courage. ABC tells a story that through lack of clearance by stations they missed over \$8 million in revenue last year. My argument to them is to build their own network instead of playing third violin to the WKY's of the country. They frankly admit they lack the courage to take a stand. However, it goes further—they are willing to sacrifice the new stations for temporary high V income, figuring that someone else will replace those that fall by the way. This requires action now—not 6, no, not even in 3 months, but now.

It is NBC that, as far as KTVQ is concerned, has been malicious, monopolistic, and deliberately working toward reducing the number of competitors in Oklahoma City. A report on this is attached hereto. I believe in free competition without Government interference. However, monopoly, collusion, and unfair practice is beyond my ability to break.

With all the aforementioned problems we nevertheless succeeded in making important inroads.

ARB says we had 81,000 UHF homes on January 10. Hooper says we had 35 percent UHF saturation January 10. Pulse, Inc., gives us approximately 45 percent UHF saturation the latter part of January. We now claim 110,000 UHF potential viewers.

KTVQ is telecasting the Oklahoma City baseball games. We present good, top-drawer, live programs, good film programs, and each day looks some brighter.

There is a definite need for us. We are the only station taking a true interest in community welfare.

I love a good fight. I don't believe in governmental control, but I believe in trustbusting or monopoly smashing by the Government before an entire industry is permanently unbalanced.

Attached is material on how some stations promote, the same basic copy ran for weeks on KOMA the KWTW radio arm.

Earlier in this letter I referred to V's sneaking in the back door, remaining "legal" but only because the FCC has not set rules for certain situations. Here is an example.

For 20 years I was associated with what I term the Griffin Organization. They operate radio stations KTUL, Tulsa; KOMA, Oklahoma City; and KFPW, Fort Smith, Ark., and TV stations KWTW, Oklahoma City; KATV, Pine Bluff, Ark., and have a grant for channel 8 in Muskogee, Okla., granted to KTUL, Tulsa.

Because of my years of association with the Griffin Organization, and because a friendly relationship still exists, it is hard for me to point out some glaring actions that are being taken. However, these actions have a deteriorating effect on UHF and what hurts UHF anywhere in some degree hurts KTVQ.

The Griffins co-own my direct competition in Oklahoma City, channel 9 KWTW, which I pointed out in the foregoing has indulged in some "dirty pool" promotion in using their KOMA facilities to promote channel 9 on the basis of "no conversion necessary" and boasting of complete State coverage upon completion of their 1,572-foot tower, although actually operating on the smallest tower and lowest power in Oklahoma City.

Considerable speed and advance agreement was necessary between the Griffins and CBS to assure a CBS affiliation for KWTW. Inferring one thing and doing something else.

However, the complete Griffin story is told quite thoroughly in a petition filed by KCEB-TV, KSPG-TV and KOTV all of Tulsa against the channel 8 grant at Muskogee to KTUL of Tulsa. I refer you to those petitions for the full story.

These things are common knowledge in the field. Most UHF operators do not have the financial ability to hold out against well heeled V's who are sneaking in the back door through present FCC legal loopholes.

Tulsa-Muskogee and Little Rock-Pine Bluff are superperfect examples of well financed V operators who haven't the courage to go into UHF but are sneaking in through the loopholes and forcing UHF off the air.

The loopholes should be drawn together.

I do not claim to have all the answers, but I am confident that positive action will serve notice that UHF will not be abandoned and will give truth to the statements that UHF is needed.

It will offset in some part the bad press UHF is getting. It is very strange (and yet not so strange) how every UHF demise or problem receives widespread circulation in both general and trade press.

Please forgive the length of the letter but these are critical times and I state my case for your information.

Respectfully yours,

JOHN ESAU, *President.*

STATEMENT IN RE KTVQ—NBC BY JOHN ESAU

November 1953: I discovered WKY was not carrying the Gillette Friday night fights due to ABC program commitments.

December 1, 1953: I was in New York and secured from Ray Stone at Maxon, Inc., the NBC Gillette fights order. Harry Bannister of NBC immediately told Ray Stone that NBC would not feed KTVQ even though lines were available. Ray Stone got "damn mad" and insisted. NBC kept refusing.

December 17, 1953: I wired General Sarnoff and Pat Weaver at NBC that inasmuch as Gillette and Maxon had ordered the fights, that KTVQ had cleared and thus Oklahoma City was deprived of this service. I told them this was rank discrimination and unless WKY did clear we would expect the order or I would file a complaint with the FCC under rule 3.658.

December 23, 1953: Harry Bannister, NBC, wired me that WKY would clear "in the future."

December 28, 1953: I wrote Mr. Bannister "in the future" wasn't good enough. I received no answer but WKY shuffled their schedule and started carrying the Gillette fights Friday, January 15.

(Simultaneously.)

December 10, 1953: I secured from Tucker Scott and Frank Silvernail at B. B. D. and O. an order for the Tuesday night NBC Armstrong Cork Co. Circle Theater. I was advised next day, by these men, that Mr. Bannister at NBC said they had no agreement with KTVQ and would not feed this to us. Mr. Scott and Mr. Silvernail kept the order in but to no avail.

December 20, 1953: I was again in New York and tried to reach Mr. Bannister but could not do so.

December 22, 1953: I wired Mr. Bannister from my New York hotel that if I did not hear from NBC by the following Monday I would apply rule 3.658 at the FCC. On Monday Mr. Tom Knode of NBC called me to tell me that they would feed KTVQ the Circle Theater.

(Simultaneously.)

December 19-22, 1953: While in New York I decided to sell and secure from agencies other NBC shows not cleared by WKY.

January-February, 1954: We got the local Chevrolet dealers and the zone manager to request of their home office the Chevrolet NBC Dinah Shore show Tuesdays and Thursdays at 6:30 p. m. Subsequently, these dealers were advised that Campbell-Ewald had ordered Dinah Shore for KTVQ.

February 22, 1954: Raymond Ruff, KTVQ sales manager, was in New York and confirmed this order.

February 25, 1954: I received a wire from the agency that they could not order KTVQ without NBC approval.

February 26, 1954: Raymond Ruff advised me by phone that he had just come from a meeting with Spike Knapp, NBC station relations, concerning the Dinah Shore show.

Mr. Knapp told Mr. Ruff that wherever and whenever NBC had anything to say they would not approve and feed KTVQ.

Mr. Knapp stated that John Esau had been "too damned unreasonable" and they (NBC) would do everything possible to kill or cancel any agency request for KTVQ service.

Mr. Ruff attempted to show Mr. Knapp that actually we had helped NBC by forcing WKY to clear for the Gillette fights. Mr. Knapp disagreed but admitted they'd have to feed KTVQ when ordered and reiterated that NBC would, whenever possible, kill any agency order for KTVQ.

March 16, 1954: NBC reluctantly gave KTVQ the order for the Dinah Shore show after agency and client insistence, however, we do not have the NBC Friday night Garroway show, and some others even though we are sure orders for KTVQ service have been placed with NBC.

April 20, 1954: NBC wired KTVQ giving us 2 days' cancellation notice of the Dinah Shore show inasmuch as WKY-TV had suddenly decided to take the show the following Monday.

May 18, 1954: No further word has been heard on the Garroway or other NBC shows.

All in all a severe case of deliberate harassment and collusion.

468 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

UIHF—MEMO SUBMITTED BY LEE COWLES, 137 BERKELEY BLVD.,
MELROSE PARK, FT. LAUDERDALE, FLA.

In order to resolve the UHF problem we should first determine what is basically wrong with our UHF television system. We should then decide whether there is reasonable possibility that these faults can be sufficiently reduced or eliminated.

The first important difficulty with the present status is this: It is now clear that in the foreseeable future of television there cannot be nearly so large a number of commercial stations as originally provided for in the allocations table. This means, since VHF channels are more desired, that the large majority of stations will be VHF and a minority will be UHF. Additionally, the VHF stations will generally be larger and the more influential. This leaves UHF stations in a relatively secondary or supplementary position, and further compounds their difficulties. Since there is no rapid cure for this trouble the only course remaining is to in some way equalize VHF and UHF. Since VHF is dominant, long established, and satisfactory, it is logical to not disturb it but rather to alter UHF so that it is made more nearly equal to VHF.

This brings us to the basic reason why UHF is less desirable than VHF. This simple reason is that the frequency is too high, particularly in relation to VHF. If we sufficiently lower the frequency of the UHF stations they would no longer be UHF but would also be VHF stations. This is the most desirable solution if it can be arrived at.

The next thing to consider is whether it would be possible to make this change, how to make it, and the effect of making it.

It may be possible, with the help of Congress, to acquire some spectrum space between present channels 6 and 7, and above channel 13. A study should be conducted to find what would be a realistic number of channels and to determine just what frequency bands should be sought from the standpoint of availability and usefulness.

It is urgently desirable, however, that the space decided upon should specifically include 3 particular 6 megacycle channels, namely, just below present channel 7, just above channel 13, and just above channel 6—(FM band). These three additional channels would be allocated wherever possible and be made first available to present UHF stations. It is presumed that an extremely large percentage of present receivers would be capable of receiving these channels, where assigned, when tuned to the adjacent channel and with only a "screwdriver" adjustment. Assignments would need to be made on the basis of somewhat greater adjacent channel mileage separation than is used at present at least for a limited time.

I would also suggest that in the case of the proposed channel just above present channel 6 that it not be assigned in any area where there would not be enough remaining FM channels to at least accommodate the present number of FM stations in that area. New York City might be an example of where it could not be assigned. It should also be required of any TV station given a permit for this channel to bear the cost of any shifting of FM stations that would be caused thereby. With a view toward not disturbing the FM situation the operation of TV in this band should be considered as temporary or transitional. At a later date, perhaps 5 years, when a large portion of receivers would tune the entire of whatever new bands are selected these stations might be required to move and this should be a condition of the grant. This would then amount to borrowing from the FM band in areas where it is not completely used and would not be a threat to FM which needs encouragement.

There would be only a very small number of presently operating UHF stations not absorbed by these three additional channels. For the minority still not accommodated there might have to be some transitional period of dual channel operation. The type of receiver conversion here required might well be in such a low-cost category that it could be handled directly by the broadcasters on a mass-production basis.

I further suggest the following possible procedure:

1. Freeze the issuance of all UHF construction permits and suggest that all presently authorized construction be at a minimum.

2. As soon as the spectrum additions are finalized action should be instituted so that all manufacturers would be required to include the additional ranges in all future receivers.

3. VHF procedure to continue with extra emphasis on slight adjustments to permit squeezing in of some additional stations where possible but substantially

adhering to present standards. Allow present UHF stations or permittees to compete with some favor for these channels.

4. Some consideration might be given to establishing one or more of the added channels (not including the specific three) as local channels with lesser spacing and lower maximum signal.

Some plan such as outlined above is the only course that could eventually equalize UHF with VHF. If however, it is decided not to attempt to equalize UHF but rather to continue it as a supplementary service there are various areas where effort should be bent to assure that UHF will survive. These would include such items as: Bettering the network situation, and improving the receiver situation.

WEST CALDWELL, N. J., June 8, 1954.

Senator CHARLES E. POTTER,
Washington, D. C.

Urge subcommittee on communications to provide equal competition for four networks to get top quality programing on UHF.

WM. CARLIN.

NEW YORK, N. Y., June 8, 1954.

Senator POTTER.
*Chairman, Subcommittee on Communications,
Senate Office Building, Washington, D. C.*

Free enterprise can be well served by four competitive television networks. The United States economy can support four networks and a minimum of four TV outlets in all major markets. The key to the situation is strong programing now resting in the hands of NBC and CBS. Unless the UHF stations receive aid from the United States Senate a monopolistic situation will continue and UHF stations will die. It is essential that the Senate act to insure a fair opportunity for UHF stations. Please give this matter your earnest consideration.

Thanks.

NORMAN KNIGHT, *Weston, Conn.*

DAVENPORT, IOWA, June 4, 1954.

Senator CHARLES E. POTTER,
United States Capitol, Washington, D. C.

Consider it absolutely necessary to do something to make it possible for UHF stations to exist. Two broadcasting companies now have it in their power to make or break stations and serious thought should be given Mr. DuMont's suggestion regarding dividing time among VHF and UHF stations; also extra cost of UHF sets imposes a tremendous burden on purchaser of sets so possibilities of obtaining listeners for UHF is handicapped. Elimination of excise tax on UHF sets would materially help. Have discussed this with over 200 of our dealers. Practically all agree with above. Appreciate your attention.

G. J. TIMMERMANN.

NEW YORK, N. Y., May 28, 1954.

Senator CHARLES E. POTTER,
Washington, D. C.

I urge you and the subcommittee on communication to support equal opportunity for both UHF and VHF television. A strong four network system producing quality programing is necessary to support this important medium of communications. Competition serves the interest of a free society. Help four network TV and UHF.

WILLIAM L. HYDE.

EAST PATERSON, N. J., May 27, 1954.

Senator CHARLES E. POTTER,
Senate Office Building, Washington, D. C.:

I urgently request that your Subcommittee on Communications provide equal competitive opportunities between the VHF and UHF in a manner that will allow four networks to compete on a basis of equality. Top quality network programing is vital for the survival of UHF stations now in serious financial difficulties.

W. I. MCGINNITY,
ALLEN B. DU MONT LABORATORIES, INC.

RUTHERFORD, N. J., *May 27, 1954.*

Senator CHARLES E. POTTER,
Senate Office Building, Washington, D. C.:

May I request your Subcommittee on Communications to provide equal competitive conditions to make it possible for four television networks to compete on an equal basis.

WALTER E. HUSSELRATH.

EAST PATERSON, N. J., *June 4, 1954.*

Senator CHARLES E. POTTER,
Senate Office Building:

I urgently request your assistance in seeing that the Congress provides equal competition situations as between ultra-high frequency and very-high frequency television channel in such a manner as to make it possible for the four networks to compete on the basis of equality and not on the basis of a statutory or administrative disadvantage as you know top quality network programing is essential to survival of ultra-high frequency.

HARRY HOUSTEN.

BOOTH RADIO & TELEVISION STATIONS, INC..

Detroit, Mich., June 2, 1954.

Senator CHARLES E. POTTER,
F-80 Capitol Building, Washington, D. C.

DEAR SENATOR POTTER: Having been a UHF television broadcaster for 1 year, I feel that my experiences should be voiced for the benefit of those interested in the trend of events which have led to the present situation.

On May 22, 1953, I began UHF television service with WBKZ-TV, channel 64, in the cities of Battle Creek-Kalamazoo, Mich., area, with a basic TV network contract wherein the network undertook to provide video service when facilities were completed—first estimated as June 1953; then December 1953; and finally scheduled for January 1954. In August 1953 this network decided set conversion was not to their liking and effectively tore up the contract and substituted a bonus kinescope contract at a material cost to WBKZ-TV for the privilege of carrying commercial network shows without compensation to WBKZ-TV. Good local, live, television shows were added so that WBKZ-TV carried attractive entertainment.

I have found that television station operation requires substantial amounts of national and regional advertisement to meet costs. This national and regional advertising is virtually nonexistent for UHF stations when distant VHF stations claim coverage of the area. These same VHF stations have on occasions prevented national and regional advertisers from purchasing time for programs on WBKZ-TV, although WBKZ-TV was ordered. This action was accomplished by refusal to permit off-air pickup of such programs and claims of complete coverage of the area. For example: March 28—Rodgers and Hammerstein show, General Foods, and the 1953-54 Stroh hockey games.

The influx of VHF television from Grand Rapids and Lansing, added to the VHF station at Kalamazoo, became progressively worse with the increase of tower heights and power. The recent "drop-in" of VHF, channel 10, at Parma has rendered this situation untenable and will remove all hopes for future economic progress by eliminating the present television network affiliations.

The situation in the Battle Creek-Kalamazoo market demonstrates the effect of multiple-city coverage in that UHF set conversion is severely restricted by high-power and high-tower VHF television stations located within a 60-mile radius. What originally appeared as a 1-VHF market has developed into a 3-VHF-station market with a new fourth VHF station now proposed to be located within a 35-mile radius of Battle Creek.

The expectation of the all channel receivers within a reasonable period from the start of television operations was not forthcoming. Instead, a penalty was imposed by the additional cost of UHF on new sets sold in the area. So-called cheap UHF conversions were nonexistent. Conversion costs averaged \$50 or more per set. New sets design with comparable sensitivity and noise figures did not materialize and are not even now on the horizon.

Practical increases in power of UHF transmitters do not approach compensation for the sensitivity difference in receivers for the UHF-VHF bands.

The major cities—Grand Rapids, Flint, Lansing, Kalamzoo, Battle Creek, and Jackson—receive their second and third television service from VHF stations located 50 and more miles away. The local UHF stations in Battle Creek, Lansing, and Flint have been very severely hurt by this situation. Of the 5 operating UHF stations in Michigan, 4 have been losing heavily. Two of the four have ceased operations. Of 8 Michigan nonoperating CP's issued, 5 have been returned to the Commission.

Intermixture of VHF and UHF has proved disastrous for UHF station operators in that the incentive for conversion is very greatly reduced when programs of the two major networks are viewable, even poorly, on the VHF channels.

The only complete remedy for Michigan appears to me to be only in the complete use of the VHF band for all by reduction of power, beam tilting, and deterioration of the extensive grade B service of existing VHF stations. Otherwise the death of UHF in Michigan is easily foretold and with it the democratic system of competitive TV and an extension of the clear-channel sychosis.

Very truly yours,

JOHN L. BOOTH, *President.*

P. S. Senator, would appreciate a reply.

As one of your constituents I ask that you fight for a democratic system of competitive TV.

We should not allow a few "fat cats" with increased tower heights and increased power on VHF to kill UHF in the United States of America.

JOHN L. BOOTH.

WKRK,

Mobile, Ala., June 3, 1954.

Senator CHARLES E. POTTER,

*Chairman, Senate Communication's Subcommittee,
Senate Office Building, Washington, D. C.*

DEAR SENATOR POTTER: I wish to take this opportunity to express myself in regard to the various proposals which have been made recently before your committee in regard to television broadcasting. As a broadcaster and as a television applicant, I wish to express my objections:

1. Any freeze on the granting of television applications.
2. The proposal to move all television to UHF.
3. Proposal to regulate network and hamper their free negotiation for affiliation with stations.

We have operated WKRK-AM and FM in Mobile since 1946. Part of that time WKRK was a Mutual affiliate, for a short time it was independent, and since 1948 has been a CBS affiliate. Until 1951 WKRK was not a profitable operation and sustained substantial losses. We have never, however, entertained any idea of asking Congress or the FCC to come to our relief. We were the first applicant for television in Mobile. We still do not have a television station although there are two stations operating in Mobile, a VHF on channel 10 and UHF on channel 48. We still do not have television in spite of our being the earliest applicant because another group applied for the same channel as we did. The two existing stations had no opposition and were, therefore, granted without hearing. Because WKRK had opposition it necessitated going through hearing and we are now awaiting oral argument before the Commission, and we hope a construction permit, within the next few months. We have not asked the FCC or Congress for special consideration or any new set of rules, despite the fact that we were the first television applicant and are still awaiting a grant.

The history of our application for television goes back some 4 years and has been intensely active since the lifting of the freeze some 2 years ago. We have approximately \$75,000 invested to date in attempting to secure a television station on channel 5 in Mobile. Prior to the lifting of the freeze we participated in the allocations proceedings and fought to keep channel 5 in Mobile. We have a substantial investment, as you can see, in money, time, and effort in attempting to establish a station on channel 5 and need not tell you what a freeze at this time would do to us. We will start over where we were some 3 or 4 years ago. We are not asking for special consideration. We are asking merely that the status quo be maintained that we may complete the proceedings and follow our application to its conclusion based on the rules set up 2 years ago.

Television has made tremendous strides in becoming a nationwide service in the past 2 years. The television industry is having its difficulties and its growing pains, particularly those stations that have been established on the UHF channels, but the VHF stations established in 1948 and 1949 also have their difficulties and their losses. Radio, back in the twenties and thirties and even in the forties, had its difficulties and trials and its losses. FM had its trials and tribulations and its stories of large losses, and to a great extent was a failure, but heretofore no one has asked for special consideration from Congress and the Commission, or a new set of rules in the middle of the game because some operators are taking a loss. It is up to the individual applicant for a new station to make an honest appraisal of his market, the station's potential for national and local business, possibility of network affiliations and whether or not the community needs the service he is about to offer. Having made an appraisal of these factors, he invests his money and he takes a chance. If his judgment is wrong and he sustains losses it still is not a justification for a new set of rules or congressional action.

The concern of Congress and the FCC must necessarily be with the service which the public receives, not with whether or not an individual station operator and a group of station operators make money or sustain losses, no matter how large those losses or how much we may sympathize with the individual. I have heard no great hue and cry from the public in this controversy. I cannot possibly see how a freeze on the granting of new stations can possibly serve the public interest and give them more service. I cannot see how making obsolete millions of receivers in the public's hands can serve the public interest. I cannot see how eliminating 12 channels from the television band can assist in making for a greater nationwide television service or serve the public interest in any way. If any fault lies with the radio and television industry itself for the present predicament of UHF, it lies with the receiving set manufacturers. All receivers should be manufactured to receive all channels, not only a portion. Despite this, not being true in the past, almost 100 percent UHF conversion has been achieved in many markets, among them Mobile and Baton Rouge.

In summary, it is our considered opinion as an operator of AM and FM radio for some years with some experiences in losses and as a television applicant with substantial money and time invested, that a freeze at this time would not serve the public interest but would work a great hardship on applicants, such as ourselves, who have gone through long and costly proceedings and are awaiting decisions. The concern of Congress must be with the public and the service it receives. An elimination of part of the present allocated television channels would not serve the public interest or the television industry which has made unprecedented strides in providing nationwide service in a short period of time. Regulation of networks, which was not discussed in detail above, would merely hamstring the free development of both the networks and individual stations and set a tremendous precedent, perhaps putting broadcasting out of its status as a free competitive service to the public. Again we ask no special consideration, only that the rules on which we have invested our time, effort and money be maintained and not changed in the middle of the game.

Respectfully,

FRANK CONWELL, *WKRG-TV, Inc.*

PRICHARD & BRENNER,
BEVERLY HILLS, CALIF., June 11, 1954.

HON. CHARLES E. POTTER,
United States Senate, Washington, D. C.

DEAR SENATOR POTTER: In further reference to the statement recently filed by me with your Subcommittee on Communications on the status and development of UHF, I should like to direct the attention of the committee to activities inimical to UHF and color development engaged in by some television merchandisers in a misguided effort to sell VHF—only monochrome receivers.

I am attaching a clipping taken from a small local newspaper (the entire publication is also being enclosed with this letter), which deprecates the UHF broadcast service. The item is not only full of misinformation, but omits the very important facts that channel 22 is on the air in Los Angeles with a test pattern with the highest powered equipment available, and is about to commence commercial operations, and that three applicants are competing for the opportunity to operate the remaining channel 34.

You will note that the same page also contains a news item on the status of color television, which likewise has the effect of discouraging the purchase of color television receivers.

I am advised by the editorial staff of this paper that the news items were furnished by the Giant TV Co., a retailer of television receivers at 6161 Langkeshim Boulevard, in North Hollywood, Calif. The newspaper staff did no independent writing or research on the matter. It is unlikely that the retailer maintains a research staff for this purpose, and the articles, undoubtedly, were developed and distributed by either an advertising agency, a manufacturer of equipment, or a distributor.

It is respectfully suggested that your committee may wish to make inquiry as to the nature and extent of the practice, and the source of such "news" stories. If it appears that persons or companies connected with the sale or merchandising of television receivers are disseminating such information, it would certainly constitute an unfair and reprehensible trade practice of great disservice of the entire industry and to the public. Those engaged in such a practice should be required to desist without further delay.

Respectfully yours,

JOSEPH BRENNER.

UHF TAKES A BEATING

In the past few months, the UHF (ultra-high frequency) picture has deteriorated to an unexpected degree. Many UHF stations are in continual litigation with the Government, accusing them of "desertion" and favoring the standard VHF stations. Hundreds of applicants for UHF station permits have withdrawn. Many UHF stations have gone off the air, unable to compete with the VHF ones. And, in general, it appears that UHF is a dead or dying issue throughout most of the country.

UHF refers to the extra portion of the broadcasting band which was to accommodate additional stations which could not be fitted into the more crowded VHF (very high frequency) wavelengths. But it turned out that the VHF band was not as crowded as feared. Cities, especially the medium and smaller ones, cannot yet afford or absorb more than a few stations.

Los Angeles has one UHF station, channel 28, which is on the air for a few hours per week with noncommercial programs. Many of these are put on by students of the various colleges. It has not been determined how long channel 28 will stay on the air.

WGBF,
Evansville 11, Ind., June 4, 1954.

SENATOR CHARLES E. POTTER,

*Chairman, Subcommittee on Communications,
Interstate and Foreign Commerce Committee,
United States Senate, Washington, D. C.*

DEAR SENATOR POTTER: In connection with the hearings which your subcommittee has been holding on Senate bill 3095, On The Air, Inc., licensee of radio station WGBF and applicant for construction permit for a television broadcast station to operate on channel 7 in Evansville, Ind., respectfully submits the following statement and requests that it be made a part of the record of your hearings on this bill.

1. The sixth report and order of the Federal Communications Commission allocated one VHF and two UHF commercial television channels to Evansville. Recognizing that the VHF channel would provide better coverage to the entire area which considers Evansville as its metropolitan center, an area this company had been serving for almost 25 years with its AM station WGBF (1280 kilocycles, 5 kilowatts (D), 1 kilowatt (N)), On The Air, Inc., promptly filed an application for construction permit for a television station on channel 7. This application was set for hearing on a comparative basis with three other applications for the same channel. The hearing commenced on May 25, 1953, and the record was closed on March 23, 1954. The time for filing of proposed findings expires June 14, 1954.

2. Several applications were filed for the two UHF channels allocated to Evansville, but as a result of dropouts, each of these channels was assigned to the present licensees on an uncontested basis. One of the UHF stations went on the air September 27, 1953, and the other on November 15, 1953. As there are no operating VHF stations closer to Evansville than 100 miles, these UHF stations have not been faced with the problem of VHF saturation and the need for persuading people to convert their sets to receive UHF.

3. On the Air, Inc., has spent to date more than \$35,000 in the prosecution of its application for channel 7 in Evansville. We believe that the other two remaining applicants for this channel have spent comparable amounts.

4. On The Air, Inc., opposes the suggestion that any freeze or hiatus be imposed with regard to the continued processing and granting of television applications. We believe that the people of this area are entitled to receive the benefits of VHF television as soon as possible, and that they should not be deprived of that right because certain UHF television grantees want governmental intervention to delay or completely eliminate the VHF competition which they knew they would eventually face when they applied for UHF facilities. Furthermore, the substantial investments made by On The Air, Inc., and the other applicants for channel 7 in prosecuting their applications, investments made in reliance upon an allocation plan issued by the Federal Communications Commission after 3 years of study and hearings on the subject, entitle these applicants to prompt action on their applications with no drastic changes in the allocation plan on which their applications were based.

5. On The Air, Inc., opposes the proposal that the intermixture of VHF and UHF channels in the same community be eliminated. The Federal Communications Commission has determined that the limited number of VHF channels available for television broadcasting cannot provide a truly competitive nationwide television broadcasting system. This means that in those communities where there is an intermixture, the elimination of such an intermixture would generally be accomplished by the substitution of UHF channels for VHF channels. The elimination of the VHF channels would in many cases (such as that of Evansville) mean that the entire area which looks to a given city as its metropolitan center could not receive adequate television service from that city until such unpredictable time in the future that UHF equipment may be available and put into service which would provide the tremendous amount of power necessary to give UHF coverage equivalent to the VHF coverage which is now possible with the equipment readily available for VHF television broadcasting.

6. For the same reasons as given in paragraph 5 above On The Air, Inc., opposes the proposal that all television be shifted to the UHF band and the proposal that the authorized limits of power and antenna heights of VHF stations be reduced so that the coverage areas of VHF stations would be roughly equivalent to the coverage areas of UHF stations operating with the limited power presently available to such stations.

On The Air, Inc., does not request permission to present oral testimony in these proceedings, as we believe that sufficient factual data are available in the record and in the sixth report and order of the Federal Communications Commission to support the conclusions set forth above. However, if oral testimony is desired by your committee, we will be glad to send a representative to testify, as we feel that this is a matter of great importance, involving as it does the success or failure of a truly competitive nationwide television broadcasting system.

Respectfully submitted.

ON THE AIR, INC.,
By MARTIN L. LEICH,
Executive Vice President.

KTVQ,
Oklahoma City, June 1, 1954.

MISS FRIEDA HENNOCK,
*Federal Communications Commission,
Washington, D. C.*

DEAR MISS HENNOCK: It was indeed a pleasure to see you again, to talk with you and to hear the position you take.

I personally, and many others in the industry also, appreciate your forthright stands in the face of heavy odds.

Your statement before the NARTB panel meeting last Thursday morning made a weighty impression on all present even though the room was "loaded" with V operators.

I want to compliment you and encourage you in your worthy efforts. I feel somewhat akin. As the one lone UHF operator on the 15-man NARTB Television Board of Directors, I too know what odds are.

No doubt it has occurred to you, but just in case it has not, there is one large segment of folks that should be on your team. That is, those radio-station oper-

ators who are not in TV and who missed the boat by not filing for a V and that group of losers in the present and upcoming competitive hearings.

This segment can only go the UHF route and if no UHF then no TV, ever, for them.

Most sincerely,

JOHN ESAU, *President.*

KTVQ,
Oklahoma City, June 2, 1954.

Miss FRIEDA HENNOCK,
*Federal Communications Commission,
Washington, D. C.*

DEAR MISS HENNOCK: You told me my correspondence has fallen off. I'm taking immediate remedial steps.

Before I left the NARTB convention I discovered that Mr. P. A. Sugg is to head a "V coordinating committee" to counter the U group charges.

In the attached copy of a letter to Senator Potter I tell the Oklahoma City story. As you know Mr. P. A. Sugg heads up WKY-TV, WKY, which is also the morning Daily Oklahoman, the evening Oklahoma Times, and the farm paper the Oklahoma Farmer Stockman, plus a dozen other Oklahoma City holdings. Thus, as indicated in my letter to Senator Potter, Mr. Sugg's organization in collusion with NBC is not only trying to throttle me but now steps into a national picture to take leadership in throttling all UHF.

Rumor also has it that Mr. Hal Fellows will appear before the Senate committee in opposition to suggested remedial measures. As a member of the association for 20 years, a man who served on the board when Hal Fellows was brought in from Boston, I trust that his appearance, if made, will be properly construed as individual opinion and not as association president.

The association membership has not been asked and I believe would deny Hal the appearance if polled.

Keep up the good effort. It is possible that any action will come too late for my property, however, as long as there is life there is hope, but unless the right type of blood for a transfusion is found real soon this patient will not survive.

It is possible I'll make an appearance at the hearings but I can ill afford the cost of the trip to Washington and therefore correspondence may need to suffice.

Sincerely,

JOHN ESAU, *President.*

KTVQ,
Oklahoma City, June 1, 1954.

Senator JOHN BRICKER,
*United States Senator,
Senate Office Building, Washington, D. C.*

DEAR SENATOR BRICKER: Attached is a copy of our letter filling in information on the UHF problem as it pertains to Oklahoma City. As noted, I am not a newcomer to the broadcasting business but never in my 20 years of experience have I seen so many inequities.

I urge action on your bill (S. 3456) now, not 6 months from now, but in this session of Congress. To many, many of us the total solution is network affiliation. Network contract for KTVQ means the difference of staying in business or going out of business, and very soon.

At last week's annual meeting of the National Association of Radio and Television Broadcasting in Chicago I was elected to that organization's television board of directors. I tell you this not to boast but to point up that the industry thinks well of my abilities.

A great deal of agitation was noticeable at this meeting. The UHF hearings are having an effect. The V operators are frankly worried. I call attention to this with the knowledge that a "V coordinating committee" is being organized to appear at the Washington hearings. Interestingly, that committee is headed up by my competitor, Mr. P. A. Sugg of WKY, WKY-TV, the morning Daily Oklahoman and evening Oklahoma Times and the farm paper Oklahoma Farmer Stockman of Oklahoma City, indicating that your bill and others interested in corrective measures are hitting home at the monopolies most of all.

Rumor also has it that Mr. Hal Fellows, president of NARTB, will appear in opposition to the UHF pleas.

476 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

As a 20-year member of NARTB I think it important that neither Mr. Fellows nor the "V committee" represents the NARTB and many members will object to such an appearance.

I recognize that everyone is entitled to their day in court but should be qualified as individuals and not as representative of any group.

I am in complete support of, and commend you for, your efforts.

Sincerely,

JOHN ESAU, *President.*

OTTOFY-JEHLING BROKERAGE CO.,
St. Louis, Mo., May 24, 1954.

Hon. CHARLES E. POTTER,
United States Senate, Washington, D. C.

DEAR SENATOR POTTER: We in St. Louis hope that you will overrule the application of WTVI for channel 4. If you will go to the trouble of investigating who owns the stock in WTVI it is not out of the realm of possibility that the St. Louis Post-Dispatch who owns KSD (VHF) have control of WTVI. For many years the St. Louis Post-Dispatch operating KSD-TV has had a monopoly and if they were in any way able to get control of outlet No. 4 VHF this monopoly would continue on. The only information we can get in St. Louis is through the St. Louis Post-Dispatch and the Globe Democrat newspapers and KSD-TV and all of the information emanating through this source is strictly New Deal, as far as the Republicans are concerned in this part of the country it is strictly a lost cause.

Your suggestion that all of the new sets be equipped with UHF is all well and good but in St. Louis there are a tremendous amount of VHF sets and to convert these sets to UHF the cost is practically all cases would be between \$100 and \$135. In the case of my son who is a veteran he is doing good to be able to pay for the set he already has let alone trying to convert this set at additional expense.

It has come to my attention that throughout the country UHF stations are closing faster than they are opening and in other cities they have as high as 6 or 7 VHF stations why in St. Louis we have been forced to accept 1 station St. Louis Post-Dispatch KSD-TV it is beyond my comprehension.

Anything you can do to correct this very unfair condition will certainly be appreciated by St. Louisians.

It does seem to me that in these troubled times when people seek diversion through looking at their television sets that it certainly is an imposition to have these colored TV programs on when they ruin the reception for the poorer people looking at black and white.

I am,

Yours very truly,

FRANK B. OTTOFY.

SALINAS BROADCASTING CORP.,
Salinas, Calif., June 2, 1954.

The POTTER COMMITTEE,
Senate Office Building, Washington, D. C.

GENTLEMEN: We are unalterably opposed at any effort on the part of the UHF group or their advocates to change the present manner of operating VHF television stations. The risks of television have been well-known to every professional broadcaster since its inception and this belated effort by the Government to step in and eliminate the risks of UHF broadcasters smacks of socialism in its worst form.

We support any effort to better serve the public with television reception, but this move by the UHF broadcasters is an all-out effort by some people in the industry to have a Government committee put them in a position to reap greater financial rewards than they first thought possible.

Our VHF channel 8 station serving Monterey-Salinas, Calif., risked approximately \$300,000 with no network contracts, with no network advertisers, and with no assurance that we could appeal to the Government in case we did not make as much money as we had anticipated.

Our losses for the first 8 months of our operation amount to approximately \$30,000. We have built VHF set circulation from approximately 10,000 to 79,000

and these sets would be made obsolete if any change is made. The public is entitled to protection.

As an illustration of the fallacy of this UHF position, a man by the name of S. A. Cisler received a television grant for our area before we received our permit. Mr. Cisler specified a site in his application and our careful checking revealed that he did not have this site. To our knowledge, he did not have equipment contracts, nor did he purchase equipment. His application before the Commission does not reveal a strong cash position, so should be checked by your committee. Mr. Cisler was not a resident of Monterey County and never has been. Yet he filed a protest which delayed television in our area for many months.

If you propose to change the present system, what steps will you take to underwrite our VHF channel 8 losses in Salinas-Monterey? How will you underwrite conversion of 79,000 television set purchasers who bought sets depending on channel 8? Will you guarantee all television stations to make money? How will you decide what stations to eliminate and in what cities?

The Federal Communications Commission, staffed by experts, are best qualified because of long study and thorough knowledge of television problems to handle all television. Your Potter Committee should enthusiastically support the policies of the Federal Communications Commission.

Respectfully,

JOHN C. COHAN, *President.*

DAYTON EDUCATIONAL TELEVISION FOUNDATION,
Dayton 9, Ohio, June 1, 1954.

Senator CHARLES POTTER,
Senate Office Building, Washington, D. C.

DEAR SENATOR POTTER: After reading press reports of the testimony of Robert J. Campbell before your subcommittee on UHF television on May 21 and then talking with Mr. Campbell following his return to Dayton, I must tell you that there are certain inaccuracies in his testimony.

As chairman of the board of trustees of the foundation, I have been instructed by the complete membership of the board to write you and to correct these inaccuracies that the record may contain proper information.

It might interest you to know that Mr. Campbell has resigned as executive director of the foundation effective July 4, 1954. It is my understanding that Mr. Campbell stated to your committee that the Dayton Educational Television Foundation was shortly to engage in a campaign for \$250,000 to build a UHF station in Dayton, Ohio, for educational television purposes. This statement is not true.

Since the formation of the committee on educational television in Dayton in January 1953, and the later organization of the Dayton Educational Television Foundation, members of the board have given a good deal of thought and done much research on the possibilities of station operation here. This matter has been tabled at each one of these discussions and continues to be tabled.

After contacting various representatives of business and industry in the Montgomery County area, it is our feeling that it would be impossible to support such an operation in this area under current conditions. The estimates that we have had for construction costs to get on the air range from a minimum of \$125,000 to a maximum of \$250,000. Because of immediate pressures on all of our participating school systems and educational organizations, and because of the more or less immediate future need for classroom space, the participating organizations feel that it is impossible to make any major financial contribution to such a drive and that with the problems of providing adequate classroom space being uppermost that a drive for funds would be ill timed for the next year or more.

The Dayton Educational TV Foundation did present, as Mr. Campbell outlined, a number of educational television programs on all 3 commercial stations in the Dayton area during the first 3 months of 1954. With the closing down of WIFE-TV these programs were cut to a bare minimum.

We currently have 1 program on WHIO, one-half hour a week, and 1 program on WLW-D, one-half hour a week. The management of WIFE-TV went out of its way to be cooperative with the Dayton Educational Television Foundation in giving us of their time and facilities. Since they have gone off the air, we have had a firm statement of policy from the management that should they

return to the air at any time in the near future, they would allot to us as public service broadcasting, 10 percent of their total time on the air, both class A and B.

This offer, we feel, is unprecedented and should WIFE return to the air, we feel that in the light of this offer, there would be little need for us to construct a station. We do, however, feel that one of the major problems in the Dayton area is that of being a mixed market point, both a VHF and UHF center.

It is my personal belief that the answer to the current problems of UHF is in clarifying these mixed markets and bringing communities into a single status—either all UHF or all VHF.

The economic pressures and conversions and network affiliations produce a disadvantage for the UHF broadcaster in a mixed market.

The foregoing statements have been authorized by the membership of the board of the Dayton Educational Television Foundation and we respectfully request that this letter be made part of the record of the hearing, if possible.

I shall be happy to add to these comments should the committee desire it.

Sincerely,

JAMES F. CLARKE,
Chairman of the Board.

Members of the Dayton Educational Television Foundation :

University of Dayton
Dayton Public School System
Dayton Parochial Schools
Sinclair College, YMCA
Oakwood Schools
West Carrollton Schools

CERTIFIED TV AND APPLIANCE Co., INC.,
Norfolk, Va., May 21, 1954.

HON. CHARLES POTTER,
United States Senate, Washington, D. C.

DEAR SIR: I felt that it was my duty to write to you regarding the problems facing UHF since I have an obligation to my customers and the stations now operating on UHF.

There were three stations operating at one time, one has discontinued operation and I understand others might be forced to do so.

In order to evaluate the conditions facing the UHF stations, I feel that an immediate freeze should be instituted preventing VHF channels from going into areas where service is now being rendered by UHF stations depriving them of revenue and network affiliations.

I would also like to recommend that there be no mixture of VHF and UHF in the same markets. It seems to me that if the facilities were equal then the stations could then compete on a program basis. This of course would also eliminate the many problems facing the receiver manufacturer of trying to produce receivers and antennas that will receive all bands.

I trust the above information is helpful to you in your study of the UHF problems. If I can be of further service, please let me hear from you.

Yours very truly,

IRVING BRAUN, *President.*

WALTER READE THEATRES,
New York 36, N. Y., May 24, 1954.

HON. CHARLES E. POTTER,
Senate Office Building, Washington, D. C.

DEAR SENATOR POTTER: While we are represented at your current hearings by the UHF industry coordinating committee, I thought you might be interested in the attached letter which I have sent to Mr. Stanley Adams, president of ASCAP, requesting that ASCAP waive its normal fees for new struggling UHF stations and instead accept a token fee to help the stations through this current critical period.

It is our sincere hope that the current hearings will result in action beneficial to UHF stations, and particularly will result in some decision which will make set manufacturers and distributors handle only all-channel receivers.

Very respectfully yours,

WALTER READE, JR.,
President.

WALTER READE THEATRES, INC.,
New York 36, N. Y., May 14, 1954.

Mr. STANLEY ADAMS,
ASCAP, 575 Madison Avenue,
New York, N. Y.

DEAR MR. ADAMS: You probably will recall that my association, and my company's association with ASCAP has been a long one. I have on my desk a contract, or should I say a license agreement, from ASCAP for our television station, WRTV channel 58, in Asbury Park, N. J.

As I read it, and understand it, you will become a partner of ours based on our gross business. Mr. Adams, I am sure that you and the rest of your associations of ASCAP are completely familiar with the problems of small television stations, in particular new UHF television stations. My experience with ASCAP, and my knowledge of your income and expense, prompted me to remind you that the main reason for ASCAP's interest in WRTV is for licensing control rather than income. The profit and loss of our television station, as well as others, is an open book, as we must report to the FCC annually.

Would it not be well to reconsider this type of contract, and instead take a token license payment, say \$25 a quarter, to indicate ASCAP's confidence in small-town TV, and to encourage us to render the community service which we are all desperately trying so hard to give? At such time as our type of station is an economic success, I am sure we will be thrilled to welcome you back as a partner, but I think it unfair and unwise for a partner to attempt to receive dividends before there are at least some prospects for profits.

May I also point out that hearings are to be held in Washington later this month by the Potter committee, the Senate Small Business Committee, with Senator Potter presiding. It would be of tremendous public relations benefit for ASCAP if it would be possible to announce at these hearings that an organization of the caliber and standing of ASCAP had the foresight to recognize the problems of the small UHF television station, and that as a means of aiding and encouraging small UHF broadcasters, had waived its normal contract requirements and instituted a token payment system until such time as this class of TV broadcasters could get out of the woods.

I would appreciate the association's reaction to my thoughts.

Very truly yours,

WALTER READE, JR.,
President.

WKAP,
Allentown, Pa., May 24, 1954.

Senator CHARLES POTTER,
Senate Office Building, Washington, D. C.

DEAR SENATOR POTTER: The following telegram was sent to Miss Frieda Hen-nock, Commissioner, Federal Communications Commission:

"We read in Radio Daily, May 20, your five recommendations relative to VHF and UHF. We recommend their adoption in their entirety. We also recommend that all TV stations be on UHF band as alternate proposal. Copy sent to all Commissioners and Senator Charles Potter, subcommittee chairman."

I would greatly appreciate if you will support her five recommendations, for I feel that her proposal is the best so far presented. It will permit UHF to survive.

Sincerely yours,

QUEEN CITY TV,
O. R. DAVIES,
Manager.

LAKELAND, FLA., May 27, 1954.

Senator CHARLES POTTER,
Senate Subcommittee on Television,
Washington, D. C.

HONORABLE SIR: I know that in this controversial affair you want the experience of the ordinary citizen, too.

Lakeland has no TV station of its own, but we generally believed our area would be served adequately by WSUN-TV, a UHF station. But we soon found out that the nicest residential areas here could not pick up this St. Petersburg station without 70- or 80-foot towers, because of a ridge running north and south on which our Florida Avenue sits. And even for those willing to do this, only a mottled and unreliable picture results.

We have television here now, however, because Jacksonville's VHF station power has been raised, and a wonderful picture comes to us from this station 185 air-miles away, whereas we cannot get St. Pete's UHF less than 50 miles away. And television men tell us that we will get Orlando's VHF excellent when it comes June 1. And if this condition exists down here where everything is almost flat, consider how much better coverage VHF gives in hilly country, for the suburban, rural, and small-town receiver must be considered, too.

Thus if VHF stations are being favored, it obviously is because they have more merit in public service. American people are spreading out, and our regulating bodies must go along with those who serve best.

Very truly yours,

JAMES E. WELLS.

WKEI,
KEWANEE, ILL., *May 21, 1954.*

SENATE COMMERCE SUBCOMMITTEE ON COMMUNICATIONS,
Washington, D. C.

HONORABLE SIR: I would like to offer the following statement in regard to the television allocation problem:

There are approximately 350,000 television sets in this area, of which possibly 200 can receive UHF broadcast. I believe it would be economic suicide to go on the air with a UHF outlet. WOC-TV is basic NBC, WHBF-TV is basic CBS. So far as I can determine, in other markets, ABC and Du Mont seem to be more interested in VHF stations than UHF in their programs.

There is a possibility of another VHF channel in this area if the FCC would relax their distance separation requirements by 5 miles or permit a slightly modified directional antenna to be installed to take care of this situation; however, this would conflict with their "allocation schedule."

Very truly yours,

WKEI BROADCASTING Co.
E. D. SCANDRETT,
General Manager.

KSAN-TV, THE PATTERSON STATIONS,
San Francisco, Calif., June 9, 1954.

FEDERAL COMMUNICATIONS COMMISSION,
Washington, D. C.

(Attention: Rosel Hyde, Acting Chairman.)

DEAR MR. HYDE: I have returned to San Francisco from the Potter UHF Senate subcommittee hearing, and I wish to call to your attention some of the developments of KSAN-TV, the only UHF station in the San Francisco Bay area.

We are operating without a network. We find this more difficult than we first assumed it would be, due chiefly to the lack of cooperation given by the manufacturers of television sets and the sales in this territory.

We reach approximately 2½ million people with a reasonable signal, which is almost 20 percent of the entire State of California. With this important market, and our experience in engineering, management, and programing, if we cannot interest the public to buy converters without a network, I don't see how any place in the United States could.

Find enclosed the following:

(a) Our program schedule. You can see that all evening we have sports programing and most all of it live, something that cannot be had on any other television station in the bay area. With the cooperation of the manufacturers, we could get converters established, but it is a longer and harder pull than we ever anticipated, not having their full cooperation.

(b) San Francisco Chronicle of June 1, 1954. This shows the attendance of the Seals and reporting the winnings. This was the Memorial Day crowd of about 20,000.

(c) San Francisco Chronicle of June 5, 1954, which shows a Saturday afternoon game with 12,447 attendance, still winning.

(d) San Francisco Chronicle of June 7, 1954, showing the Seals still playing Oakland with an attendance of 15,279, making a total attendance for the Oakland attendance in San Francisco of 61,043, right close to the greatest record for a week's attendance ever made in San Francisco since 1949. This attendance record is expected to be topped the following week when Oakland Oaks come to

San Francisco to fight it out for second place. At the present San Francisco is leading.

During a cold, chilly, foggy night, you can anticipate the many thousands who watch KSAN-TV for the San Francisco-Oakland play-by-play telecast.

(e) San Francisco Chronicle June 5, 1954, sports page 6H, showing the harness races at Bay Meadows. The total official attendance to date is 86,060. KSAN-TV filmed important parts of these races in the afternoon, rushed the film for development, and televised them that same evening between 7 and 7:30 p. m.

You can see that KSAN-TV has spared no money or labor to bring to the television homes the fresh, live, and most programs of the greatest public interest possible. It shows that KSAN-TV, UHF independent, is the only threat to the VHF network monopolies. We're certainly doing our very level best to carry through the suggested overall plan on our part of a nationwide full and competitive television system so arranged and suggested by the officials in Washington, and particularly the Federal Communications Commission.

I sincerely believe that such an honest effort should be recognized to be in the public interest as a grocery store on the corner. The corner grocery store has a right to apply, and expect to receive, a liberal loan from the Small Business Administration, and yet this grocery store can be duplicated many times in the same city, and certainly cannot possibly be expected to serve the entire bay area—but radio and TV, with its great importance, is refused the same consideration as the said grocery store. Why? I do not know. It looks unfair and unjust. If any individual radio-TV owner, after receiving such a loan from the Small Business Administration, were to operate improperly there are rules and regulations that could certainly control him completely; therefore, the whole industry of UHF particularly should not suffer because of a fear of one, or even a few individuals' improper operation.

With financial assistance from the Small Business Administration, UHF stations could have immediate assistance and be successful in their efforts until the major assistance may come later on. I sincerely request serious consideration of this suggestion of Small Business Administration loans to sincere and capable UHF operators. It could be possible that the members of the Federal Communications Commission, the members of the Potter committee on UHF, along with necessary Senators, could advise with the policymakers of the Small Business Administration and come rapidly to such a conclusion as I have suggested. I would appreciate an answer to this lengthy letter suggesting some kind of an action if possible.

The best surveys and other sources, indicate that there are approximately 40,000 converters and/or all channel sets in the service area of KSAN-TV. There are an average of approximately 25 requests a day coming to KSAN-TV alone for information regarding installation of converters. Other business firms and service shops receive requests also, but these installations are slow and will take a long time to fill and to secure sufficient listening audience for successful sales campaign on KSAN-TV. We believe that 100,000 sets to receive UHF will be necessary to have a successful sales effort on KSAN-TV. With immediate assistance this can be accomplished, but that assistance is needed now.

San Francisco needs the following in order to develop UHF:

1. The set manufacturer should be forced to sell nothing but UHF-VHF sets. Even the sets in his warehouse and in his dealer's warehouses and showrooms should be immediately converted to receive both UHF and VHF before offering for sale. All installations of antennas for a television set should include both UHF and VHF. They should not permit the sale of a television antenna that would receive only UHF or VHF.

2. The manufacturer should have the responsibility of converting the sets that he has in the market. At his expense these sets should be brought up to date by the addition of antennas and converters that will permit these sets to receive UHF.

3. The Government should take the excise tax on television sets and make available as grants to both the manufacturer to accomplish the point number 2 above, and to the UHF television station to sustain operation until the above can be accomplished.

4. All network programs not being released by any other network station should be available to the UHF station.

5. All television network programs should be made available to the UHF station for a second release when kinescoped at the expense of the UHF station. This would make the network programs available at other times of the day and week different from the original playing time so that people that could not see them at that time could view them at a more convenient time. This would also

WCAN-TV, CHANNEL 25,
Milwaukee, Wis., May 28, 1954.

NICHOLAS ZAPPLE, Esq.,
Committee on Interstate and Foreign Commerce,
United States Senate, Washington, D. C.

DEAR NICK: You are probably up to your ears in testimony but I think this is important. It is just a start in the right direction and not the total cure. You recall that although I proposed a total transition over a 5-year period to UHF, I also suggested an interim relief. Here's a quickie.

There are supposed to be about 3 million UHF receivers in the country. Almost 50 percent of these are in 10 major markets, as follows:

Major intermixed markets (not considering allocations of CP's)

	Total sets	UHF sets
San Francisco (3 V's, 1 U).....	840,000	70,000
Miami (1 V, 2 U's).....	240,000	120,000
Louisville (2 V's, 1 U).....	370,000	82,000
Portland, Maine (1 V, 2 U's).....	90,000	70,000
Boston (2 V's, 1 U).....	1,400,000	105,000
St. Louis (1 V, 3 U's).....	620,000	215,000
Oklahoma City (2 V's, 2 U's).....	260,000	83,000
Dayton (2 V's, 1 U).....	637,000	32,000
Pittsburgh (1 V, 2 U's).....	943,000	250,000
Milwaukee (1 V, 2 U's).....	668,000	318,000
Total.....	6,068,000	1,345,000

In these markets you have serious intermixture which sets the pace for the country. There may be come "secondary" markets that I have not yet covered which can be included, but, if these markets are changed to all V or all U, whichever is predominant, you will be eliminating almost 50 percent of the problems of the country in one stroke without serious dislocation. More important, it sets up the "laboratory" for the total elimination of intermixture and reallocation.

Where there are only 2 stations presently operating in a market, like Portland, Oreg., the intermixture problem is not acute. However, if any additional stations are to be licensed in such markets they should also be designated either all UHF or all VHF. There should be no further licensing of any stations whether it be black and white or color that create intermixture. By cleaning up over 50 percent in about 90 days in reallocating all UHF stations during the "hiatus" you are assured of an orderly transition in the future.

Regards.

Sincerely yours,

LOU POLLER,
Midwest Broadcasting Company.

WESTINGHOUSE BROADCASTING CO., INC.
Washington, D. C., June 10, 1954.

HON. CHARLES E. POTTER,
Chairman, Subcommittee No. 2 on Communications,
Committee on Interstate and Foreign Commerce,
United States Senate, Washington, D. C.

DEAR SENATOR POTTER: Reference is made to the hearings held by your subcommittee May 18, 1954, et seq., in the matter of VHF-UHF television broadcasting and on Senate bill 3095 dealing with multiple ownership. It is our purpose in writing to you to set forth our position on some of the suggestions made by witnesses in their testimony.

Westinghouse Electric Corp., the founder of commercial broadcasting with the advent of KDKA, November 2, 1920, has been continuously interested in radio and television both as a broadcaster and as an equipment manufacturer. Working with television methods since 1926, Westinghouse successfully demonstrated, in 1928, the first all-electronic television system, made possible by a new television tube (iconoscope) invented by Dr. Zvorykin in our research laboratories. Westinghouse, in conjunction with the Glenn L. Martin Co., in 1945-49, developed and successfully demonstrated the television broadcasting system known as stratovision in which television transmitters were installed in high-

flying aircraft. At 30,000 feet television service can be rendered over an area having a radius of 200 miles. Westinghouse built a television station in Boston (WBZ-TV) in 1947 and has been operating it since that date.

We see no problems now facing the industry which are either fundamentally different from many problems previously faced and solved or any which can not be solved by American ingenuity without any drastic action necessary on the part of either the Senate subcommittee or the Federal Communications Commission.

The present allocation plan may not be perfect but it represents more than 3 years of intensive (and expensive) cooperative effort between the entire industry and the FCC. It should not be lightly or hastily cast aside because of a few protests from those who are unable or unwilling to face life in a free competitive economy.

Westinghouse, along with many other pioneers, in the early days of radio and again in the early days of television faced exactly the same problems being presented to the Senate subcommittee by UHF protagonists. The problem then and now is an adequate number of sets in the hands of the public and attractive programming which the advertising industry is willing to support.

The Westinghouse experience in television at Boston is typical. Although our investment was approximately \$1 million, we operated at a loss from sign-on in June through the balance of 1948 and all of 1949 for a total in excess of \$300,000. This loss was not recovered until October 1950. We had faith in the future of the industry. Even as late as the first quarter of this year, according to FCC statistics, only 46 of 175 postfreeze TV stations reporting made a profit and only 33 VHF stations (37 percent) were operating in the black. After the normal shakedown period inherent in any new industry, this condition will improve and stabilize.

It has been proposed to require all VHF stations to now reduce their existing coverage area to avoid overlap of a nearby UHF station. This would result in inestimable damage not only to the stations but to the members of the public living in the present service areas. For instance, if the coverage area of channel 4 in Washington, D. C., were so reduced, thousands of citizens living in Hagerstown, Md., and in the surrounding area, would be denied service they have been enjoying and relying upon for so many years.

These citizens (and those in any other similar community in the United States) have a right to, and will demand, a freedom of choice among multiple-program sources. Since Hagerstown has been assigned only 1 channel (and it certainly could not support more than 2), it is clear that additional programs to permit freedom of choice (and a competitive broadcasting system) must come from outside areas. This service can best be furnished by the existing VHF channels located in cities large enough to support multiple-program sources. The effect of this reduction of service area proposal on rural America would, to us, be comparable to suddenly denying them radio service by requiring all clear channel broadcasting stations to reduce power to the equivalent of a local station.

If the principle be established that the coverage of the VHF stations in Washington is limited to eliminate overlap with the UHF station in Hagerstown, then it follows that the UHF station allocated to Frederick, Md., must be limited to prevent overlap with the UHF station allocated to Hagerstown. Under such a philosophy the citizens of Washington would receive four competing services, the citizens of Frederick and Hagerstown, respectively, would each receive a single service and the vast rural audience living between these cities would be denied any service.

Furthermore, such a philosophy is physically impractical in a situation like Allentown, Bethlehem, and Easton, Pa. Two stations have been allocated to Allentown, 1 to Bethlehem and 1 to Easton Pa. Under the present plan this should afford 4 competing services to the residents of all 3 cities and the rural areas surrounding them. It seems to us inconceivable that anyone could seriously propose that the coverage areas of these stations be so reduced as not to overlap (assuming this was physically possible) thereby reducing Bethlehem and Easton to a single service and Allentown to two services. The theory becomes even more untenable when we realize that most cities in the United States have been allocated but a single television channel and the whole State of New Hampshire only 1 city gets more than 1 and in the State of New Jersey only 2 cities get more than 1 channel. The public interest lies in the direction of making every effort possible to increase the coverage of each station.

In 1928 there were approximately 600 radio stations in the United States surviving upon approximately 1 percent of the Nation's total advertising dollar.

Today there are over 3,000 stations in operation and the overall gross billing of the broadcasting industry, radio and television combined, is almost at the \$1½ billion mark. Many a community which does not have a local newspaper has a local radio station. We have seen this growth take place in America, under the American system, without equal coverage and without any attempt to nullify the law of physics with arbitrary restrictions on coverage.

It has been suggested that the FCC now move all television stations into the UHF band. A determination of all of the remaining applications pending before the FCC will add approximately only 100 more stations over those now in existence or authorized. As now discerned, the television industry will consist of about 670 stations in 325 communities (based upon present applications and licenses). The total dollar damage, not to mention the inconvenience, that would result to the industry and to the public should such a suggestion be approved is beyond imagination. 27 million receivers are now in the hands of the public.

It is a useless suggestion. Requiring all stations to move into the UHF band would not equalize the services. The power ratio for approximately equal coverage between the lower end of the VHF band (channels 2 to 6) and the upper VHF band (channels 7 to 13) is approximately 3 to 1. The ratio between the upper portion of the VHF band and the lower UHF band (channel 14, etc.) is again approximately 3 to 1. And the ratio between the lower UHF band and the upper UHF band is again approximately 3 to 1. Therefore, to force all existing VHF stations to abandon their present service and move to the UHF band solves nothing and destroys existing television service. Rural and suburban America will not accept such a decision.

It has been suggested that the FCC declare an immediate freeze—suspending all new station grants and existing station requests for modifications. There are now 377 TV stations operating in 237 communities in the United States and additional sums have been invested or obligated to construct many of the remaining 200 stations which have been authorized by the FCC. The bulk of the industry as it is now discernable is either on the air or has been authorized by the FCC and only about 100 new stations are awaiting disposition of hearing procedures. Such a freeze, at this time, is a useless locking of the barn door.

Furthermore, many of those awaiting final orders must be in the same position as we are. In the Portland, Oreg., TV hearing now awaiting decision, our expenses were over \$270,000 and we have frozen risk capital of \$1,015,000; in the Pittsburgh TV hearing now underway our expenses to date are over \$180,000, and we have frozen \$3 million of risk capital pending a final decision. A freeze at this time would fatally injure many applicants.

It has been suggested that compulsory network affiliation is the solution. Radio has grown from 600-odd stations to over 3,000 stations and networking has developed simultaneously under 4 national networks and many hundreds of smaller networks are serving the American public today—all without any mandatory instructions from a governmental agency.

We believe that the history of radio is conclusive proof that the public interest requires the history of television to follow the same path of free and open competition. The radio industry has seen the birth, growth, and struggle for top position among national and regional radio networks. We have seen the relative positions of networks change more than once over the years. This free play of economic forces has been in the public interest. The poorest man in the United States now enjoys free daily entertainment unavailable to the richest man in any other country in the world. And, of equal importance, this growth has taken place within the framework of our antitrust laws which, in our opinion, have proved adequate to prevent monopolies.

It has been suggested that stations be required to accept the affiliation with a predetermined network organization. This proposal, in its ultimate conclusion, means Government owned and controlled broadcasting in the United States. Assuming a station is required to affiliate with a named network and a dispute between the parties as to the rate payable and acceptable, the Government will be immediately in the rate-setting business, with all of its complications—technical facilities available, coverage, constantly changing set statistics, etc. In the next step, the individual station's popularity (or lack of it) and its consequent ability to attract revenue from local advertising sources, will depend upon the program furnished by the network. Since it was required to sign the network contract, the station would surely be granted the right to require Government control of the programs. And the final step, assuming the Government required the network to produce more expensive and attractive programs, the network, under such compulsion should be able to demand Government subsidy.

The problem is neither new nor incapable of solution. The condition is identical to that which existed in the early days of radio and of VHF television. The first television receivers were designed for operation in the lower VHF (channels 1 to 6). Later, channels 7 to 13 were opened. Standards were changed (405 lines to 525 lines). The same problems of coverage and lack of receivers were faced by the industry in those days. Sets capable of receiving only certain channels were subsequently replaced by the present sets which receive all 12 channels as rapidly as the ingenuity and economics of America permitted. We believe that the current problem is identical and that the solution is as inevitable—if American industry is allowed to remain free to attack the problem.

In 1953, 14.4 percent of all Westinghouse TV production featured built-in all-channel UHF-VHF tuners. In addition, more than 80 percent of our 1953 sets which did not contain built-in all-channel UHF tuners, contained provision for internal adaption to UHF and our distributors in UHF areas regularly stock coils for this internal UHF adaptation. The balance accept external adapters. For the first half of 1954, approximately 24.6 percent of our Westinghouse TV production features built-in UHF tuners, and the trend is apparent.

For more than a year, our sales department has maintained market development teams in the field to assist in the development of new UHF markets. When a new UHF station is about to go on the air in an area not previously served, our market development team moves in; our sales and marketing experts aid and instruct the local distributors and dealers by bringing them up to date on the latest methods of TV merchandising, and our technical representatives train the local service technicians in modern television servicing techniques.

This development of UHF markets has not been without its problems. When the station did not open on the day predicted (in some instances opening was delayed several months) great dissatisfaction was created among purchasers, distributors, and dealers. In other cases the signals from new stations were not technically acceptable, resulting in unsatisfactory reception at consumer level. As a result, consumers blamed the set and caused untold expense to dealers, distributors, and ourselves in attempting to solve consumer problems. In cases where the signals were adequate, many programs were unattractive and the public quickly lost interest, dulling consumer desire for ownership of UHF sets. However, these problems are not new to the television industry nor are they unique. Patience and ingenuity solved them in the past and will do so again.

In our opinion the greatest "shot in the arm" that the Government could give to the UHF operators at the moment, without disrupting existing investments or changing the American broadcasting system as it is known, would be to repeal the excise tax on UHF-VHF television receivers. We endorse the position presented to the Senate subcommittee on this point by Mr. Glen McDaniel, president of RETMA. Since a UHF receiver costs more to manufacture than a VHF receiver under present-known manufacturing processes, the elimination of this tax would practically eliminate the manufacturing cost differential and the set thereby becomes more attractive to manufacturer and to the purchaser.

We believe that the complete solution of all problems presently facing the industry lies in placing more UHF-VHF receiving sets in the hands of the public and more television stations on the air as quickly as possible.

Sincerely yours,

CHRIS J. WITTING, *President.*

STATEMENT OF JOSEPH BRENNER ON THE STATUS AND DEVELOPMENT OF THE UHF CHANNELS IN THE UNITED STATES

Mr. Chairman and members of the committee, my name is Joseph Brenner; my address is 321 South Beverly Drive, Beverly Hills, Calif.

I am an attorney engaged in radio and television matters; I am a member of the FCC Bar Association and a former member of the staff of the Federal Communications Commission.

I am pleased to have been given this opportunity to express my views on matters which will assist the UHF television broadcast service.

I previously have filed with the Federal Communications Commission four petitions for amendment of the Commission's Rules which, if adopted, I believe will be of material aid to UHF broadcasters and to the television broadcast service generally. I will discuss these petitions in a moment but first desire to present some additional proposals for consideration. These additional matters were not included in the petitions on file for the reason that they did not appear to be within the jurisdiction of the Commission.

Two of these matters deal with the UHF income-tax situation.

1. First, I propose that appropriate steps be taken to give UHF station operators the opportunity to offset expenditures made in connection with the promotion and development of UHF audience circulation in the early years of operation against later earnings of the station after such circulation has been established, or, if there is an advantage in so doing, that they be permitted to treat all of such expenditures as current operating expenses.

UHF broadcasters will thus be provided the same election that newspapers are given by section 23(bb) of the Internal Revenue Code. Under that section newspapers, magazines and other periodicals may elect to treat expenditures made in establishing, maintaining, and increasing their circulation (subject to some limitation) as either current operating expenses or as charges to their capital accounts.

The effect of such provision will be to encourage UHF operators to expend funds for the specific purposes of securing and aiding conversion to the UHF service. It will result in the promotion of such service generally without the necessity of relating such expenditures to the current year's revenue. After an audience market has been built through these expenditures, with increased revenue resulting therefrom, the early expenditures may be properly regarded as a cost of securing such returns. This would appear to be one step toward a solution of the chicken-or-egg-first problem which is now besetting the UHF stations as it once did the VHF's.

The approach is comparable to the tax relief provided in Internal Revenue Code, section 107 for certain taxpayers having long-term earnings. For instance, an author is permitted to relate his royalty earnings received in a particular year back to the years in which he was engaged in writing his book or play. Similarly, a real estate broker may carry back his commission earned on the sale of property over the years that he expended funds in unsuccessful negotiations. Another approach would be to broaden and liberalize the provisions of Internal Revenue Code, section 122 to utilize carryover provisions to the same end.

2. My second tax proposal is to permit UHF the same rate of depreciation on television broadcast equipment which has been permitted VHF broadcasters up to this year but which is presently in the process of being revised. VHF operators heretofore have been able to take a straight line depreciation on television equipment on the basis of a useful life of 4 years. The Bureau of Internal Revenue now proposes to extend this over a period of 15 years.

UHF is a new service in which many developments are yet to come. The high-powered equipment which will eventually be utilized in this service is not yet even being manufactured. No one can predict the future of color development and monochrome progress. UHF operators should be permitted the same rate of depreciation that VHF operators utilized in their early days of operation.

This will result in attracting capital from persons who, because of tax advantages, will be able to withstand the heavy expenditures required in construction and operation in the UHF service. Denial of this opportunity may result in such capital being attracted to other endeavors offering more attractive tax benefits. The 4-year depreciation rate unquestionably contributed greatly to the establishment and maintenance of VHF operation in the early bleak days of commercial television.

3. My third proposal is designed to stimulate the manufacture and sale of UHF-VHF receivers. VHF-only receivers are, in view of today's allocation situation, incomplete receivers, and the public should be clearly so informed.

I suggest, therefore, that manufacturers should be required to label VHF-only receivers correctly, in substantially the following manner:

"Warning.—This receiver is not capable of receiving all of the television channels which may be operating, or which have been allocated, to this and other communities."

I understand the FTC is currently considering some labeling proposals.

A more drastic approach, but a correspondingly more effective one, would be to prohibit the shipment in interstate commerce of VHF-only receivers, both monochrome and color. Such action may be justified on the basis that the incomplete TV receivers not only deceive the public, but retard the establishment of a nationwide competitive television service.

I will now discuss briefly the proposals which I have filed with the FCC for amendment of its rules. They were filed on April 29, 1954. The Commission has not yet had time to take action on them. Chairman Rosel H. Hyde of the Commission referred to these proposals in his recent testimony before you.

(a) The first one deals with subscription television. I have suggested that such service be adopted but that it be reserved for the UHF service. This will not only provide needed revenue but will also assure a competitive programming service and assist in speeding up conversion. It will provide UHF with an answer to the problem of network programming.

The utilization of existing VHF stations for subscription TV broadcasting would necessarily result in the withdrawal of some hours from the conventional broadcast service. In some cases network programs might be displaced. Such use can result only in the denial of some existing service to the public.

The utilization of UHF for subscription TV, on the other hand, can be the means of providing two new and additional services to a particular community—a subscription TV service and a conventional broadcast service. Conversion would be automatically accomplished. With every installation of a subscription decoding device, a UHF converter would necessarily be provided. Thus UHF would be enabled to secure not only subscription revenue, but advertising revenue as well from its conventional broadcast service to an increasing number of UHF receivers.

The Commission could safeguard the conventional broadcast service of UHF stations by allowing subscription television only when the station otherwise satisfies the minimum programming schedule presently required by the Commission's rules.

(b) Another petition provides for stereophonic or multichannel sound transmission restricted to UHF stations. This can be accomplished by multiplexing the television FM sound channel. A sound system superior to VHF and consistent with the superior visual image of UHF will thereby be provided.

The Commission has already proposed multiplexing methods for FM broadcast stations. The technique has been developed, demonstrated and proven, and can be readily adapted to television. Bichannel or binaural sound transmission represents an advanced system of sound transmission which is being adapted generally to music reproduction and motion pictures.

Provision for such transmission will enable UHF stations to utilize the full sound possibilities of both live and filmed programs. The bichannel transmission is compatible with existing sound transmissions and the existing receivers would receive the sound in the same manner as at present without the need of adaptation. They could however be readily adapted for the bichannel transmission at low cost, if desired.

Establishment of such a UHF sound system now will enable manufacturers to make provision in their receivers prior to the time when a great number of such receivers are in the hands of users. This is particularly true in making provision for such sound in color television receivers. As the public gradually converts to color they would, at the same time, be automatically converting to the modern binaural sound.

(c) Another petition suggests that UHF stations be permitted the same privilege to program music with fixed visual images, such as test patterns, slides and still photographs, as VHF stations were permitted prior to June 1951. The purpose of this is to allow UHF stations to obtain revenue from broadcasting music with unrelated pictures or with test patterns, while assisting dealers in the demonstration and installation of UHF converters and all channel receivers.

Under existing rules, for example, television stations are prohibited from broadcasting a test pattern accompanied by musical compositions for the purpose of demonstration, sale, installation or orientation of television receivers or receiving antennae, from broadcasting music accompanying transmission of a test pattern upon which is visually imposed a clock indicating the time of day or a text which is changed at spaced intervals or from broadcasting mood music, together with still pictures or slides where the music is unrelated to the visual transmission.

The petition asks that UHF stations be given the same opportunities in this respect to enable them to meet the problem of conversion as VHF stations were previously accorded.

(d) The final proposal requests the amendment of the rules to require in effect that networks have one-third of their affiliates, after a period of 1 year, in the UHF band, and one-half of them within a 2-year period. This is designed to secure network promotion of UHF and, if we are to have intermixture, that it be on a truly competitive level. As a practical matter, the requirement will be met for the most part by expansion of the networks through the acquisition of additional stations in the UHF band.

Copies of the petitions filed with the Federal Communications Commission referred to above are attached hereto for information.

Thank you for this courtesy and for your interest.

BEFORE THE FEDERAL COMMUNICATIONS COMMISSION, WASHINGTON 25, D. C.

Docket No.—

In the Matter of the Promulgation of Rules and Standards for a Subscription Television System

PETITION FOR AMENDMENT OF RULES, REGULATIONS AND STANDARDS FOR PROMULGATION OF A SUBSCRIPTION TELEVISION SERVICE FOR UHF TELEVISION BROADCAST STATIONS

Joseph Brenner respectfully petitions for the amendment of the Commission's Rules and Regulations and the Standards of Good Engineering Practice relating to television broadcast stations and states as follows :

I

That he is an attorney at law, a member of the Bar of the Federal Communications Commission and engaged in communications practice; that he represents various UHF television broadcast stations and is interested in the amendment to the Rules proposed to be adopted herein. He files this petition as an individual member of the bar and as an individual member of the general public.

II

This petition is filed under Section 1,702 of the Commission's Rules and Regulations and is in response to informal invitations extended from time to time by the Commission for suggestions and recommendations looking to the assistance and improvement of the UHF television broadcast service.

III

Petitioner requests that appropriate amendments be made to the applicable sections of Parts 2, 3 and 4 of the Commission's Rules and Regulations and to the Standards of Good Engineering Practice so as to provide for the establishment of a subscription television service restricted to UHF television broadcast stations.

IV

The Commission presently has before it a number of petitions requesting the institution of rulemaking proceedings for promulgation of subscription television service. The purpose of this petition is to request that such subscription television service be limited to UHF television broadcast stations as a means of assisting and furthering the establishment of a nationwide competitive UHF television broadcast service.

V

That among the petitions on file with the Commission are the following :

A Petition filed by Zenith Radio Corporation dated February 25, 1952, seeking the establishment of subscription television service in which it is recited that Zenith has since 1930 engaged in an extensive and continued program of research and experimentation designed to develop the most feasible means of subscription television and the securing of information as to the public acceptance of such a system. Zenith states the authorization of subscription television would greatly encourage the larger and more effective use of radio in the public interest and provide the American public a needed and desirable service supplementary to existing services.

A petition dated August 7, 1953, by four UHF television broadcast stations: Home News Publishing Company, New Brunswick, New Jersey; Pennsylvania Broadcasting Company, Philadelphia, Pennsylvania; Stamford-Norwalk Television Corporation, Stamford, Connecticut; and Connecticut Radio Foundation, Inc., New Haven, Connecticut, which sets forth among other matters that subscription television has now been the subject of a large volume of technical study and developmental research; that the Commission has from time to time granted authorizations for development and experimentation in the subscription television field; that developmental research and experimental operations have demonstrated that subscription television is a technically feasible and practicable service; that such experimental operations and research have demonstrated that the public will accept the principle of subscription television and that

surveys made for such purposes indicate that a majority of the public is willing to make direct payments of reasonable charges for the privilege of receiving high quality television programs of a type not currently available to them on television. Said petition further recites the interests of professional baseball, college football and of the entertainment industry in subscription television. The Commission is urged to provide for subscription television service as a means of alleviating the serious economic problems facing many existing and prospective UHF broadcasters; that it is necessary for UHF broadcasters to find new ways and means of programing their stations so as to provide revenues sufficient to enable the stations to match or exceed network programs in quality and interest for the stimulation of conversion of VHF sets. The said petition contends that the subscription television service would provide a solution to the programing problems faced by stations with network competition and at the same time provide sufficient revenue so that the stations could devote a substantial percentage of time to sustaining programs of a type not ordinarily available to television because of the costs. The petition sets forth considerable information demonstrating the economic and competitive situation of each of the four UHF stations and how subscription television will act to alleviate the situation.

A petition dated September 9, 1953, filed by Matta Enterprises, Atlantic City, N. J., another UHF station, suggests the institution of subscription television service as a means of overcoming the competitive disadvantage of UHF stations in relation to network affiliation. Said petition recites that such a service would provide the fundamental remedy to the unhealthy competitive situation in which UHF stations have been placed and that such subscription service will tend to diminish the importance of network affiliations in the development of the service, will expand the area of effective competition and will serve the public interest by bringing programs of widespread public interest presently beyond the economic grasp of many television licensees.

A petition filed November 19, 1953, by Northwest Television Co., Fort Dodge, Iowa, also a UHF station, seeks the institution of subscription television service and reiterates and supports the statements set forth in the other petitions on file.

A petition filed by Peoples Broadcasting Co., Trenton, N. J., a UHF station, urges the establishment of a subscription television service and recites that a new and different programing of a quality that could match or surpass that on major networks could be made available by the introduction of subscription television and that such programing supplementing the locally produced programs is necessary to the economic existence of UHF stations.

VI

That in addition to the activities of the Zenith Radio Corp. related above, the Skiatron Electronics & Television Corp., New York City, has been engaged in research and development of another system for subscription television known as Subscriber-Vision; that extensive tests and demonstrations as well as surveys as to public acceptance of such a service have been made by Skiatron. Public announcement has been made that Skiatron would in the near future petition for the establishment of subscription television service and make available to the Commission results of its research and findings.

VII

That an additional system for subscription television has been developed by the International Telemeter Corp., known as Telemeter. This corporation is affiliated with Paramount Pictures Corp., Inc. Telemeter has been also engaged in a research and development program and has engaged in tests utilizing broadcast service as well as use of a community antenna system through closed circuit technique.

VIII

That the material on file indicates that there is sufficient information available for the Commission now to undertake consideration of the establishment of subscription television service.

IX

Petitioner respectfully suggests that the Commission undertake such consideration at the earliest possible moment as a means of aiding and assisting UHF stations in the establishment of a successful competitive nationwide UHF broadcast service; that if Commission's consideration of subscription television service is delayed longer, the benefits which can accrue to the UHF service may well

disappear and the establishment of a successful UHF broadcast service thereby impaired.

X

Petitioner further respectfully suggests that the subscription television service be restricted to UHF television stations so that instead of having the effect of withdrawing free broadcast service from the general public during subscription telecasts, as would be the case on most VHF stations, the subscription television service would generally be the means of providing a new and additional service to the community. The conventional broadcast service by the UHF station could be safeguarded by permitting UHF subscription television only where the station otherwise satisfies the minimum programing schedule required by section 3.651 of the Commission's rules and regulations.

Respectfully submitted.

JOSEPH BRENNER.

BEVERLY HILLS, CALIF., April 27, 1954.

The first witness this afternoon will be Mr. Raymond Kohn.

Mr. Kohn.

Mr. Kohn is president of the Penn-Allen Broadcasting Co., of Allentown, Pa.

Is that correct?

Mr. KOHN. That is correct.

Senator POTTER. We are happy to have you here, Mr. Kohn, and will be looking forward to hearing your statement.

STATEMENT OF RAYMOND F. KOHN, PRESIDENT AND GENERAL MANAGER OF THE PENN-ALLEN BROADCASTING CO., ALLENTOWN, PA.

Mr. KOHN. Thank you, Mr. Chairman.

I ask you not to be dismayed with the weight of this. It is mostly exhibits. It isn't all testimony.

My name is Raymond F. Kohn, and I reside at 1411 Hamilton Street, Allentown, Pa. I am president and general manager of the Penn-Allen Broadcasting Co. of Allentown, Pa., licensee of WFMZ, an FM only broadcast station, and construction permittee of WFMZ-TV, a UHF authorization for channel 67 in Allentown.

Two weeks ago at the NARTB convention in Chicago we heard a great deal about free enterprise and eloquent warnings about the grave consequences of running to Congress for more regulation. May I say to the members of this committee, with all sincerity, we are not here asking for more regulation but corrective regulation.

My company believes, and we think with abundant justification, that there is before this committee and the Nation a grave question as to whether or not we shall have a truly competitive nationwide system of television.

We do not think our purpose in appearing here is based solely on seeking a "transfusion by cutting the throats of others," as expressed by one speaker at the convention.

We are certain that this committee, in hearing our comments will judge them as they apply to the welfare of all the people of this country and not just a few in Allentown, Pa. We do think that we have some constructive information to offer and a suggested possible procedure of action that is worthy of serious consideration and study.

We humbly believe that the experience of our 7 years of operating an FM only broadcast station allows us a small measure of validity in speaking on the subject that is before this committee.

I might add here we have no AM affiliation, newspaper affiliation. It is strictly a corporation of many stockholders.

Contrary to the Commission's expressed view in the sixth report, we are here to say that we find an alarming similarity in many, many respects with this UHF problem which the development of FM faced and is still facing. Practically all of the elements of difficulty in UHF which have been repeated over and over by other witnesses in previous testimony here were and still are present in FM—the problems of conversion, program sources, advertiser resistance, especially on the national level, lack of good receivers at competitive AM costs, and many others.

But we do not intend to burden the record with a recital of those experiences, for it is not our purpose here to weaken the cause of objectivity by playing on the sympathetic heartstrings of the members of this committee. Besides, if we may say with equal parts of humor and sobriety, we are somewhat afraid that we might destroy the credulity of our whole testimony by relating a 7-year FM saga which we know you would find exceedingly difficult to believe, true as it may be.

Suffice it to say—and we do not mean this to be facetious—we are quite convinced that if the members of the Commission could have lived with us through our experiences in FM there would have been no need for this hearing on UHF. The whole philosophy incorporated in the sixth report and order might well have been a different one, a more realistic one.

We cannot add to the record any experiences in operating a UHF station since we are not yet on the air. We are, I would say, about a hundred thousand dollars along in construction, with long-term commitments amounting to about four times that much which we hope we shall have the satisfaction of honoring in full.

As I sit here, I can hear the distant “amens” to that statement being uttered by our 250 stockholders, almost all of whom reside in and around Allentown, Pa., but I am much more aware of the pleadings of over a half million Lehigh Valley residents who, I am certain, would approve of the statements which we are making here today were all the facts made clear to them.

Before we present what we believe is a sound and workable approach to the UHF dilemma, we would like to bring out briefly, and emphasize with all the vigor at our command, one aspect of this problem that, in our opinion, should have precedence over all other considerations. It has been touched upon in other testimony, but has not yet been given the emphasis that we think it surely deserves. We refer to the two words “local expression.”

The Commission, in its sixth report, gives local expression priority 2, thereby recognizing itself the extreme importance of achieving the goal of as many outlets for local expression as can be possibly attained. In complete contradiction, the philosophy of the sixth report and its implementation since bids well to make mockery of that most desirable goal. We think we can prove this point in just a moment.

From the New England town meeting down to today the opportunity for a community to have the facilities to express itself has been a vital factor in preserving our ideals of democracy. Never has the urgency been greater than it is today to do everything in our power to perpetuate the processes of local expression.

Time was when the great fourth estate—the newspaper industry—was a highly competitive business, much for the good of the community and the Nation. Today we are witnessing the extinction of competition in the newspaper field, even in great cities like Washington, St. Louis, Atlanta and others. The medium and smaller cities now either have but one newspaper or through merger or sale competing newspapers come under common ownership.

We think it is uniformly admitted by all thinking people that this loss of competition is undesirable and leaves a vacuum in the communications field that we should strive, if at all possible, to fill.

Congress is powerless to stop the trend of monopoly in newspapers, but it can, through an agency of Government already in existence and under compulsion of an act already spelled out, help to fill the vacuum referred to above by preserving the powerful, impartial voice of television in hundreds of cities across this Nation which can and will support local television if it is but given a reasonable chance to put down its roots.

In a world fighting for its survival now, today, the Commission's reference to a nationwide competitive system of television in terms of "will eventually" or "the long range" leaves us singularly and particularly cold. An "eventual" television station in Allentown—presuming there would be one, which is a presumption which we cannot bring ourselves to accept—will be no better than the one that we can be operating this September, bringing a new, fresh and vital force of self expression to a community, which it needs and which it so rightfully deserves.

Local ownership, integration of local ownership with management, and performance of local responsibility in programs geared to the needs of the community which a station serves is one of the very foundations of judgment used by the Commission in granting and renewing television and radio licenses. No other factors in the preparation and presentation of testimony and exhibits for a competitive hearing before the Commission receive so much careful and emphatic attention by Washington's specialized, high-priced attorneys as those which could be summed up in the two words "local expression."

We don't mean that "high-priced" in a derogatory sense. I know a lot of attorneys here in Washington.

Senator POTTER. You better be careful they don't raise their price to you.

Mr. KOHN. But it does cost like the devil to hire them.

Senator PASTORE. Doesn't the price vary with the client?

Mr. KOHN. A hearing is expensive.

No other phrase is so familiar to broadcasters, attorneys, Commissioners, and the whole FCC staff as "the public interest, convenience, and necessity."

With this emphasis we heartily agree—wholeheartedly agree—and it is to help preserve this emphasis that we are now appearing before this committee.

We think it pertinent, but not material to this controversy, who utilizes what channels but that all channels necessary to a nationwide, truly competitive system be utilized. To achieve this objective, a fair and proper climate must be provided so that television, on the local level, shall have a reasonable change to grow in all communities across the Nation wherever the economic soil is rich enough to nurture it.

May we define briefly what, in our opinion, a local television station means to Allentown and our communities around Allentown?

We use Allentown merely as an example and we know that you will keep in mind that there are hundreds of Allentowns across the Nation to which each of our thoughts is equally applicable.

1. It means a heretofore unprecedented opportunity for our churches to spread their influence beyond the portals of the church doors. There are over 90 churches in the city of Allentown alone. Why should the ministers, the choirs, and the congregations of these churches be deprived of the opportunity to use this powerful new medium of expression?

2. It means a heretofore unprecedented opportunity for our educational system to have the means of spreading education beyond the portals of the school buildings. It means opportunity in the most graphic way yet devised to acquaint parents and taxpayers with the methods and curriculum being used to educate their children. It means opportunity to use the trained minds and special talents of teachers and school administrators on programs designed for the welfare and enlightenment of the whole community.

3. It means a heretofore unprecedented opportunity for the promotion of the activities and objectives of all our local public service institutions—the Community Chest, the Red Cross, the Medical Society, the Good Shepherd Home for Crippled Children, the Boys' Club, Little League Baseball and dozens of others.

4. It means a heretofore unprecedented opportunity to provide facilities for the enlightenment of the people before they go to the polls to vote. Television, as has been amply proved, has a peculiar knack for searching out sincerity, exposing insincerity, the face betrays many a fact that the mind and the voice would try to hide.

We think the members of this committee would be the first to agree that the caliber of local governments in thousands of communities across the Nation ultimately decides the caliber of Government and its servants in the Nation's Capital.

And perhaps it is too obvious to mention the power and impact of television as a medium of expression for local issues—the new city tax, scandal in the police department, should the monument in the square be moved to West Park, the annexation of Lower Salisbury Township to the city, the new sewer project proposed for the west end. None of these issues are world shattering; none of them interest anyone beyond the confines of each of the thousands of communities in which they occur, but wrapped up in them is the cumulative basic worth of a whole country—the essence of the vitality which makes our democratic ideals work.

5. Television in our community means a heretofore unprecedented opportunity to promote the economic good of our area. The ability of our local and regional merchants to advertise their products and services is not only essential but necessary. No one argues television's ability to sell goods and services. Why deprive our town and hundreds of others of the economic benefits of this new medium?

And the irony of this whole situation is that for years now the merchants in our town, in Allentown, have indeed had to compete against merchants in Philadelphia who, through high-power television, seek and do effectively draw business away from Allentown, and without local television our merchants do not now have and may never have a

fair chance to retaliate against this outside city advantage with the same medium.

There are many, many more things that television means to a community for a television station should and can be at the very center of every activity, the sounding board and the mirror of a community's whole personality.

We submit to this committee that the importance of preserving, in hundreds of communities, the element of local expression is alone enough, in itself, without any of the other considerations, to cause all concerned to work not against each other but together to find a practical and workable way to arrest and reverse the present tragic downward trend toward extinction of television in the UHF band.

And may we add here what sounds like a facetious note, but it really isn't intended to be: There are three powerful VHF stations in the city of Philadelphia which purport to render television service to our community of more than a half a million people. I say to them now that if each of these stations will submit a written statement, duly subscribed and sworn to, to this committee or the Commission, saying that they do solemnly promise to provide as many local programs, with local Allentown people participating, as WFMZ-TV has already promised under oath to do, and in the same desirable time periods, then we will here and now tear up our testimony and retire to the sidelines to watch with bated breath the greatest phenomena that has occurred in the history of broadcasting.

Senator POTTER. You don't expect them to do that?

Mr. KOHN. No, sir; I do not. It would be the most impractical thing in the world because there are 6 or 8 other communities covered by the same Philadelphia signal, of which the same would have to be retired.

The exhibits which we will now present for the committee's information were prepared by four people, which is the entire present staff of our company. These exhibits took a period of approximately 3 weeks of admittedly somewhat concentrated effort. No expert lawyers or engineers had anything to do with them. We realize this statement would seem to weaken or even destroy our case, but before we finish we hope to establish that just the opposite will be true, for we believe with the deepest sense of conviction that there is a solution to this problem; that it will be founded not upon the evidence of the cold, ever-conflicting arguments of the slide-rule boys or the legal clamorings of those who will try to find solace in the Constitution, but upon the inherent, practical, good commonsense of this committee, the Commission, and all those whose sense of public interest lies above self and whose vision allows them to see the tremendous importance of a television system which best serves the growth and ideals of this country and its 160 million people.

Once the objective is set—the goal defined—the engineering slide rules can turn out the technical answers to make it work.

Even to the layman the present allocation plan contained in the sixth report is not above critical analysis; surely it cannot be an only solution upon which future development of television must live or die.

It must not be forgotten that adoption of this very same sixth report was not unanimous. It had bipartisan dissent by a Republican member and by a Democratic member of the Commission.

We have taken the approach of an average person trying hard to exercise practical commonsense. With all humility and deep respect for those experts who label this problem apparently unfathomable, we enter a small but vigorous dissenting voice.

Our first series of exhibits are planned in logical sequence to answer the following questions:

1. Just what is the present allocation plan and how does it break down in terms of assignments to each of the 48 States?
2. What is the service provided by (a) the VHF assignment; and (b) The UHF assignments in terms of comparative service?
3. What happens if television in the UHF band does not develop or, put another way, what kind of service will we have if only the 12 channels in the VHF band are utilized?

Under that we have commercial channels, and we treat separately educational channels.

Exhibit No. 1, which you will find in the back: This is a State-by-State breakdown of the number of commercial VHF assignments allocated, the number of cities in each state to which these VHF assignments are made, the number of educational VHF assignments made to each State, the number of UHF assignments allocated to each State together with the number of cities in which these UHF assignments are made, and the number of UHF educational channels assigned by the sixth report to each State.

I would like to interrupt here, Mr. Chairman and members of the committee, and state that there have been some changes within the Commission. We had to rely upon material at hand, but there will be very little change. I mean I believe there are more educational channels, 2 or 3 or 4 allocated since this was published.

Senator PORTER. I understand there have been nine additional allocated since that was published.

Mr. KOHN. Something like that; but we did not, I am sorry to say, have the time to research out.

The same thing is true of the other exhibits, but there will not be any substantial changes.

It purports to be accurate up as far anyhow as the sixth report was made, which is the basis, fundamental basis, for the whole allocation plan.

It does not take much study before one realizes that there is a serious scarcity of VHF channels allocated to most of the States and that statewide television coverage can be best accomplished by use of the UHF band.

We have underlined in this exhibit just a few of those States. If you follow it across—for instance, Illinois has 9 commercial VHF channels, located in only 6 cities. There are 2 educational channels in the VHF band in Illinois, but in UHF there are 44 assignments in 37 cities and 5 educational channels.

There are several others there I will not take the time to go through.

Senator PASTORE. You could even dramatize New Jersey. Look at New Jersey on page 2 of your exhibit, right next to New York, where they have 18, and New Jersey just 1; is that right?

Mr. KOHN. The whole State of New Jersey—

Senator PASTORE. They have 1 VHF in 1 city.

Mr. KOHN. That is correct.

Senator PASTORE. And they have to rely on UHF in seven cities.

Mr. KOHN. I might add that channel moved to New York City, too.

Senator POTTER. So, that is not there now?

Mr. KOHN. That is right.

Senator PASTORE. That VHF moved over to New York, too?

Mr. KOHN. That is right.

Senator PASTOR. So, that makes none.

Mr. KOHN. That is correct.

We might point out another example, which we like to use, since it is our own State. Pennsylvania has 10 VHF allocated in 7 cities, in that large state; 1 VHF educational channel; but there are 45 UHF assignments allocated to 33 cities and 3 educational channels.

That would mean, of course, if UHF does not develop, seven cities in the whole State of Pennsylvania will be expected to give television service to the whole State. It can't possibly do it.

In exhibit No. 2 we have further analyzed this very same thing. This exhibit graphically illustrates what we mean by scarcity of VHF channels. Six States have allocations of VHF channels in but 1 city, a total of 6. We have them listed here: Delaware, District of Columbia, New Hampshire, New Jersey, Rhode Island, Vermont, or a total of six for these same States.

These same 6 States have among them UHF assignments in 29 cities. The ratio is 29 to 6, and this table does not include educational channels.

Three States have VHF assignments in but 2 cities, or a total of 6 in all for those 3 States as compared to total assignments in the UHF band in 29 communities.

One State, Kentucky, ranked 16th in population, has but 3 VHF cities and 27 UHF community assignments.

The fourth most populous State in the country, Ohio, has VHF allocated to only 5 cities; yet, there are assignments in the UHF band for 36 cities and towns.

Our own State of Pennsylvania, which I have already analyzed in the previous exhibit, has but 7 cities assigned VHF channels; yet it has 33 UHF cities and towns.

There are 33 States listed in this exhibit and all 33 have 8 or less cities assigned VHF channels.

If UHF television does not develop, 33 out of the 48 States must be content to be served by 8 or less VHF cities each; 165 cities will be all that can bring service to 70 percent of the States of the Union.

By comparison, there are UHF channels assigned to 681 cities and towns in these same 33 States.

If intermixture will not work—and we are convinced by the facts that it is not working now and cannot work—the question of which band, VHF or UHF, should be retained is rendered almost academic by these comparisons alone.

Exhibit No. 3—that is the exhibit that is turned over, the long exhibit—is an analysis of the assignments made for educational, non-commercial stations.

I beg your pardon. Exhibits 3 and 4 are turned around here.

Senator POTTER. We should be referring to exhibit 4, then, rather than 3?

Mr. KOHN. That is correct.

Senator POTTER. Fine.

Mr. KOHN. We will come back to that. I will take up exhibit 3 first, which you will find is the next exhibit.

You will recall that we left out educational television in the previous exhibit.

Senator POTTER. Yes.

Mr. KOHN. Exhibit No. 3 takes that particular problem up.

This is an analysis of the assignments made for educational, non-commercial stations. The Commission seems to be in unanimous agreement that these assignments are both desirable and necessary, but let's take a look at what happens to educational television if UHF does not become a successful reality. Fifteen States, with a 1950 census population of almost 54 million people, 35 percent of the Nation's entire population, will have no educational television at all; and, ironically enough, many of these States are the wealthy ones which might be expected to best be able to support educational outlets.

We can't resist pointing out to the members of this committee also that among these 15 States are Michigan, Nebraska, and Rhode Island.

Senator POTTER. I wonder how you happened to select those three States.

Mr. KOHN. Purely coincidence, Mr. Chairman.

Senator PASTORE. You know, Senator Potter, I like it.

Mr. KOHN. Fifteen more States with a population of 38,703,778 will have but 1 educational outlet each and 12 additional States with roughly 46,500,000 people will have but 2 educational channels each.

The cumulative total adds up to but 39 educational outlets in 42 States whose total population represents 92 percent of the population of the entire United States. Well over 200 of the assignments made by the Commission for educational television would go by the boards.

We are sure that this prospect is as painful to the Commission as it is to us.

Once again we see the absolute necessity of making certain that television in the UHF band survives.

I might point to an exhibit over there, the small map of the United States, which illustrates this particular exhibit 3 that is in table form.

The States colored red are those States in which there are no VHF assignments in the educational field.

The ones in yellow have one VHF.

The ones in green have but two VHF assignments in the educational band.

You can see that along the Northeastern and the North Central States is where it really is congested as far as having U's to have educational television.

Senator POTTER. I wonder how they made that selection. It seems to me in that whole area in there—Michigan, Ohio, Illinois, Kentucky, West Virginia—if they didn't have 1 in each State, they could have put 1 or 2 in that area.

Mr. Hyde.

Chairman HYDE. Mr. Chairman, I can tell you the selection was not made on a geographical basis. That is, the Commission did not determine to put educational reservations on ultrahigh channels in certain States and to put educational reservations on VHF in others.

The formula which the Commission used is set out in the sixth report. It works something like this: What we made educational reservations as the interest shown by participation in the proceedings would justify it, and by availabilities. For instance, it would be

impossible to make an educational reservation in a community where all the VHF, all the assignments, had been assigned to a station.

Washington is an example of that. There is no VHF assignment for educational television in Washington for the simple reason that there were four commercial stations using all the assignments available at the time the sixth report was issued.

Now, that illustrates the reasons for these results that come out.

Senator SCHOEPEL. You mean they were all taken at the time your sixth report was out?

Chairman HYDE. That is right.

Senator SCHOEPEL. But somebody didn't check the possibilities before that, however?

Chairman HYDE. The educational reservations were first made in the sixth report. There had been proposals during the rulemaking proceeding, but in the original allegation there had been no such reservation.

Commissioner HENNOCK. Mr. Chairman.

Senator POTTER. Yes.

Commissioner HENNOCK. Mr. Chairman, I wanted to point out Chairman Hyde's statement is correct as regards New York and Washington, where the VHF's were gone, but I feel that the allocations to education were made on a superficial basis, that the joint committee representing the educators had sent out letters to various communities and had been in touch with educators, and there are two types of assignments. Educational centers got VHF in certain sparsely settled areas and where a State university or land-grant college was situated or a university particularly interested in communications, such as Urbana, Ill., where we have the University of Illinois. On the other hand, I expressed my dissent and felt the Commission itself should have gotten up a nationwide educational plan more in keeping with the population and the financial means of supporting educational television, and the sixth report and order voices my dissent to that effect.

Senator POTTER. Without UHF you are not going to have a nationwide educational television system?

Commissioner HENNOCK. No. Sixty-five percent of our channels are in ultrahigh. The State of New York would have nothing in education. The State of Michigan would have nothing in education.

When I got out to Missouri, for instance, Kansas City, the very educators that said they didn't want a VHF didn't know what they were saying at the time. Now, when they have Mr. Hall of Hallmark cards ready to finance an educational station, their objections are: "It's an ultrahigh station. Nobody wants ultrahigh. It's folding up."

Now, you see how unrealistic it was to take the educators who were unversed in television and take just their little letters and say, "This is an allocation plan."

It was not done on a proper survey—educational, engineering, or any other—I voiced my dissent at the time.

However, it is so important to this country to have an integrated national system because, with 65 percent of our channels in ultrahigh, you can see what the folding up of ultrahigh will do to educational television in this country.

Senator PASTORE. Following the thought that was expressed by the chairman and by Mr. Schoepfel, isn't it a fact the congested cities,

that is, the large cities, will have to depend for their educational media on UHF rather than VHF because VHF is already taken up?

Commissioner HENNOCK. That is not true.

Senator PASTORE. I mean that is another problem.

Commissioner HENNOCK. Correct.

Senator PASTORE. And if we weaken UHF, we, accordingly, weaken the media of educational television broadcasting.

Senator POTTER. I know when I was home recently some of the people most interested in educational TV in the State—their problem is tied in with this hearing we are having now, with what is going to happen to the UHF band—

Commissioner HENNOCK. Michigan State has spent over a million and a half dollars, I think, in their plant so far in educational television, doing an excellent broadcasting service and educational television on a daily basis, I think 6 or 7 hours a day, one of the outstanding services in the country, and I know Dr. Armond Hunter, the director of the station, is on his way here to testify in these hearings.

Senator POTTER. Yes.

All right, Mr. Kohn.

Mr. KOHN. I might point out in relation to that, Mr. Chairman, certainly I would say the educational UHF channels have even a less chance of making a "go" of it because they have public funds in the first place and—

Senator POTTER. That is right. If they can't do it on a commercial basis, they certainly won't be able to do it on a nonprofit basis.

Mr. KOHN. That is right.

Senator PASTORE. Mr. Chairman, may I interrupt at this point?

I know I am anticipating, but I have to go to a meeting of the Joint Atomic Energy Committee.

May I ask a question at this point?

Senator POTTER. Certainly.

Senator PASTORE. I have been reading a little of your statement as you have been making it. What is your comment on S. 3095, the bill before us?

Will that do the trick or won't it do the trick?

Mr. KOHN. Is that the Bricker bill?

Senator POTTER. That is the multiple-ownership bill.

Senator PASTORE. That is the Johnson bill.

Mr. KOHN. I am not—

Senator PASTORE. That is the legislation before us.

I am trying to crystallize the thinking here.

Mr. KOHN. This is the one that says you can own a total of, I think it is, 14 in all if you take them on a ratio basis.

Mr. ZAPPLE. Ten.

Mr. KOHN. Yes; 10—2 to 1.

Senator PASTORE. In your opinion, will this bill solve the problem, or solve part of the problem, or won't it affect the solution of the problem at all?

Mr. KOHN. I think it is really a crumb thrown to a starving man to say that would in itself reverse this trend in the UHF because you—

Senator PASTORE. Would you be willing to say it is merely another monopoly to stop another monopoly?

Mr. KOHN. I doubt, in the present state of the art, if anybody is going to take them even if they are there as far as your network owned

or store broadcasting, or any of them are going to get too interested in UHF, unless there is a reversal of the trend first. Then it might be applicable.

Senator PASTORE. Do you think the Congress ought to do anything or the Commission ought to do anything to express the philosophy of encouraging more multiple ownership on the part of certain individuals?

I followed the thesis of your statement that this thing ought to be on a competitive basis, that the ownership of these stations ought to be more widespread, that they ought to be on a broader base.

Don't you think that we, as a Congress, and the Commission, as a commission, ought to discourage as much as possible multiple ownership?

Mr. KOHN. I believe this, Senator: that it weakens what we consider the most important thing, which we stated in the beginning of our testimony, that where you get more multiple ownership, that you get less local representation on channels—in other words, if they are not owned wholly, but owned by some corporation, the more channels that are owned absentee, so to speak, the less you have of the interest within that community in promoting the welfare of that community.

Locally owned stations, I think, are very desirable.

Senator PASTORE. You have already spotlighted that in your exhibit 1. The people of New Jersey, so far as VHF are concerned, now must look entirely to television ownership in New York to tell them the kind of broadcasting programs they will get or will not get; isn't that a fact?

Mr. KOHN. It is at the present time.

Senator PASTORE. I mean VHF now.

Mr. KOHN. That is correct.

Senator PASTORE. May I be excused, Mr. Chairman?

Senator POTTER. Yes; certainly.

Senator PASTORE. Thank you very much.

Senator POTTER. All right, Mr. Kohn.

Mr. KOHN. I don't know whether I made the last sentence in exhibit 4 or not, but even if I have to make it—

Senator POTTER. Did you discuss exhibit 4?

Mr. KOHN. Exhibit 3. Excuse me.

Senator POTTER. Yes.

Mr. KOHN. I got myself confused here.

Senator POTTER. I think you did. I think you were going to start with exhibit 4.

Mr. KOHN. That is the educational discussion we just had.

Senator POTTER. Yes.

Mr. KOHN. But in reference to the educational channels we do believe that once again we see the absolute necessity of making certain that television in the UHF band survives.

Exhibit 4: This exhibit seeks to show the answer to the question: Will there exist a monopoly if only the 12 channels in the VHF band are utilized?

We won't attempt to define monopoly, but we think the breakdown presented here brings out some startling and alarming facts. Shown in this table by population groupings are the first 115 markets in the United States and the number of VHF channel assignments, exclud-

ing educational, in each market. Here are the pertinent facts—and I think you can follow this very easily on this particular exhibit:

(1) Only 6 markets have at least 4 VHF stations assigned. This is only 5.2 percent of the total of 115 markets.

(2) Only these 6 markets can provide stations for ideal outlets for the 4 television networks.

Senator POTTER. What was that?

Mr. KOHN. Only these 6 markets that you see that have 7 channels or 4 channels in this chart—

Senator POTTER. Yes, sir.

Mr. KOHN. Can provide for each of the networks to have an outlet.

(3) Twenty-five markets or 21.7 percent have only three VHF channel assignments.

That is in column 4 on the chart.

Fifteen of these markets are among the first 25 largest markets in the United States. Obviously, 2 networks must share clearance time with 1 of the stations in each of these markets.

(4) Thirty-eight or 33 percent of the Nation's first 115 markets will have but 2 television stations.

I am afraid NBC and CBS have clear first mortgages in these markets.

(5) Twenty-seven or 23.5 percent of the top 115 markets will have but 1 television outlet. Which networks get what in these markets is anybody's guess.

(6) Nineteen or 16.5 percent of the top 115 markets will have no television outlets whatsoever.

(7) Eighty-four or 73 percent of the Nation's first 115 markets will have only 2, 1, or no television stations. There is little question that this country will have but 2 television networks if only the 12 channels in VHF are utilized.

We think it quite axiomatic that no network can operate with only 16 percent of the top 115 markets.

Once again we see the absolute necessity of making certain that television in the UHF band survives.

Having amply, we believe, established this premise, we would now like to present a three-point program of action which we think will assure a nationwide, truly competitive television system on an equitable, fair, practical, workable basis. With the use of charts and overlays, we would like to illustrate why each of these three procedures is necessary and should be adopted by the Commission; but, first, before any of these procedures are put into effect, we believe the following important thing should be done: The Federal Communications Commission should immediately affirm that a crisis does indeed exist in the implementation of the nationwide, truly competitive television system which it envisaged in its Sixth Report and Order and, because such an emergency does exist, the Commission, in the public interest, is compelled to enter into certain rule-making decisions.

Once this is done, then we suggest the following three-step plan:—

Senator POTTER. What rule-making decision do you mean?

Mr. KOHN. All of these would require that, sir.

Senator POTTER. Oh, yes.

Mr. KOHN. Step Number 1—

Senator SCHOEPEL. In other words, you do not think you would need new legislation to provide this change?

Mr. KOHN. I would not dare answer that question, Senator. That is for a lawyer to state specifically whether or not.

It would be my general impression, through two hearings before the Commission and what general knowledge I have, that there is enough power right now within the Commission, if it so deems, just as it did back in 1947 or 1948, when an emergency existed, to the extent of putting a freeze on that lasted for 4 years, that certainly it would have the power to do the steps that we propose here.

Step No. 1. Power and antenna heights:

At the very heart of the UHF problem we believe is the excessive power and antenna heights granted to existing VHF stations, especially in the major markets.

It is our proposal that the Commission first enter into a rulemaking proceeding which would in effect fix new antenna heights and power requirements for VHF stations, looking toward confining the influence of each signal to roughly its own metropolitan district area. This should not be a blanket requirement fixed by zones 1, 2, or 3 as is now contained in the Six report plan, but upon a market-by-market basis.

If I may ad lib there, to us, you just can't take the northeast and say the markets are alike and say that this antenna height and this power will apply to the whole market, because there are widely dispersed areas. In the center of Pennsylvania we go for miles before you come near any population.

Such a plan as we now propose would suggest that in the heavily populated areas of the northeast grade A and grade B contours would be considerably less than, for example, in the Far West, where perhaps even greater power and higher antenna heights than are even now allowed should be granted, on a practical basis, to give service to the people.

Let's turn now to illustrations of exactly what we mean.

Southeastern Pennsylvania encompasses the following markets, and this is a chart of the southeastern part of Pennsylvania. You see Maryland down here in the corner. That is not an inset; that is a State line.

Do you have a pointer there?

I would like, Mr. Chairman, if I may, to introduce my assistants here—

Senator POTTER. Yes.

Mr. KOHN. Mr. Strauss and Mr. Kohn, who are both directors of Penn-Allen and stockholders.

Senator POTTER. You have three-fourths of your staff here?

Mr. KOHN. No; we have very wide representation on our board of directors, but only four on the staff.

These markets are encompassed on the chart that you see before you: Allentown, Bethlehem, Easton, which is right in the center of the picture; Reading, which is just below it, to the southwest; Lancaster, still going down to your left, following that line; Harrisburg; York; Philadelphia, right over here in the center; Wilmington, Del.; Dover, Del., down below; Atlantic City, over on the coast; and Trenton, N. J.

Then, secondarily, up at the top of the picture: Wilkes-Barre; Hazleton; Scranton.

We do not mean to put them in a secondary position, except they are not included in that southeastern exhibit, on a fringe-area type.

Senator POTTER. Would you identify also the difference between your red circles and your yellow circles?

Mr. KOHN. Yes, sir; I will do that now, if I may.

This chart you have before you is our proposal of cutting antenna heights and power down to 20-mile radius for the grade A contour.

I might say the red are VHF signals; the yellow UHF stations, signals, markets.

If Philadelphia is cut back to that, to a 20-mile radius, it will include all of Philadelphia, its market. Its grade B signal will go beyond that.

These areas here are a 20-mile radius.

We do not purport to get down and say just how many kilowatts that would require, but certainly it can be ascertained easily with a slide rule.

Now, we would like to show you what happens with just dropping in there an overlay which shows Philadelphia's power right now, the power of the stations from Philadelphia. There are three VHF in Philadelphia.

The purpose of this overlay is to show you—immediately within that red circle you see a great deal of the yellow disappear; in other words, it is beginning to blacken out with just that alone.

The black line around the red—

Senator POTTER. Is that their present power?

Mr. KOHN. That is their present power.

That is a 46-mile, I believe.

Actually plotting under the Commission, as we took their actual antenna height and power, it is 47 miles. We arbitrarily took 46 miles to represent the three stations that were in there.

The black line outside the red circle shows the grade B contour or secondary signal covered. [Indicating.] That is Philadelphia.

Now, there is one other, as you see in the small circle there, to the left of Philadelphia, Lancaster. There is one VHF station in Lancaster, Pa. As you can see, there are nine UHF in that very same market.

One VHF will blanket out all nine of those UHF. We would propose to cut that one back also, and we will go further with that city a little later.

Now, let's drop in the fringe signals, coming in from all the other V's in the area.

There is Baltimore, New York, and Binghamton, and the UHF stations sitting by themselves, like Fort Wayne does, which is the only one in the country not affected, practically blanketed entirely out of the picture.

This, we believe, is at the core of the problem, as to why UHF is not getting its conversions and is not getting its advertising because of the influence of these outside signals on high power and high antennas.

Senator POTTER. Are these UHF stations you have depicted in existence or are they allocations?

Mr. KOHN. Most of them are in existence. There are two in Harrisburg, one in Lebanon, under the Lancaster disk on the left.

Let's pick that up again, please.

Harrisburg has two stations, I think, on the air now. That is all right—right there. York has two stations on the air. Lebanon has one station on the air. Reading has two stations on the air.

Allentown has two, one of which is our assignment there. We hope to be on the air in the fall, depending—there is another assignment in Allentown. There is one on the air in Bethlehem. There is one on the air in Easton.

In Trenton I don't think anybody is going ahead with that particular assignment, nor do I think possibly they will unless something is done.

In Hazleton—it is just an assignment there. Wilkes-Barre and Scranton both have UHF on the air. I think all of them are taken now.

Incidentally, WGAL-TV in Lancaster has an application for maximum power and antenna height before the Commission now, and it is being opposed by several UHF stations in that same area. I think that is still pending before the Commission.

Now, by coincidence again, Mr. Chairman, we go up to Michigan.

This shows what roughly—now, we are taking an arbitrary 20-mile radius of limiting signals in our plan generally.

We spoke before that it should be based on a market-to-market basis, and which can easily—I won't say easily, but it can be worked out.

There is what UHF and VHF looks like with their grade A signals limited to 20 miles.

Now, I know somebody is going to punch a hole in this and say, "Look at all the white areas that will have no signals."

I assure you the grade B signals—you can see the fine yellow line around the whole thing. It really scallops the whole area.

All of those areas in there will receive television service—at least to meet priority 1, which is one or more television services—I am sure.

Let's see what happens when we drop high power, high antenna height VHF into the picture. UHF practically disappears. There is Fort Wayne down there, sitting all by itself. Unfortunately, all of us can't live in Fort Wayne. The black circle again, I would point out, are class B contours. That is a 46-mile—the same as we used in Philadelphia, 46-mile radius. The next area is another very congested area, the New England area.

I am sorry Senator Pastore has left.

Senator PORTER. Does this take care of Senator Pastore's problem?

Mr. KOHN. It does happen this is one of the very serious problems in the whole UHF.

This is the WFMZ-TV proposal, a 20-mile radius, limiting the power and antenna heights to such equations as would produce a 20-mile grade A contour.

Again, you can see that UHF would seem to have a very good opportunity of developing under those circumstances.

Let's drop the VHF from existing B stations.

These are existing VHF stations on the air, showing maximum, when they get to maximum power. I think some of them are already on maximum power and antenna height. Their grade B signals and grade A signals almost cover the whole area. Their grade B signals completely blanket the whole area there. We don't have Kansas here.

The next exhibit we prepared is to show this, on a nationwide scale.

Now, we don't purport to say you can take any 20 miles and make

circles like we have here of every allocation in the sixth report, that it should be a 20-mile radius. I want to make that very clear, but we do want to show it in relation to showing this plan through in its logical sequence so we won't get confused with all kind of radii and so forth.

Senator POTTER. It is your testimony it should be tailored to suit the marketing area?

Mr. KOHN. Yes, sir.

Senator POTTER. Is that correct, in the community?

Mr. KOHN. Yes, sir. It substantially covers or blankets secondary markets, which by itself can support television, we would consider the Commission should consider that.

Now, at this present time I believe I would be correct in saying the Commission only considers interference, technical interference, as a guide. We would perhaps carry it to the point of interference on a practical basis, that economics do enter into the picture of television.

All of the red dots you see are VHF stations allocated in the sixth report and order, 20-mile radius of each.

Senator POTTER. Do I see a white space up there in the northern part of the Lower Peninsula of Michigan? That is my home.

Wouldn't we ever get television under this plan?

Mr. KOHN. Yes, sir; I believe so. This is only the grade A contour. Grade B, of course, would extend out much further.

Senator SCHOEPEL. Might I ask this question, Mr. Chairman.

I don't know about the technical side of this thing, except what I read and wonder about, and I get more confused all the time, but on that 20-mile radius, let's say, what would happen if you got into some of these overlapping areas?

I presume we will have someone testifying in here as to interference, the interference phase of that, or would we have interference that would in reality cut you below 20, because it is a cinch this thing doesn't go in square corners?

Mr. KOHN. I am not an engineering expert, Senator, but I will say this: There was a time when that area, for instance, from Philadelphia didn't go out any more than a grade A contour than that. For several years it did not. Now, when there are more channels, adjacent channels, and so forth—as I pointed out before here, I think once an objective—if this is a desirable objective, that there is an engineering way to figure it out.

Senator POTTER. I assume the answer to that question would be the realization of more channels. You wouldn't run into the interference problem as much if you were limited to the UHF.

Mr. KOHN. That is the third step in our plan, sir.

Now, we would like to point out just for a general picture and impression—we have taken and used a general service area of 60 miles, the influence of VHF stations in those—in other words, we have overlaid each red dot on the forms map at 20 miles; we have put in a 60-mile radius at this point for every VHF station.

I think 60 miles is very conservative, to say the VHF station at maximum power and antenna height, their influence of the coverage of their station; and, as you can see, if you will just lift it up once more, about halfway, and then drop it again, your UHF, yellow stations, are practically blanketed in the Northeast—in fact, east of the Mississippi.

Now, this also illustrates that west of the Mississippi—and this is

why we think it should be done on a market-by-market basis—some of those circles out there in the Far West, in the Midwest, I think could very easily be a hundred miles, with their influence, to make sure that everybody gets good competitive service.

To make it a little easier—and we will skip through these other exhibits very quickly—what we have done is to take these various sections and to blow them up so you can see them more clearly. This is the same map you saw there, only taken in sections and blown up by sections. This is the 20-mile radius.

Now, let's take that one down and show the effect of the 60-mile radius in blanketing out those same areas. Let's move on to the Southeast. This is the 20-mile radius.

Unfortunately, when they blew this one up, the yellow faded out on it; but it will show the 20 mile of the V's, and we can get a good comparison of what 60 miles means on the V coverage, as far as blanketing all of those spaces is concerned.

The B's certainly do blanket practically all of this east of the Mississippi.

This is the Far West. This is 20 miles—again using a 20-mile radius.

I think this more graphically describes why you would have to have in the Far West much more power, maybe higher antenna heights than even now are prescribed.

Now, let's see 60 miles there. Sixty miles just doesn't fill the areas out in that particular one.

Now, let's go to just a pie chart, to just sum up this whole antenna and power height situation. Let's show it without the overlay first. This is a VHF station overlap in the first 50 markets, with a proposed 36-mile grade B contour. That would be roughly a 20-mile grade A contour of what would be VHF and what would be UHF.

In other words, 81 cities and towns would be covered by the VHF; 170 cities and towns would be able to have UHF; UHF allocations, 87; V's, with a cutback in power and antenna heights, would allow 152 UHF allocations.

In terms of population, it is red 38 mile against the yellow or the U coverage of 40 mile.

Now, drop the overlay over.

This is VHF in those same 50 markets, with complete maximum power and antenna heights.

In other words, we have washed out the entire—in those 50 markets we have washed out 250 cities and towns, 239 UHF allocations, and 78,500,000 people that would get only V service if UHF does not develop.

We would like to give these—this is a summary of step No. 1 of WFMZ-TV's three-point proposal of action, and we would like to give these following reasons for its adoption, and this means cutting back antenna and power heights:

(1) The most important consideration which we have taken into account in proposing this plan is to allow television stations to survive in markets large enough to support them and thus insure that hundreds more communities will have the vital element of local expression.

(2) Procedurally the most important thing which we believe is necessary at the present time is to half in its tracks the trend toward

deterioration of the television in the UHF markets, and immediately provide the stimulus that will start UHF on a fast recovery. Cutting back powers and antenna heights of the VHF stations alone prevents the excessive VHF signal blanketing of nearly 300 UHF markets across the country.

(3) We believe that this is an action for which the Commission already has sufficient legal powers, backed by legal precedent, to effectuate with the least possible delay.

(4) It solves to a very great extent the present dilemma of achieving network program sources for a great many UHF stations.

Obviously, if these signals from faraway VHF's do not get into good-sized secondary markets, the networks are going to have to affiliate in those markets.

(5) It would bring about in many of these UHF markets an almost overnight 100 percent conversion of sets to receive UHF signals.

Step No. 2 in our plan—the relocation of certain present VHF assignments:

This constitutes the second step in WFMZ-TV's three-point plan for a nationwide, truly competitive television system.

One of the basic errors we believe in the philosophy of the sixth report was to assume that the hundred-odd prefreeze stations should control the whole basis for assignments in their given areas. Thus, those who received uncontested grants before the freeze were assured that no matter what better plan might be devised, nevertheless their rights would not be affected.

I might add there if we had not been contested we would have one of those prefreeze stations, but we were in a hearing—we had gone completely through hearings—for a VHF channel in our area, and about a month after the hearings closed, before a decision was handed down, the freeze went into effect, the VHF was washed out and 4 UHF's placed in place of that 1 VHF.

With that, we don't quarrel. Four stations are better in that area than one station by itself would have been.

Some 30 VHF stations were, it is true, required to change from one VHF channel to another, but none was asked to take a UHF channel in place of its VHF. Even if in the interest of better assignments, this should have been done.

That, of course, was a dilemma in the New York situation. There were seven on the air. So, you had to start there, and that made a scarcity of channels all through that section there.

We would like to suggest that, however belated this action is now, that it be done anyhow, and we would like to illustrate why this action is so important and so related to the present problem of UHF development—and this will take a very short minute.

In other words, we refer back again to 1 VHF station sitting in Lancaster, with 9 UHF's right in the same market.

You might consider that the same market.

You take that out, move that VHF down to Philadelphia; you give 4 to Philadelphia, which is the least ideal for 4 network outlets; give Lancaster a UHF that is already sitting in Philadelphia that will not be used, we are quite certain, and you have U's in that area competing against U's, and you have V's in the Philadelphia area competing against V's. Certainly that is, I think, equal opportunity for all stations.

Once step No. 2 of our three-point plan is effectuated—incidentally, we know that can be done, but we will not take the time here. These exhibits are both in the back here. We will leave these exhibits with the committee, if they want them, for future study rather than take the time here to go through all of those other markets, to show by moving one V which has been already allocated present V's would clear up a whole new market for VHF that was already predominantly V.

Senator POTTER. It would take quite a bit of capital to make that move, wouldn't it?

Mr. KOHN. Yes, sir. Somebody has to get hurt if we are going to have television on a nationwide basis, at least in our opinion.

I am sure that those that have present V's that would have to give them up would be in a position of where other V's would take the equipment with them, and they would have to get a UHF transmitter just as those in the U's are purchasing UHF.

I have just a slight bit more to say on that particular thing.

Once point 2 of our three-point plan is effectuated, the Nation will be divided essentially in VHF markets with V's competing against V's—and UHF markets with U's competing against U's.

There is also another very important reason for this action. It will allow, in our opinion, for possibly at least four VHF stations in many of the major markets, thus bringing out the important objective of preserving now insofar as regulation is possible the future 4 instead of 2 competing networks.

We anticipate that those VHF stations affected will object very strenuously to this action. However, competition on an equal, fair basis with other stations in the same areas constitutes in our opinion equal opportunity as it is known within the free enterprise system.

In that particular city of Lancaster, if there is going to be one VHF and never any other television, in the public interest I think whatever financial loss is taken there is small compared to the service that is going to be lost to a great number of people.

Point No. 3—Gradual evolution of all television stations to the UHF band:

Point 3 of WFMZ-TV's three-point plan looks to the general aims and purposes of plans submitted previously by other witness before this committee. This means a reallocation procedure which would in a given period of time bring all television into the 70 channels of the UHF band.

Specifically, point 3 of our plan proposes:

(1) Within a reasonable time, subject to procurement of necessary equipment, all VHF stations begin simulcasting on both VHF and UHF frequencies—the UHF frequency being determined by a new allocation plan for the whole country utilizing the 70 channels of the UHF band.

We suggest the period of simulcasting be in effect for a period of 5 years, at the end of which time all telecasting would revert to the UHF band.

There has been much said about shifting television to UHF. We do not want to repeat any of it except to assert a strong opinion that it can be done and that it will produce a nationwide, truly competitive television system.

We made a preliminary research study of the Nation's first 100 markets to find out just how many UHF assignments would be required to—

- (a) Replace the present VHF assignments already there; and
 (b) Make a total of at least 4 UHF assignments in the largest markets and at least 3 UHF assignments in the secondary markets.

Because we were so surprised ourselves at the small number of UHF assignments required to accomplish this, we thought it material to make this study available to the committee. You will find it labeled as exhibit 12.

That is the last exhibit in the book.

What we have done here is to take the present assignments in both VHF and UHF and show the number of UHF's necessary to replace VHF's in the same market and the additional number of UHF's that would be required to achieve a competitive situation in that market.

Please note that a total of only 85 UHF assignments are necessary to replace VHF assignments in the same market, that is, in the first 100 markets, and that an additional 81 UHF assignments will accomplish the competitive 4 and 3 stations per market so highly desirable.

There are over 1,300 UHF assignments now made in the UHF band. A total of only 165 assignments in the Nation's first 100 markets will accomplish the changeover to UHF on a good competitive basis; and, if you noticed, we included in that the educational allocations also. So, that would not be changed. The same places that have educational channels now would continue to have them.

May we conclude our testimony now by pleading with the committee to keep uppermost in its mind this one through: The Commission's present position with its present plan is based upon "a hope that the UHF band will be fully utilized"—the plan we have presented here is based upon facts already known.

We submit that in a matter so vitally important as a nationwide, truly competitive television system is to the future growth and welfare of this country it should not be left hanging in the balance upon such a precarious, unknown quantity as hope but should be decided upon facts that are here present in great numbers.

This thought becomes even more urgent when it is known now that there can be a nationwide, truly competitive television system within the 70-channel UHF band.

Senator POTTER. Mr. Kohn, I have a letter here from Chris Witting, president of Westinghouse, and I would like to read you four paragraphs, and have you comment on the contents thereof:

It has been proposed to require all VHF stations to now reduce their existing coverage area to avoid overlap of a nearby UHF station. This would result in inestimable damage not only to the stations but to the members of the public living in the present service areas. For instance, if the coverage area of channel 4 in Washington, D. C., were so reduced, thousands of citizens living in Hagerstown, Md., and in the surrounding area would be denied service they have been enjoying and relying upon for so many years.

These citizens (and those in any other similar community in the United States) have a right to, and will demand, a freedom of choice among multiple-program sources. Since Hagerstown has been assigned only one channel (and it certainly could not support more than two), it is clear that additional programs to permit freedom of choice (and a competitive broadcasting system) must come from outside areas. This service can best be furnished by the existing VHF channels located in cities large enough to support multiple program sources. The effect of this reduction of service area proposal on rural America would, to us, be comparable to suddenly denying them radio service by requiring all clear-channel broadcasting stations to reduce power to the equivalent of a local station.

If the principle be established that the coverage of the VHF stations in Washington is limited to eliminate overlap with the UHF station in Hagerstown, then it follows that the UHF station allocated to Frederick, Md., just must be limited to prevent overlap with the UHF station allocated to Hagerstown. Under such a philosophy the citizens of Washington would receive four competing services, the citizens of Frederick and Hagerstown, respectively, would each receive a single service, and the vast rural audience living between these cities would be denied any service.

Furthermore, such a philosophy is physically impractical in a situation like Allentown, Bethlehem, and Easton, Pa. Two stations have been allocated to Allentown, one to Bethlehem and one to Easton, Pa. Under the present plan this should afford 4 competing services to the residents of all 3 cities and the rural areas surrounding them. It seems to us inconceivable that anyone could seriously propose that the coverage areas of these stations be so reduced as not to overlap (assuming that this was physically possible) thereby reducing Bethlehem and Easton to a single service and Allentown to two services.

The theory becomes even more untenable when we realize that most cities in the United States have been allocated but a single television channel and in the whole State of New Hampshire only 1 city gets more than 1 and in the State of New Jersey only 2 cities get more than 1 channel. The public interest lies in the direction of making every effort possible to increase the coverage of each station.

This was submitted by Westinghouse, and I would like to have your comment on that. It's a question you brought up in your testimony.

Mr. KOHN. I hope Westinghouse in the forepart of the letter gave us credit.

I sat with one of their officials and outlined exactly what I was going to testify on here before we even came, so it would give them a chance to reply.

I think we have answered in great part, Mr. Witting's letter, and that is that we propose it on a market by market basis.

If I may take our own market, for instance, there is no thought whatsoever that Allentown, Bethlehem, and Easton would not overlap signals. There should not be. That is the same market, and that means there would be four network sources in that market, but for Philadelphia, to cover the Allentown-Bethlehem-Easton market, so that no UHF develops up there, if I may go back to the first part of my testimony, cities like Allentown that would have no means of local expression, simply because Philadelphia is afraid they will not get 9 or 10 signals rather than 4 or 5, to me does not stand up under the basis of fair judgment.

The second thought there is that we are not proposing they will not get service from Philadelphia. We are just proposing they will get approximately what they did get when television started out in that area, and in our area people put up hundred-foot antennas, thousands of them, to just bring in a snowstorm, but even then they invested in sets and very costly antennas to bring in the fringe area reception before it went on high power.

Now, what we have in our area is a noise-free picture, just as though it were sitting in our own backyard, and that occurs all over the United States.

I think what has to be weighed here is to whether or not if Philadelphia comes down regardless of how many arguments they will find about this injuring the public, that surely the Commission envisioned in their own report that everybody eventually was going to have UHF sets, and that they're not going to take away a service, that they will get service, at least, to meet priority one, that they have in their report, and as far as the people having to invest to get the service, we thought we could expect—or the Commission really thought in its

philosophy of issuing the report that would one day go 100 percent conversion in our market, so that we could compete in all the homes, instead of just what it is now, that be on the air now there for over a year, and only about 20 percent of the sets converted.

Senator POTTER. If the manufacturers of television receivers should come out with all channel tuners as a standard part of their equipment, wouldn't that alleviate a lot of the difficulties that you encounter today?

Mr. KOHN. Mr. Chairman, I seem to recall that UHF-VHF sets are backing up in warehouses. They're not being sold, that the production is exceeding the demand for them and, therefore, I just don't think they are going to put them on until they see some evidence that UHF is going to—

Senator POTTER. Supposing they were put on as a requirement. I think now they have to—don't they have to get a permit from the Commission in order to make sure to meet certain standards?

Mr. KOHN. Mr. Chairman—

Chairman HYDE. Not for the receiver.

Senator POTTER. Not for the receiver.

Chairman HYDE. We are concerned with those receivers which have radiation characteristics, but our authority over the receiver extends only in that area of preventing interference.

Senator POTTER. Just suppose by a strike of magic that all new receivers from here on in contained this all-channel tuner; wouldn't that be a big help, so that the person owning a receiver today could tune in on a UHF as well as a VHF station?

Mr. KOHN. Well, may I say this, Mr. Chairman:

In our area there isn't a receiver being sold today that isn't a combination set, and in the controls. I mean one of our stations, at least, is in serious trouble up there in that area, and I don't know about how it would develop in Allentown. It's going to take a lot of reassessment before you go ahead with things the way they look today from the resistance of the national advertiser to the program sources and all of the things which you have heard so much about already. I don't want to go into them, but I think ultimately that this committee and the Commission has to decide whether or not 12 channels are going to be the television service that we have, and I don't think that throwing bones in the form of the sets, and so forth, is the real, crucial heart of this problem with UHF.

I think it goes into many very serious things, and this overlap one, we think, is at the very core of it. We think that would start immediately, even if it were known it were being considered, it would change the psychology that is sweeping the television industry in that UHF is going out of existence, and we know from our FM experience that it's a long, hard road climbing back up again.

Senator POTTER. Well, Mr. Kohn, let me congratulate you for making an excellent presentation, and a very graphic one. I have gained much information from your statement.

Mr. KOHN. Thank you. I wish I could have done it better for you.

Senator POTTER. You have no need for apology. It was well done.

At this point in the record we will insert Mr. Kohn's complete prepared statement, together with the exhibits submitted. (Various exhibits not reproduced are in the official files of the committee.) Without objection, it may be inserted at this point.

(The material is as follows:)

TESTIMONY OF **RAYMOND F. KOHN**, PRESIDENT AND GENERAL MANAGER OF THE PENN-ALLEN BROADCASTING CO., ALLENTOWN, PA.

My name is Raymond F. Kohn, and I reside at 1411 Hamilton Street, Allentown, Pa. I am president and general manager of the Penn-Allen Broadcasting Co. of Allentown, Pa., licensee of WFMZ, an FM-only broadcast station, and construction permittee of WFMZ-TV, a UHF authorization for channel 67 in Allentown.

Two weeks ago at the NARTB Convention in Chicago we heard a great deal about free enterprise and eloquent warnings about the grave consequences of running to Congress for more regulation. May I say to the members of this committee, with all sincerity we are not here asking for more regulations but corrective regulation. My company believes, and we think with abundant justification, that there is before this committee and the Nation a grave question as to whether or not we shall have a truly competitive nationwide system of television. We do not think our purpose in appearing here is based solely on seeking a "transfusion by cutting the throats of others"—as one keynote speaker at the convention implied. We are certain that this committee, in hearing our comments, will judge them as they apply to the welfare of all the people of this country and not just a few in Allentown, Pa. We do think that we have some constructive information to offer and a suggested possible procedure of action that is worthy of serious consideration and study.

We humbly believe that the experiences of our 7 years of operating an FM-only broadcast station allows us a small measure of validity in speaking on the subject that is before this committee. Contrary to the Commission's expressed view in the sixth report we are here to say that we find an alarming similarity in many, many respects with this UHF problem which the development of FM faced and is still facing. Practically all of the elements of difficulty in UHF which have been repeated over and over by other witnesses in previous testimony here were and still are present in FM—the problems of conversion, program sources, advertiser resistance, especially on the national level, lack of good receivers at competitive AM costs, and many others.

But we do not intend to burden the record with a recital of those experiences for it is not our purpose here to weaken the cause of objectivity by playing on the sympathetic heartstrings of the members of this committee. Besides, if we may say with equal parts of humor and sobriety, we are somewhat afraid that we might destroy the credulity of our whole testimony by relating a 7-year FM saga which we know you would find exceedingly difficult to believe—true as it is.

Suffice it to say, and we do not mean this to be facetious, we are quite convinced that, if the members of the Commission could have lived with us through our experiences in FM, there would have been no need for this hearing on UHF. The whole philosophy incorporated in the sixth report and order might well have been a different one—a more realistic one.

We cannot add to the record any experiences in operating a UHF station since we are not yet on the air. We are, I would say, about \$100,000 along in construction with long-term commitments amounting to about 4 times that much which we hope we shall have the satisfaction of honoring in full. As I sit here, I can hear the distant "Amens" to that statement being uttered by our 250 stockholders, almost all of whom reside in and around Allentown, Pa. I am more aware of the pleadings of over a half million Lehigh Valley residents who, I am certain, would approve of the statements which we are making here today, were all the facts made clear to them.

Before we present what we believe is a sound and workable approach to the UHF dilemma we would like to bring out briefly, and emphasize with all the vigor at our command, one aspect of this problem that, in our opinion, should have precedence over all other considerations. It has been touched upon in other testimony, but has not yet been given the emphasis it surely deserves. We refer to the two words "local expression." The Commission, in its sixth report, gives local expression priority 2, thereby recognizing itself the extreme importance of achieving the goal of as many outlets for local expression as can be possibly attained. In complete contradiction the philosophy of the sixth report and its implementation since bids well to make mockery of that most desirable goal. We shall prove this point in just a moment.

From the New England town meeting down to today the opportunity for a community to have the facilities to express itself has been a vital factor in pre-

erving our ideals of democracy. Never has the urgency been greater than it is today to do everything in our power to perpetuate the processes of local expression. Time was when the great fourth estate—the newspaper industry—was a highly competitive business, much for the good of the community and the Nation. Today we are witnessing the extinction of competition in the newspaper field even in great cities like Washington, St. Louis, Atlanta and others. The medium and smaller cities now either have but one newspaper or through merger or sale competing newspapers come under common ownership. We think it is uniformly admitted by all thinking people that this loss of competition is undesirable and leaves a vacuum in the communications field that we should strive, if at all possible, to fill.

Congress is powerless to stop the trend of monopoly in newspapers, but it can, through an agency of Government already in existence and under compulsion of an act already spelled out, help to fill the vacuum referred to above by preserving the powerful, impartial voice of television in the hundreds of cities across this Nation which can and will support local television—if it is but given a reasonable chance to put down its roots.

In a world fighting for its survival now—today—the Commission's reference to a nationwide competitive system of television in terms of "will eventually" or "the long range" leaves us singularly and particularly cold. An "eventual" television station in Allentown (presuming there would be one, which is a presumption we cannot bring ourselves to accept) will be no better than the one that can be operating this September—bringing a new, fresh, and vital force of self-expression to a community which it needs—and which it so rightfully deserves.

Local ownership, integration of local ownership with management, and performance of local responsibility in programs geared to the needs of the community which a station serves is one of the very foundations of judgment used by the Commission in granting and renewing television and radio licenses. No other factors in the preparation and presentation of testimony and exhibits for a competitive hearing before the Commission receive so much careful and emphatic attention by Washington's specialized, high-priced attorneys as those which could be summed up in the two words "local expression." No other phrase is so familiar to broadcasters, attorneys, Commissioners and the whole FCC staff as "the public interest, convenience and necessity."

With this emphasis we heartily agree, wholeheartedly agree, and it is to help preserve this emphasis that we are now appearing before this committee. We think it pertinent but not material to this controversy who utilizes what channels but that all channels necessary to a nationwide, truly competitive system be utilized. To achieve this objective a fair and proper climate must be provided so that television, on the local level, shall have a reasonable chance to grow in all communities across this Nation wherever the economic soil is rich enough to nurture it.

May we define briefly what, in our opinion, a local television station means to Allentown and our communities around Allentown? We use Allentown merely as an example and we know you will keep in mind that there are hundreds of Allentowns across the Nation to which each of our thoughts are equally applicable.

1. It means a heretofore unprecedented opportunity for our churches to spread their influence beyond the portals of church doors. There are over 90 churches in the city of Allentown alone. Why should the ministers, the choirs, and the congregations of these churches be deprived of the opportunity to use this powerful new medium of expression?

2. It means a heretofore unprecedented opportunity for our educational system to have the means of spreading education beyond the portals of the school buildings. It means opportunity in the most graphic way yet devised to acquaint parents and taxpayers with the methods and curriculum being used to educate their children. It means opportunity to use the trained minds and special talents of teachers and school administrators on programs designed for the welfare and enlightenment of the whole community.

3. It means a heretofore unprecedented opportunity for the promotion of the activities and objectives of all our local public service institutions: the Community Chest, the Red Cross, the Medical Society, the Good Shepherd Home for Crippled Children, the Boys' Club, Little League Baseball, dozens of others.

4. It means a heretofore unprecedented opportunity to provide facilities for the enlightenment of the people before they go to the polls to vote. Television, as has been amply proved, has a peculiar knack for searching out sincerity, exposing insincerity. The face betrays many a fact that the mind and the

voice would try to hide. We think the members of this committee would be the first to agree that the caliber of local governments in the thousands of communities across the Nation ultimately decides the caliber of government and its servants in the Nation's Capital. And perhaps it is too obvious to mention the power and impact of television as a medium of expression for local issues: the new city tax; scandal in the police department; should the monument in the square be moved to West Park; the annexation of Lower Salisbury Township to the city; the new sewer project proposed for the West End. None of these issues are world-shattering—none of them interest anyone beyond the confines of each of the thousands of communities in which they occur, but wrapped up in them is the cumulative basic worth of a whole country, the essence of the vitality which makes our democratic ideals work.

5. Television in our community means a heretofore unprecedented opportunity to promote the economic good of our area. The ability of our local and regional merchants to advertise their products and services is not only essential but necessary. No one argues television's ability to sell goods and services. Why deprive our town and hundreds of others of the economic benefits of this new medium? And the irony of this whole situation is that for years now the merchants in our town have indeed had to compete against merchants in Philadelphia who, through high power television seek and do effectively draw business away from Allentown, and without local television our merchants do not now have and may never have a fair chance to retaliate against this outside city advantage.

There are many, many more things that television means to a community—for a television station should and can be at the very center of every activity—the sounding board and the mirror of a community's whole personality.

We submit to this committee that the importance of preserving, in hundreds of communities, the element of local expression is alone enough, in itself, without any of the other considerations, to cause all concerned to work not against each other but together to find a practical and workable way to arrest and reverse the present tragic downward trend toward extinction of television in the UHF band.

And may I add here what sounds like a facetious note, but really isn't? There are three powerful VHF stations in the city of Philadelphia which purport to render "television service" to our community of more than half a million people. I say to them now that if each of these stations will submit a written statement, duly subscribed and sworn to, to this committee or the Commission, saying that they do solemnly promise to provide as many local programs, with local Allentown people participating, as WFMZ-TV has already promised under oath to do, and in the same desirable time periods, then we will here and now tear up our testimony and retire to the sidelines to watch with bated breath the greatest phenomena that has yet occurred in the history of broadcasting.

The exhibits which we will now present for the committee's information were prepared by 4 people, which is the entire present staff of our company, in a period of approximately 3 weeks of admittedly somewhat concentrated effort. No expert lawyers or engineers had anything to do with them. We realize this statement would seem to weaken or even destroy our case, but before we finish, we hope to establish that just the opposite will be true. For we believe with the very deepest sense of conviction that there is a solution to this problem and that it will be founded, not upon the evidence of the cold, ever-conflicting arguments of the slide rule boys or the legal clamorings of those who will try to find solace in the Constitution, but upon the inherent practical, good commonsense of this committee, the Commission, and all those whose sense of public interest lies above self, and whose vision allows them to see the tremendous importance of a television system which best serves the growth and ideals of this country and its 160 million people. Once the objective is set, the goal defined, the engineering slide rules can turn out the technical answers to make it work. Even to the layman the present allocation plan contained in the sixth report is not above critical analysis—surely it cannot be an only solution upon which future development of television must live or die. It must not be forgotten that adoption of this very same sixth report was not unanimous, it had bipartisan dissent, by a Republican member and by a Democratic member of the Commission.

We have taken the approach of an average person trying hard to exercise practical commonsense. With all humility and due respect for those experts who label this problem "apparently unfathomable," we enter a small but vigorously dissenting voice.

Our first series of exhibits are planned in logical sequence to answer the following questions:

1. Just what is the present allocation plan and how does it break down in terms of assignments to each of the 48 States?

2. What is the service provided by (a) the VHF assignment and (b) the UHF assignments in terms of comparative service?

3. What happens if television in the UHF band does not develop? or, put another way, what kind of service will we have if only the 12 channels in the VHF band are utilized? (a) Commercial channels; (b) educational channels.

Exhibit No. 1.—This is a State by State breakdown of the number of commercial VHF assignments allocated, the number of cities in each State to which these VHF assignments are made, the number of educational VHF assignments made to each State, the number of UHF assignments allocated to each State together with the number of cities in which these UHF assignments are made, and, the number of UHF educational channels assigned by the sixth report to each State.

It does not take much study before one realizes that there is a serious scarcity of VHF channels allocated to most of the States and that Statewide television coverage can be best accomplished by use of the UHF band.

Exhibit No. 2.—This exhibit graphically illustrates what we mean by scarcity of VHF channels. Six States have allocations of VHF channels in but one city, a total of six. These same 6 States have among them UHF assignments in 29 cities. (This table does not include educational assignments.) Three States have VHF assignments in but 2 cities, or a total of 6, as compared to total assignments in the UHF band in 29 communities. One State, Kentucky (ranked sixteenth in population), has but 3 VHF cities and 27 UHF community assignments. The fourth most populous State in the country, Ohio, has VHF allocated to only 5 cities, yet there are assignments in the UHF band for 36 cities and towns. Our own State of Pennsylvania has but 7 cities assigned VHF channels, yet has 33 UHF cities and towns.

There are 33 States listed in this exhibit and all 33 have 8 or less cities assigned VHF channels. If UHF television does not develop, 33 out of the 48 States must be content to be served by 8 or less VHF cities each; 165 cities will be all that can bring service to 70 percent of the States of the Union. By comparison, there are UHF channels assigned to 681 cities and towns in these some 33 States.

If intermixture will not work, the question of which band, VHF or UHF, should be retained is rendered almost academic by these comparisons alone.

Exhibit No. 3.—This is an analysis of the assignments made for educational, noncommercial stations. The Commission seems to be in unanimous agreement that these assignments are both desirable and necessary. But let's take a look at what happens to educational television if UHF does not become a successful reality. Fifteen States, with a 1950 census population of almost 54 million people—35 percent of the Nation's entire population—will have no educational television at all. And ironically enough, many of these States are the wealthy ones which might be expected to best be able to support educational outlets. We cannot resist pointing out to the members of this committee also that among these 15 States are Michigan, Nebraska, and Rhode Island. Fifteen more States with a population of 38,703,778 will have but 1 educational outlet each and 12 additional States with 46,573,883 people will have but 2 educational channels each. The cumulative total adds up to but 30 educational outlets in 42 States whose total population represents 92 percent of the population of the entire United States. Well over 200 of the assignments made by the Commission for educational television would "go by the board." We are sure that this prospect is as painful to the Commission as it is to us.

Once again we see the absolute necessity of making certain that television in the UHF band survives.

Exhibit No. 4.—This exhibit seeks to show the answer to the question, "Will there exist a monopoly if only the 12 channels in the VHF band are utilized?" We won't attempt to define monopoly, but we think the breakdown presented here brings out some startling and alarming facts. Shown in this table by population groupings are the first 115 markets in the United States and the number of VHF channel assignments (excluding educational) in each market. Here are the pertinent facts:

1. Only 6 markets have at least 4 VHF stations assigned. This is only 5.2 percent of the total of 115 markets.

2. Only these 6 markets can provide stations for ideal outlets for the 4 television networks.

3. 25 markets or 21.7 percent have only 3 VHF channel assignments; 15 of these markets are among the first 25 largest markets in the United States. Obviously, 2 networks must share clearance time with one of the stations in each of these markets.

4. 38 or 33 percent of the Nation's first 115 markets will have but 2 television stations. NBC and CBS have clear first mortgages in these markets.

5. 27 or 23.5 percent of the top 115 markets will have but one television outlet. Which networks get what in these markets is anybody's guess.

6. 19 or 16.5 percent of the top 115 markets will have no television outlets whatsoever.

7. 84 or 73 percent of the Nation's first 115 markets will have only 2, 1 or no television stations. There is little question that this country will have but 2 television networks if only the 12 channels in VHF are utilized.

Once again we see the absolute necessity of making certain that television in the UHF band survives.

Having amply, we believe, established this premise, we would now like to present a three-point program of action which will assure a nationwide, truly competitive television system on an equitable, fair, practical, workable basis.

With the use of charts and overlays, we would like to illustrate why each one of these three procedures is necessary—and should be adopted by the Commission. But before any of these procedures are put into effect, we believe the following important thing should be done: The Federal Communications Commission should immediately affirm that a crisis does exist in the implementation of the nationwide, truly competitive television system which it envisaged in its sixth report and order, and because such an emergency does exist, the Commission, in the public interest, is compelled to enter into certain rulemaking decisions.

Once this is done, then we suggest the following three-step plan:

1. POWER AND ANTENNA HEIGHTS

At the very heart of the UHF problem we believe is the excessive power and antenna heights granted to existing VHF stations, especially in major markets. It is our proposal that the Commission first enter into a rulemaking proceeding which would in effect fix new antenna heights and power requirements for VHF stations, looking towards confining the influence of each signal to roughly its own metropolitan district area. This should not be a blanket requirement fixed by zone 1, 2 or 3 as is now maintained in the six report plan, but upon would be considerably less than, for example, in the Far West, where perhaps in the heavily populated areas of the Northeast grade A and grade B contours a market by market basis. Such a plan as we now propose would suggest that even greater power and higher antenna heights than are even now allowed should be granted. Let's turn now to illustrations of exactly what we mean:

I. Southeastern Pennsylvania encompassing the following markets: Allentown-Bethlehem-Easton, Reading, Lancaster, Harrisburg, York, Philadelphia, Wilmington, Del., Dover, Del., Atlantic City, N. J., Trenton, N. J.; and secondarily, Wilkes-Barre, Hazleton, Scranton.

(a) WFMZ-TV plan using a limitation to 20-mile radius for grade A contours.

(b) The same area showing influence of Philadelphia VHF coverage on maximum power and antenna heights (46-mile radius grade A contour).

(c) The same area showing influence of Philadelphia VHF's plus one VHF grant at Lancaster, Pa.—assuming maximum power and antenna height (application for maximum power and antenna height by WGAL-TV, Lancaster, is now before the Commission and is being opposed by several UHF stations in that general area.)

(d) The same area showing influence of VHF signals from Philadelphia, Lancaster, Baltimore, New York, Binghamton.

II. Application of WFMZ-TV plan as illustrated in the lower Michigan, upper Ohio and Indiana area.

III. Application of the WFMZ-TV plan to the Massachusetts-Rhode Island-Connecticut area.

IV. Application of the WFMZ-TV plan to the Northeastern, Middle Atlantic and North Central States of the United States.

V. Application of the WFMZ-TV plan to the Southeastern and South Central States of the United States.

VI. Application of the WFMZ-TV plan to the States west of the Mississippi.

Summary of point 1 of WFMZ-TV's 3-point proposal of action

We would like to give these following reasons for its adoption:

1. The most important consideration which we have taken into account in proposing this plan is to allow television stations to survive in markets large

enough to support them and thus insure that hundreds more communities will have the vital element of "local expression."

2. Procedurally the most important thing which we believe is necessary at the present time is to halt in its tracks the trend toward deterioration of television in the UHF markets, and immediately provide the stimulus that will start UHF on a fast recovery. Cutting back powers and antenna heights of the VHF stations alone uncovers excessive VHF signal blanketing of nearly 300 UHF markets across the country.

3. We believe that this is an action for which the Commission already has sufficient legal powers, backed by legal precedent, to effectuate with the least possible delay.

4. It solves to a very great extent the present dilemma of achieving network-program sources for a great many UHF stations.

5. It would bring about in many of these UHF markets an almost overnight 100 percent conversion of sets to receive UHF signals.

2. RELOCATION OF CERTAIN PRESENT VHF ASSIGNMENTS

This constitutes the second step in WFMZ-TV's three-point plan for a nationwide, truly competitive television system.

One of the basic errors we believe in the philosophy of the sixth report was to assume that the hundred-odd prefreeze stations should control the whole basis for assignments in their given areas. Thus those who received uncontested grants were assured that no matter what better plan might be devised, nevertheless their rights would not be affected. Some 30 VHF stations were, it is true, required to change from one VHF channel to another, but none were asked to take a UHF channel in place of their VHF's—even if in the interest of better assignments, this should have been done.

We would like to suggest that however belated this action is now that it be done anyhow—and we would like to illustrate why this action is so important and so related to the present problem of UHF development.

Once point II of our three-point plan is effectuated, the Nation will be divided essentially in UHF markets with V's competing against V's—and UHF markets with U's competing against U's.

There is also another very important reason for this action. It will allow, in our opinion, for possibly at least 4 VHF stations in many of the major markets, thus bringing out the important objective of preserving now insofar as regulation is possible the future of 4 instead of 2 competing networks.

We anticipate that those UHF stations affected will object very strenuously to this action—however competition on an equal, fair basis with other stations in same areas constitutes in our opinion equal opportunity as it is known within the free enterprise system.

3. GRADUAL EVOLUTION OF ALL TELEVISION STATIONS TO THE UHF BAND

Point 3 of WFMZ-TV's 3-point plan looks to the general aims and purposes of plans submitted previously by other witnesses before this committee. This means a reallocation procedure which would in a given period of time bring all television into the 70 channels of the UHF band.

Specifically, point three of our plan proposes:

1. Within a reasonable time subject to procurement of necessary equipment all VHF stations begin simulcasting on both VHF and UHF frequencies—the UHF frequency being determined by a new allocation plan for the whole country, utilizing the 70 channels of the UHF band. We suggest the period of simulcasting be in effect for a period of 5 years at the end of which time all telecasting would revert to the UHF band.

There has been much said about shifting television to UHF. We do not want to repeat any of it except to assert a strong opinion that it can be done and that it will produce a nationwide, truly competitive television system.

We made a preliminary research study of the Nation's first 100 markets to find out just how many UHF assignments would be required to (a) replace the present UHF assignments already there and, (b) make a total of at least 4 UHF assignments in the largest markets and at least 3 UHF assignments in the secondary markets.

Because we were so surprised at the small number of UHF assignments required to accomplish this, we thought it material to make this study available to the committee. You will find it labeled as "Exhibit 12."

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 519

Please note that a total of only 85 UHF assignments are necessary to replace VHF assignments in the same market—and that an additional 81 UHF assignments will accomplish the competitive 4 and 3 stations-per-market so highly desirable.

There are over 1,300 UHF assignments now made in the UHF band—a total of only 165 assignments in the Nation's first 100 markets will accomplish the change-over to UHF on a good competitive basis.

May we conclude our testimony now by pleading with the committee to keep uppermost in its mind this one thought: The Commission's present position with its present plan is based upon "a hope that the UHF band will be fully utilized"—the plan we have presented here is based upon facts already known. We submit that, in a matter so vitally important as a nationwide, truly competitive television system is to the future growth and welfare of this country it should not be left hanging in the balance upon such a precarious, unknown quantity as "hope" but should be decided upon facts that are here present in great numbers. This thought becomes even more urgent when it is known now that there can be a nationwide, truly competitive television system within the 70 channel UHF band.

EXHIBIT 1

Analysis of FCC allocation plan, by States

State	Commer- cial VHF's allocated	Number of cities	Educa- tional channels	Commer- cial UHF's allocated	Number of cities	Educa- tional channels
Alabama.....	6	4	2	35	31	3
Arizona.....	13	7	2	15	15	0
Arkansas.....	7	6	1	29	25	1
California.....	28	17	2	57	40	6
Colorado.....	11	7	3	25	23	1
Connecticut.....	2	2	0	11	9	3
Delaware.....	1	1	0	2	2	1
District of Columbia.....	3	1	0	2	1	4
Florida.....	15	10	5	38	29	4
Georgia.....	12	8	2	36	35	3
Idaho.....	14	9	1	12	12	1
Illinois.....	9	6	2	44	37	5
Indiana.....	7	5	0	36	33	8
Iowa.....	11	7	2	44	40	4
Kansas.....	10	8	2	35	35	2
Kentucky.....	4	3	0	32	27	1
Louisiana.....	9	7	1	34	27	2
Maine.....	8	6	1	18	18	1
Maryland.....	3	2	0	10	7	2
Massachusetts.....	3	2	1	19	13	7
Michigan.....	20	17	0	44	40	0
Minnesota.....	13	10	2	34	32	4
Mississippi.....	7	6	1	28	27	3
Missouri.....	16	12	1	35	30	1
Montana.....	17	11	4	17	17	2
Nebraska.....	13	9	0	19	18	1
Nevada.....	13	11	1	7	7	1
New Hampshire.....	1	1	1	10	10	6
New Jersey.....	1	1	0	8	7	1
New Mexico.....	12	9	5	20	20	9
New York.....	18	10	0	35	33	7
North Carolina.....	12	10	1	37	34	4
North Dakota.....	14	10	2	13	13	8
Ohio.....	13	5	0	40	36	5
Oklahoma.....	10	8	2	22	19	1
Oregon.....	9	7	3	45	33	3
Pennsylvania.....	10	7	1	1	1	1
Rhode Island.....	2	1	0	1	1	3
South Carolina.....	6	5	1	23	21	2
South Dakota.....	10	8	2	16	16	2
Tennessee.....	13	10	7	36	33	2
Texas.....	44	27	7	121	110	11
Utah.....	10	8	1	8	7	3
Vermont.....	1	1	0	8	8	1
Virginia.....	9	6	3	25	23	5
Washington.....	11	5	0	28	22	7
West Virginia.....	9	7	1	16	14	4
Wisconsin.....	10	9	0	33	27	10
Wyoming.....	9	6	1	17	17	0

520 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

EXHIBIT 2

VHF 12-channel competitive study, by cities, in States and ratio to UHF, States with 8 or less VHF cities

States	Number VHF cities	Population rank	Number UHF cities	Ratio, VHF to UHF ¹
Delaware.....	1	47	2	1: 2
District of Columbia.....	1	37	1	1: 1
New Hampshire.....	1	45	10	1:10
New Jersey.....	1	9	7	1: 7
Rhode Island.....	1	36	1	1: 1
Vermont.....	1	46	8	1: 8
Connecticut.....	2	31	9	1: 4
Maryland.....	2	28	7	1: 3
Massachusetts.....	2	8	13	1: 6
Kentucky.....	3	16	27	1: 9
Alabama.....	4	17	31	1: 8
Indiana.....	5	12	38	1: 8
Ohio.....	5	4	36	1: 7
South Carolina.....	5	25	21	1: 4
Washington.....	5	30	22	1: 4
Arkansas.....	6	24	25	1: 4
Illinois.....	6	3	37	1: 6
Maine.....	6	35	18	1: 3
Mississippi.....	6	23	27	1: 4
Virginia.....	6	19	23	1: 4
Wyoming.....	6	48	17	1: 3
Arizona.....	7	44	15	1: 2
Colorado.....	7	33	23	1: 3
Iowa.....	7	20	40	1: 6
Louisiana.....	7	21	27	1: 4
Pennsylvania.....	7	2	33	1: 5
West Virginia.....	7	26	14	1: 2
Georgia.....	8	14	35	1: 4
Kansas.....	8	24	35	1: 4
Oklahoma.....	8	22	37	1: 5
Oregon.....	8	34	19	1: 2
South Dakota.....	8	38	16	1: 2
Utah.....	8	41	7	1: 1
Total.....	165		681	

¹ Approximate.

SUMMARY

1. The above States represent 33 of the 48 States.
2. Only 15 States would have television stations in more than 8 cities if the UHF band is not utilized.
3. In these 33 States 681 communities have assigned channels in the UHF band compared to 165 communities in the VHF band.

EXHIBIT 3

Number of stations in Nation's first 115 markets if only VHF's 12 channels are utilized

MARKETS WITH POPULATION OVER 2,000,000

7 channels:		3 channels:	
New York.....	12, 831, 914	Philadelphia.....	3, 660, 676
Los Angeles.....	4, 339, 225	Detroit.....	2, 973, 019
6-5 channels: None.		Boston.....	2, 858, 033
4 channels:		Pittsburgh.....	} 2, 205, 544
Chicago.....	5, 475, 535	Irwin.....	
San Francisco.....	} 2, 214, 249	2 channels: None.	
Oakland.....		1 channel: None.	
		None.	

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 521

Number of stations in Nation's first 115 markets if only VHF's 12 channels are utilized—Continued

MARKETS WITH POPULATION 450,000 TO 2,000,000

7 channels: None.		2 channels:	
6-5 channels: None.		Houston.....	802, 102
4 channels:		Providence.....	733, 681
Minneapolis.....	} 1, 107, 366	New Orleans.....	681, 037
St. Paul.....		Dallas.....	610, 852
Denver.....		Louisville.....	574, 474
3 channels:		Birmingham.....	554, 186
St. Louis.....	1, 673, 467	Norfolk.....	} 550, 619
Washington.....	1, 457, 601	Portsmouth.....	
Cleveland.....	1, 453, 556	Newport News.....	
Baltimore.....	1, 320, 754	San Diego.....	535, 967
Buffalo.....	1, 085, 606	Rochester.....	484, 877
Cincinnati.....	898, 031	Dayton.....	453, 181
Milwaukee.....	} 863, 937	1 channel:	
Whitefish Bay.....		Hartford.....	603, 360
Kansas City.....	808, 231	New Haven.....	} 541, 994
Seattle.....	726, 464	Waterbury.....	
Portland, Oreg.....	701, 202	Albany.....	} 512, 527
Atlanta.....	664, 033	Troy.....	
Indianapolis.....	549, 047	None:	
Columbus, Ohio.....	501, 882	Worcester.....	543, 094
San Antonio.....	496, 090	Youngstown.....	526, 599
Miami.....	488, 689	Bridgeport.....	502, 832
Memphis.....	480, 161	Springfield.....	} 453, 979
		Holyoke.....	

MARKETS WITH POPULATION 150,000 TO 450,000

7 channels: None.		2 channels—Continued.	
6-5 channels: None.		Davenport.....	} 233, 012
4 channels: None.		Rock Island.....	
3 channels:		Moline.....	
Omaha.....	362, 203	Mobile.....	228, 835
Phoenix.....	329, 266	Des Moines.....	224, 920
Salt Lake City.....	274, 208	Wichita.....	220, 213
Spokane.....	220, 149	Charlotte.....	196, 160
El Paso.....	197, 934	Beaumont.....	} 193, 979
2 channels:		Port Arthur.....	
Tampa.....	} 406, 175	Little Rock.....	192, 879
St. Petersburg.....		Shreveport.....	174, 679
Toledo.....	392, 626	Portland, Maine.....	168, 018
Fort Worth.....	359, 246	Corpus Christi.....	164, 629
Wheeling.....	} 352, 924	Augusta.....	162, 104
Steubenville.....		Charleston, S. C.....	159, 838
Syracuse.....	340, 875	Savannah.....	150, 946
Knoxville.....	335, 664	1 channel:	
Richmond.....	326, 863	Charleston, W. Va.....	319, 277
Oklahoma City.....	322, 520	Johnstown, Pa.....	290, 551
Nashville.....	320, 388	San Jose.....	288, 938
Jacksonville.....	302, 711	Grand Rapids.....	287, 020
Tacoma.....	275, 802	Utica.....	} 283, 602
Sacramento.....	275, 659	Rome.....	
Duluth.....	} 251, 658	Fresno.....	274, 225
Superior.....		Flint.....	270, 034
Tulsa.....	248, 658	Wilmington.....	267, 220
Chattanooga.....	245, 499	Peoria.....	249, 918

522 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

Number of stations in Nation's first 115 markets if only VHF's 12 channels are utilized—Continued

MARKETS WITH POPULATION 150,000 TO 450,000—continued

1 channel—Continued		None—Continued	
Huntington.....	} 245, 631	Akron.....	} 407, 981
Ashland.....		Wilkes-Barre.....	
Lancaster.....	} 234, 137	Hazleton.....	} 391, 226
Erie.....		Fall River.....	
Stockton.....	} 218, 407	New Bedford.....	} 380, 849
Greensboro.....		Harrisburg.....	
High Point.....	} 190, 152	Canton.....	} 282, 060
Binghampton.....		San Bernardino.....	
Lansing.....	} 184, 664	Scranton.....	} 280, 252
Columbus, Ga.....		Reading.....	
Madison.....	} 172, 466	Trenton.....	} 256, 208
Greenville.....		South Bend.....	
Austin.....	} 169, 921	York.....	} 229, 412
Evansville.....		Brockton.....	
Manchester.....	} 168, 630	Fort Wayne.....	} 204, 740
Baton Rouge.....		Saginaw.....	
Rockford.....	} 167, 118		} 189, 457
	} 160, 381		} 182, 903
	} 158, 363		} 152, 838
	} 156, 607		
	} 156, 485		
	} 151, 858		
None:			
Allentown.....	} 434, 857		
Bethlehem.....			
Easton.....			

EXHIBIT 4

IF UHF DOES NOT DEVELOP

Population study of States with no VHF educational channels allocated

State	Population	VHF edu- cational channels	UHF edu- cational channels
Connecticut.....	2, 007, 280	0	3
Delaware.....	318, 085	0	1
District of Columbia.....	802, 178	0	1
Indiana.....	3, 934, 224	0	8
Kentucky.....	2, 944, 806	0	1
Maryland.....	2, 343, 001	0	1
Michigan.....	6, 371, 766	0	7
Nebraska.....	1, 325, 510	0	2
New Jersey.....	4, 835, 329	0	6
New York.....	14, 830, 192	0	9
Ohio.....	7, 946, 627	0	8
Rhode Island.....	615, 299	0	1
Vermont.....	377, 747	0	1
Virginia.....	3, 318, 680	0	5
West Virginia.....	2, 005, 552	0	4
Total.....	53, 976, 276	0	58

NOTES

- 15 States would have no educational television outlets if UHF does not develop.
- 35.7 percent of the people of the United States (computed on 1950 census figures) live in those 15 States and would have no service from an educational television station.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 523

Population study of States with only 1 educational channel allocated

State	Population	VHF educational channels	UHF educational channels
Arkansas.....	1,909,511	1	1
Idaho.....	588,637	1	1
Louisiana.....	2,683,516	1	2
Maine.....	913,774	1	2
Massachusetts.....	4,690,514	1	2
Mississippi.....	2,178,914	1	4
Missouri.....	3,954,653	1	3
Nevada.....	160,083	1	1
New Hampshire.....	533,242	1	1
North Carolina.....	4,061,929	1	7
Pennsylvania.....	10,498,012	1	3
South Carolina.....	2,117,027	1	3
Utah.....	688,862	1	3
Wisconsin.....	3,434,575	1	10
Wyoming.....	290,529	1	0
Total.....	38,703,778	15	43

NOTES

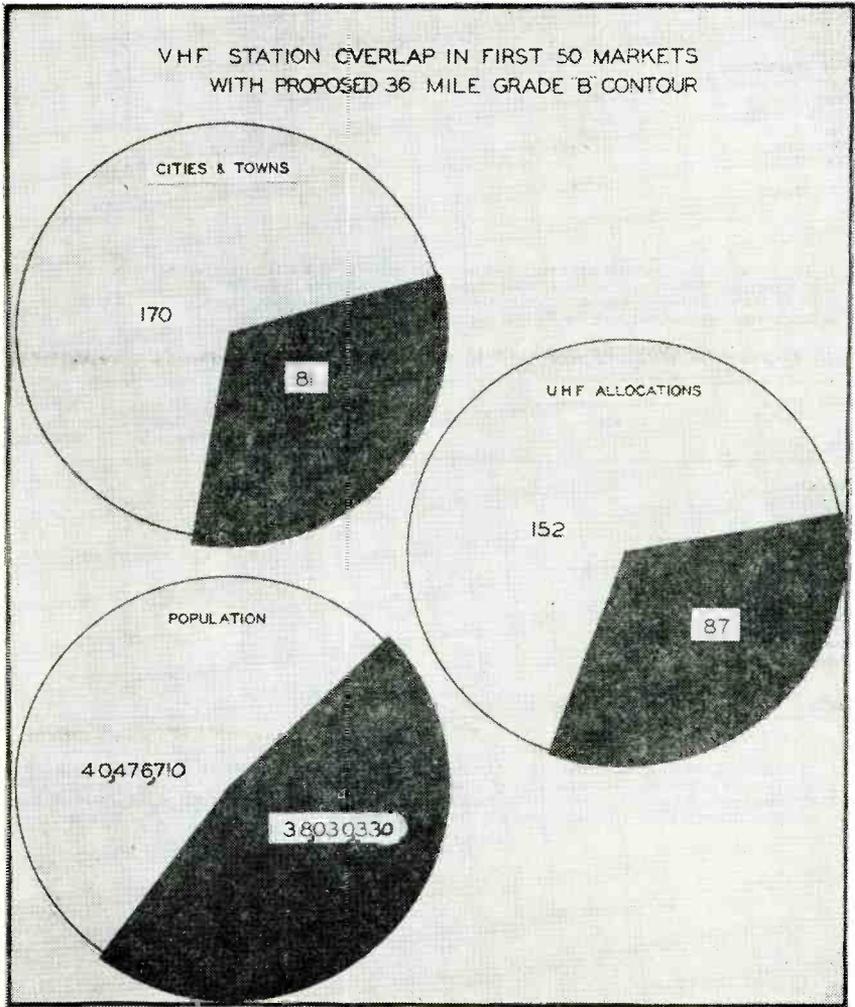
1. The 15 States above would have only 1 educational outlet each if UHF does not develop.
2. 25.8 percent of the people of the United States live in the above 15 States.
3. 30 States would have no or only 1 educational outlet if UHF does not develop.
4. 61.5 percent of the people of the United States live in these 30 States.

Population study of States with 2 VHF educational channels allocated

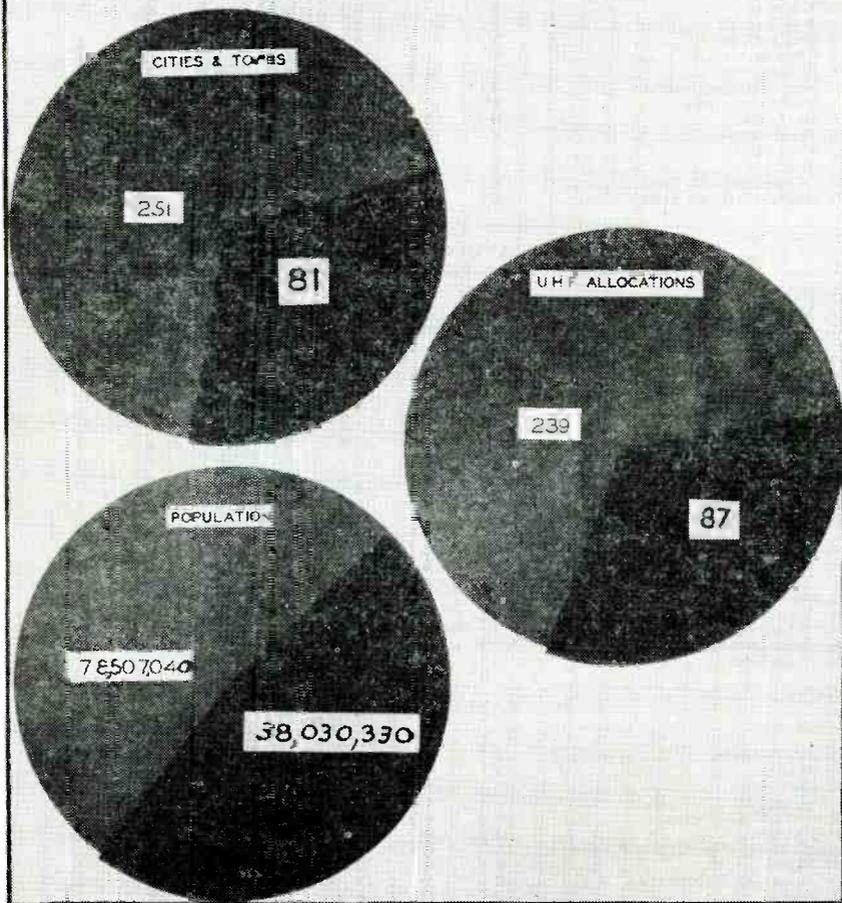
State	Population	VHF educational channels	UHF educational channels
Alabama.....	3,061,743	2	3
Arizona.....	749,587	2	0
California.....	10,586,223	2	6
Georgia.....	3,444,578	2	3
Illinois.....	8,712,176	2	5
Iowa.....	2,621,073	2	4
Kansas.....	1,905,290	2	4
Minnesota.....	2,982,483	2	0
North Dakota.....	619,636	2	4
Oklahoma.....	7,946,627	2	5
South Dakota.....	652,740	2	2
Tennessee.....	3,291,718	2	2
Total.....	46,573,883	24	38

NOTES

1. 12 additional States above would have but 2 educational outlets each if UHF does not develop.
2. 30.8 percent of the people live in these 12 States.
3. 42 States containing 92.3 percent of the Nation's population would have a total of only 39 educational station possibilities if UHF television does not develop.



VHF STATION OVERLAP IN FIRST 50 MARKETS
WITH PRESENT 60 MILE GRADE 'B' CONTOUR



526 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

EXHIBIT 12

VHF-UHF present assignments and analysis of additional UHF channels necessary to convert first 100 markets from VHF band to UHF band to achieve competitive system

Market	VHF		UHF		No UHF's necessary to replace VHF's		Additional UHF desirable	Total UHF required
	Commercial	Educational	Commercial	Educational	Commercial	Educational		
1. New York	7	0	1	1	6	0		6
2. Chicago	4	1	5	0	0	0		6
3. Los Angeles	7	0	2	1	5	0		5
4. Philadelphia	3	0	3	1	0	0		1
5. Detroit	3	0	2	1	1	0	1	2
6. Boston	3	1	3	0	0	1	1	2
7. San Francisco-Oakland	4	1	5	0	0	0		0
8. Pittsburgh-Irwin	3	1	3	0	0	1	1	2
9. St. Louis	3	1	3	0	0	1	1	2
10. Washington	4	0	1	1	3	0	1	4
11. Cleveland	3	0	2	1	1	0	1	2
12. Baltimore	3	0	2	1	1	0	1	2
13. Minneapolis-St. Paul	4	1	2	0	2	1		3
14. Buffalo-Niagara Falls	3	0	2	1	1	0	1	2

POPULATION 500,000 TO 1,000,000

15. Cincinnati	3	0	2	1	1	0		2
16. Milwaukee-Whitefish Bay	3	1	3	0	0	1	1	2
17. Kansas City	3	0	2	1	1	0	1	2
18. Houston	2	1	3	0	0	0	1	1
19. Providence	2	0	1	1	1	0	1	2
20. Seattle	3	1	2	0	1	1		2
21. Portland	3	1	2	0	1	1		2
22. New Orleans	2	1	4	0	0	0		0
23. Atlanta	3	0	1	1	2	0		2
24. Dallas	2	1	3	0	0	0	1	1
25. Hartford	2	0	1	1	0	0	1	1
26. Louisville	1	0	3	1	0	0		0
27. Denver	4	1	2	0	2	1		3
28. Birmingham	2	1	2	0	0	1	1	2
29. Norfolk-Portsmouth-Newport News	2	0	3	1	0	0		0
30. Indianapolis	3	0	2	1	1	0		1
31. Worcester	0	0	2	0	0	0	1	1
32. New Haven-Waterbury	1	0	2	0	0	0	1	1
33. San Diego	2	0	4	1	0	0		0
34. Youngstown	0	0	3	0	0	0		0
35. Albany-Troy-Schenectady	1	0	3	1	0	0		0
36. Bridgeport	0	0	2	1	0	0	1	1
37. Columbus	3	0	1	1	2	0		2

POPULATION 250,000 TO 500,000

38. San Antonio	2	1	3	0	0	0	1	1
39. Miami	3	1	2	0	2	0		2
40. Rochester	2	0	2	1	0	0	1	1
41. Memphis	3	1	2	0	1	1		2
42. Springfield-Holyoke	0	0	2	0	0	0	1	1
43. Dayton	2	0	1	1	1	0	1	2
44. Allentown-Bethlehem-Easton	0	0	4	0	0	0		0
45. Akron	0	0	2	1	0	0	1	1
46. Tampa-St. Petersburg	2	1	1	0	1	1	1	3
47. Toledo	2	0	0	1	2	0	1	3
48. Wilkes-Barre-Hazleton	0	0	3	0	0	0		0
49. Fall River-New Bedford	0	0	4	0	0	0		0
50. Omaha	3	0	2	1	1	0		1
51. Fort Worth	2	0	1	1	1	0	1	2
52. Wheeling-Steubenville	2	0	1	1	1	0	1	2
53. Syracuse	2	0	1	1	2	0	1	3
54. Knoxville	2	0	1	1	0	0	1	2
55. Phoenix	3	1	0	0	3	1		4
56. Richmond	2	0	1	1	1	0	1	2
57. Oklahoma City	2	1	2	0	0	1	1	2
58. Nashville	2	1	2	0	0	1	1	2
59. Charleston, W. Va.	1	0	1	0	0	0	2	2
60. Jacksonville	2	1	2	0	0	1	1	2

VHF-UHF present assignments and analysis of additional UHF channels necessary to convert first 100 markets from VHF to UHF band to achieve competitive systems—Continued

POPULATION 250,000 TO 500,000—Continued

Market	VHF		UHF		No UHF's necessary to replace VHF's		Additional UHF desirable	Total UHF required
	Commercial	Educational	Commercial	Educational	Commercial	Educational		
61. Harrisburg.....	0	0	3	0	0	0	-----	0
62. Johnstown.....	1	0	1	0	0	0	1	1
63. San Jose.....	1	0	2	1	0	0	1	1
64. Grand Rapids.....	1	0	1	1	0	0	2	2
65. Utica-Rome.....	1	0	1	1	0	0	2	2
66. Canton.....	0	0	1	0	0	0	2	2
67. San Bernardino.....	0	0	2	1	0	0	1	1
68. Tacoma.....	2	0	1	1	1	0	1	2
69. Sacramento.....	2	1	2	0	0	1	1	2
70. Fresno.....	1	0	3	1	0	0	-----	0
71. Salt Lake City.....	3	1	2	0	1	1	1	2
72. Flint.....	1	0	2	1	0	0	1	1
73. Wilmington.....	1	0	1	1	0	0	2	2
74. Scranton.....	0	0	3	0	0	0	-----	0
75. Reading.....	0	0	2	0	0	0	1	1
76. Duluth-Superior.....	2	1	2	0	0	1	1	2
77. Peoria.....	1	0	2	1	0	0	1	1

POPULATION 175,000 TO 250,000

78. Tulsa.....	2	1	2	0	0	1	1	2
79. Huntington-Ashland.....	2	0	1	1	1	0	1	2
80. Chattanooga.....	2	0	2	1	0	0	1	1
81. Lancaster.....	1	0	1	0	0	0	2	2
82. Davenport-Rock Island-Moline.....	2	0	2	1	0	0	1	1
83. Trenton.....	0	0	1	0	0	0	2	2
84. Mobile.....	2	0	1	1	1	0	1	2
85. Des Moines.....	2	1	2	0	0	1	1	2
86. Wichita.....	2	0	1	1	1	0	1	2
87. Spokane.....	3	1	0	0	3	1	-----	4
88. Erie.....	1	0	2	1	0	0	1	1
89. South Bend*.....	0	0	2	1	0	0	1	1
90. York.....	0	0	2	0	0	0	1	1
91. Stockton.....	1	0	1	1	0	0	2	2
92. El Paso.....	3	1	2	0	1	1	-----	1
93. Charlotte.....	2	0	1	1	1	0	1	2
94. Beaumont-Port Arthur.....	2	0	1	1	1	0	1	2
95. Little Rock.....	2	1	2	0	0	1	1	2
96. Greensboro-High Point.....	1	0	1	1	0	0	2	2
97. Brocton.....	0	0	1	0	0	0	2	2
98. Binghamton.....	1	0	1	1	0	0	2	2
99. Fort Wayne.....	0	0	2	1	0	0	1	1
100. Shreveport.....	2	0	0	0	2	0	1	3
Total.....	190	30	190	53	62	23	81	165

Senator POTTER. Mr. Goldberg.

Mr. Goldberg is consultant for the UHF Industry Coordinating Committee.

Mr. GOLDBERG. Thank you, sir.

Senator POTTER. It is good to see you, Mr. Goldberg.

Mr. GOLDBERG. Thank you, sir.

STATEMENT OF MELVIN A. GOLDBERG, RESEARCH CONSULTANT, ULTRAHIGH FREQUENCY INDUSTRY COORDINATING COMMITTEE

Mr. GOLDBERG. My name is Melvin A. Goldberg. I have been engaged by the Ultrahigh Frequency Coordinating Committee as research consultant. I was formerly research director of Television

Magazine, research director for the Du Mont television network, deputy director of the evaluation staff of the United States Information Agency, and executive secretary of the Ultrahigh Frequency Association until January 31, 1954.

In this presentation, we shall attempt to show that television stations, whether VHF or UHF, cannot serve the public without network programs and that UHF stations, by and large, are not and cannot obtain such programs under present conditions.

Because of these conditions, there is a serious trend toward monopoly or duopoly in the television industry—an industry where in 1953, according to Chairman Hyde's statement, 92 prefreeze non-network-owned television stations, plus the networks, with their owned stations, showed revenues of \$406.2 million, while the 215 remaining stations—postfreeze VHF and UHF—had to divide revenues of \$24.6 million, and where the 92 prefreeze stations and the networks took 94.3 percent of the total television revenue during 1953.

In brief, the facts will show that:

1. Network revenue for 1953 was almost 60 percent of the total revenue of the television industry; and NBC and CBS together accounted for almost 50 percent of the revenue of the entire television industry.
2. Ninety-two prefreeze VHF's revenue accounted for 35 percent of television revenues.
3. Two hundred fifteen postfreeze VHF and UHF stations divided the remaining 5 percent of the total television revenues.
4. More than 75 percent of the audiences of America regularly tune to two stations and two networks.
5. Seventy-three of the top one hundred markets of America have been allocated only two VHF stations—I believe the Du Mont presentation showed that.
6. Each of these VHF stations in the 73 markets have primary affiliations with NBC and/or CBS and because of this entrenchment, the likelihood of successful competitive operation of UHF stations in these markets, or in markets engulfed by the superpower of these VHF stations, is virtually nil.

Then, in answer to any claim that UHF stations are only undergoing the "growing pains" that the prefreeze stations went through, we shall point out the facts which show the fallacy of this claim.

We earnestly believe that the facts shown in this presentation will show that the American public will be limited to a narrow choice of programs, if the present monopolistic trend is not checked by immediate action looking to the establishment of a revised pattern under which greater equality of competitive opportunity to more stations and networks is assured.

Now, stations do need network programs. It is axiomatic that network programs, because of their high quality, attract the greatest viewing audience. It is for this reason that national and local spots, which are adjacent to network programs, are most popular with advertisers.

By the same token, the sponsorship of revenue-producing local programs in time segments close to those in which network programs are telecast are similarly in substantial demand; and it is generally the case that purchase of spots and sponsorship of local programs on a particular station will be attractive to advertisers, even in portions of a station's schedule considerably removed from the time in which

the network program is carried because of the likelihood of the continued availability of a substantial part of the audience tuned for the network programs.

It may be suggested in the course of these hearings that there are available to UHF stations adequate high-quality programs that may be substituted for network programs, which would attract audiences and revenues on a basis competitive with the VHF stations having the network programs. Such a claim falls in the realm of fantasy. The tremendous costs of the popular network programs are well known. Talent costs alone are almost astronomical. Everyone here has probably seen the recent reports in the press that a weekly salary of \$25,000 is being paid to one artist on a network show.

These costs are paid by the advertiser who can justify the great expenditures because the two networks can deliver high-powered stations, in all of the major markets of America, to which are apportioned the cost of the program.

A single station, or any small combination of stations, could not support such program expenditures because the costs could not be distributed among enough markets or viewers. And, in fact, the networks themselves would not sustain such talent costs unless they were paid for by large national advertisers desiring the nationwide coverage furnished by chain or national television broadcasting.

It may be suggested that films can be used by stations as a method of programing competitive with network programing. At the present time, outstanding feature-length films of a quality competitive with network programs are virtually unavailable to any station.

Such film as is made expressly for television generally gravitates to the entrenched VHF network-affiliated stations because of their greater resources and their ability to schedule such films preceding and following network programs, rather than opposite to network shows. There is a decided advantage to the film supplier and the advertiser in avoiding competition with the top network programs, because in this manner the salability of the film and continued availability of the audience is more likely to be assured.

The necessity of network programs for successful TV-station operation can be illustrated in a graphic form. Exhibit 1 reflects the revenue picture of a typical station if it was receiving 6 half-hours of sponsored network programs daily, all in class A time, and had sold all of the spots around these network shows. In this example, a class A hourly rate of \$300 and a programing schedule of 35 hours weekly have been used.

Its weekly revenue then would be—I might mention, Mr. Chairman, there is a schedule of rates that is in proportion to the amount of time. For example, the half-hour costs usually 60 percent of the hourly rate, and it goes on down in that manner.

The 42 half-hours network is \$2,268. The 49 20-second spots would then come to \$2,058, and the 49 8-second spots would come to \$1,029.

I have used an 8-second spot and a 20-second spot between each half-hour program. These are these fast commercials that you usually see with a station break.

Senator POTTER. That is a common commercial.

Mr. GOLDBERG. Yes; that is apart from the commercial that goes with the program.

Senator POTTER. Yes.

Mr. GOLDBERG. The amount then comes to \$5,345.

I moved it down to about 23 in the number of hours; it's in the next section, Mr. Chairman, with the exhibits.

What we have done there is make as the number of hours this 100 percent so that 2 half-hour programs then add up to 1.2 hours. That is what it points out to.

Now, if we turn back to exhibit 1 and compare it with exhibit 3—actually, it should be exhibit 2; we have taken out exhibit 3—we see that networks are necessary to independently owned stations not only for revenues which result, but for reductions in costs, as well.

Now, if you notice in this exhibit 2, it points out that 3 hours of network programing daily means a saving to the station of 21 program hours for the week, or \$2,100. The expenses for the week then come to \$4,900. What I have done there is assumed \$700 a week, \$1,000 a day for expenses. This is about average for the stations.

Then in that case if you have 35 program hours, it's gong to be about \$100 per hour, and you just reduce it.

The expenses for the week then come to \$4,900.

Thus, 21 hours of network programing weekly in this example are more than enough for the station to break even. Of course, if the station had no network programing, it would be almost impossible to sell any time—as we have seen from the number of UHF dropouts thus far.

Now, without network programs, no conversions:

It requires no argument to establish that without programing of high caliber, television-set owners will not convert their receivers to UHF. Unless the owners of a television set can receive network programing over a UHF station, regardless of the quality of the signal, it is not likely that he will convert.

His resistance to conversion is increased if there is an existence of prospective VHF station from which he can receive the popular network programs on his present set.

Table 8-A of Chairman Hyde's statistical appendix shows this quite vividly—the fewer the number of VHF signals available—and implicitly the VHF stations carry the desirable network programs—the greater the degree of conversion. Then where no VHF signals are received, 90 percent of the homes can receive UHF. Where 3 or more VHF signals are available, 26 percent of the homes have made conversions to UHF.

In exhibit 4 of the appendix to this statement this relationship is shown in another way, and I have just combined them in terms of 50 percent saturation. But no matter how it is done, where VHF signals are available and offer network programing, there will be few conversions. Basically, then, it is the intermixture, and the inequality that exists between VHF and UHF which is at the bottom of the UHF problem.

It is a cycle, actually, inequality and intermixture mean less conversions, less network programing and less revenues.

Table 9 of Chairman Hyde's statistical appendix illustrates quite clearly the UHF problem. It has been produced for this presentation and included as exhibit 5 of the appendix. That is in column 1, the percentage of homes that can receive UHF decreases; that's column 3, and revenues to UHF stations is also decreased, column 4.

In considering the network hours carried per station—shown in the last column of exhibit 5—it should be kept in mind that the averages in this exhibit do not include those stations who had to go off the air because they were unable to receive network programing. This is simply averages.

If such stations had been included, the average network hours carried by UHF stations would, of course, be much lower than those shown in this exhibit.

Now, is it true, as some have contended, that UHF stations are merely going through some of the growing pains any pioneer must expect?

Let's see what the so-called pioneers of the prefreeze period had to contend with—

Prefreeze stations had time on their side. At the time of the freeze, September 30, 1948, there were 42 stations on the air. Most of them had come on the air in 1948. Of the remaining 66 stations, 50 came on the air in 1949. The 108 prefreeze TV stations began operations as shown below, and as you can see, 16 stations began operations before or during 1947, 32 in 1948, 50 in 1949, 9 in 1950, and 1 in 1951, for a total of 108.

However, this does not show us the true state of affairs. It would be much more pertinent to see whether these pioneer stations began construction and came on the air as soon as possible after they were granted construction permits and actually risked uncertainties as rapidly as did UHF pioneers. This is shown in exhibit 6 of the appendix. Exhibit 7, which follows, is more detailed, and shows the CP and operations dates for each station, and that is just detailed. This is a summary. You will note that for the 66 stations for which data are available, the elapsed time between the date a CP was granted and the date the station began operation averaged 21.6 months. In two cases the elapsed time went as high as 45 months.

Senator PORTER. What did you mean by that? You mean the time they were granted a construction permit?

Mr. GOLDBERG. They were granted a construction permit.

Thus, of the 66 stations which were not on the air at the time the freeze was established, 41 took at least 18 months, and 27 took at least 2 years before starting operations. In fact, according to Television Magazine of October 1948, 43 CP holders did not even know when they would begin operations. Incidentally, within 20 months after the lifting of the freeze, 130 UHF stations had begun operations.

What does this mean? Simply this: These stations knew that every day they could delay coming on the air would be an advantage. Each day that passed meant one day closer to a large screen receiver at lower prices, and one day closer to network programing. You must remember that at that time stations did have a problem in programing just as UHF stations have one. Without interconnection, very little network programing was available.

However, they could be sure of receiving network programing once they were interconnected for network programing. The telephone company had set up a schedule of cable and relay construction. It was obviously to the advantage of the station to delay opening until interconnection was established, or as close to it as they could possibly get.

Thus, the future could look bright for these non-interconnected stations—unlike that of UHF stations of today.

Prefreeze stations had networks on their side.

In addition to having the novelty of the new medium, and time, the prefreeze pioneer stations also had network affiliations they could count on. In fact, as of December 1950, when all the prefreeze stations but one was on the air, more than half had affiliations with two or more networks. Only 6 of these stations, 3 in New York, and 3 in Los Angeles, were receiving no network programming.

When we compare the situation then with the present status of these stations, as shown in exhibit 8, we find virtually no differences. Today, despite the substantial increase in the number of stations that have come on the air, we find that more than half of these prefreeze stations receiving programing from two or more networks.

Exhibit 9 shows the network affiliations for each prefreeze station as of December 1950, and today. There hasn't been much difference all along the line, and, in fact, actually most of them have stayed as they were.

It is obvious that today each of the major networks tends to hold on to even a secondary affiliation with a VHF station, rather than affiliate with a UHF station until another VHF is established. They are willing to share time and take it as they can get it rather than go to the UHF. In other words, a network will keep its affiliation generally with a prefreeze station which has a basic affiliation with another network, until another VHF station moves into the area.

At that point, a basic affiliation with a separate station becomes attractive to the network only because the additional VHF station is a more effective outlet for the network and its advertisers than either a secondary affiliation with the other VHF station or a basic affiliation with a UHF station.

To realize what networks meant to the prefreeze stations in terms of programing, we have only to look at exhibits 10 and 11. You will note that the median number of hours the prefreeze station programed daily when it began operation was 5.3. Of this, if you will look at table 11, 30 percent was supplied by networks.

By 1954, these prefreeze stations had increased their daily programing to 17.1 hours. This increase was accomplished, by and large, by an increase of their network programs. Today, more than half of the prefreeze station's programing is derived from networks—55.8 percent, or an increase of 86 percent. Actually, in terms of hours that would be an increase of about 600 percent, from an hour and a half of network time daily, it went up 9 hours.

At the same time as the prefreeze stations were averaging over 65 hours of network programing per week, the UHF stations were averaging 17 hours per week. Since the 17-hour average does not include UHF stations which had gone off the air, the relative position of UHF stations is, of course, even less favorable.

Exhibit 12 is included in order to show the number of hours of programing and the percent network for each of the prefreeze stations, where data were available. Exhibits 10 and 11 are summaries based on exhibit 12.

This, incidentally, was a special issue of Sponsor magazine on the pioneers, and most of this data has come from that.

It should be borne in mind that when these stations began operations, they not only had novelty on their side, but in addition they had the television set manufacturers and advertisers generally subsidizing the new medium with programing, purchasing of spots, promotional campaigns and other activities working to the benefit of the early VHF stations. Similar promotional activities on behalf of UHF have been significantly absent, even of no instance where a major set manufacturer has sponsored programs just for UHF in order to get people to buy sets.

For prefreeze stations—interconnection, that is, for network programs—meant profits; noninterconnection or no network programs meant losses.

As I mentioned previously, some of the prefreeze stations did not have network programing available to them immediately. If a station was not interconnected with New York, the only network programs available were film recordings whose quality was inferior. However, once a station became interconnected, profits almost immediately resulted.

The FCC recognized the inequalities at that time—that those with full network program facilities—that is, interconnected—would fare better than those not having equal program facilities—that is, non-interconnected.

However, everyone knew that it was temporary; that within a short time the stations would be interconnected and the networks would be feeding them programs.

Naturally, in 1950, stations that were not interconnected did suffer losses. The Commission stated in its report, "Stations in communities interconnected for network programing generally fared better than those in noninterconnected communities."

This might even be considered the understatement of the year when we consider that the 52 stations that were interconnected for the full year 1950 had an aggregate profit before taxes of \$6 million, while the 27 noninterconnected stations reported an aggregate loss of \$3 million. The average interconnected station, as shown in exhibit 13, showed a profit of \$115,000 for the year, while the average noninterconnected station showed a loss of \$113,000.

Apparently, the inequalities of interconnection then, like the inequalities of VHF and UHF today, provide the difference between profit and loss—between service and lack of service. I might even say between good and bad management.

For when we compare the postfreeze VHF stations with the UHF stations for the same period, we find the average postfreeze VHF showing a monthly loss of only \$145, while the average UHF showed a monthly loss of \$7,187, and this is table 6 of Chairman Hyde's statistical appendix.

The tremendous difference between the losing prefreeze stations and the present UHF stations is that the former had virtual assurance that the lack of interconnection, which was the principal reason for their economic difficulties, was only a temporary problem; but the inequality of facilities problem with which UHF stations are today saddled is not of any such temporary character. Moreover, most of the now nearly breaking even postfreeze VHF stations can see things brighter in the near future.

But as shown by table 5 of Chairman Hyde's report, most of the UHF stations cannot anticipate anything brighter as to programs. In fact, their situation can be expected to deteriorate as more VHF stations go into operation.

VHF stations have superpower and supercoverage. In addition to the problem of intermixture on a local level—that is, within the same community—the facts that the FCC has established a policy of authorizing superpower and extremely high antenna heights to the VHF stations, and has permitted location of such stations at points distant from the community to which the channel is assigned, brings intermixture beyond the immediate community, to areas up to 100 miles from such community.

The coverage of these VHF stations, usually prefreeze, has grown to such an extent that not only are the UHF stations engulfed by them, but so, too, eventually will be VHF stations in smaller communities. Thus, even where a small UHF or VHF station serves a community distant from superpower VHF stations, network programs would not be made available because of network policy against affiliating with stations in smaller communities overlapped by the superpower stations.

I should add it is contemplated by these networks that the advertisers just won't buy them. As an example of the supercoverage the FCC has granted to the VHF stations, exhibit 14 is submitted. It shows the coverage acknowledged by the prefreeze stations as of the beginning of 1954. Notice that some of them have still not gone to maximum power even though their signal radiates—and you might notice some of them have still not gone to maximum power even though this signal radiates a hundred miles, or better; Mr. Kohn in his presentation mentions 40 miles, 20 miles, and that type of thing. In Michigan, WJBK claims 100 miles radius, so that they can cover that whole area of Michigan.

Senator POTTER. Does that include the so-called B area?

Mr. GOLDBERG. I would imagine so. This is the coverage they have said they sell. I think it does include B.

Senator POTTER. My home town in northern Michigan, their receivers draw as far as from Grand Rapids, which must be 300 miles, Green Bay across the lake in Wisconsin—they have to have a pretty high antenna.

Mr. GOLDBERG. Yes.

Senator POTTER. But they bring it in and it's pretty snowy, but at least they're getting a picture.

Mr. GOLDBERG. Well, ordinarily people who are a hundred miles away can use regular antennas, and get Grand Rapids, according to their statements, and we have some advertisements that they put out, which I would like to submit after my statement, showing how much they claim. They don't claim markets; they don't claim communities; they claim States.

And that's exactly what is happening, and I think we have a few of them here. They call them area stations. Here is one: The greater area station of the Southeast, WSB, claims Georgia, Alabama and Tennessee, North Carolina and South Carolina. "WSB-TV covers 18 percent more counties than Atlanta station B; 106 more counties than station C."

WTAR in Norfolk covers not only Norfolk, but the entire eastern half of Virginia, including Richmond, and all of northern North Carolina.

WNBS covers 33 essential counties. WJAR in Providence, as far as Long Island. This is the kind of coverage that is happening, WSAS, 116 counties. "The view is wonderful."

I would like to see what the Muncie man is going to do here. They are just going to high tower. When he was here they were half tower. Now they claim that. They claim Muncie, and even part of Bloomington. I mean this is all part of this stuff, and this is the kind of coverage they are now claiming.

It goes beyond just local. I would like to submit them for the record, Mr. Chairman.

Senator POTTER. All right; they will be made a part of the official files of the committee.

Mr. GOLDBERG. Few VHF stations with unlimited power leads to limited service to the public.

Actually, the granting of unlimited coverage far beyond the market sphere of VHF stations has had a further impact. It has led to a network-advertiser policy in placing programs on a small, select list of stations in major markets, through which it is possible to reach a maximum population at relatively smaller cost than would be involved in using a greater number of stations each with lesser coverage. Twenty to twenty-five percent of the population would not be covered by these major market stations and few additional stations to serve this population could be supported without network programs, and that is notwithstanding Mr. Witting's statement on covering rural areas.

Dr. Frank Stanton, president of Columbia Broadcasting System, Inc., in a speech before the Central States group, Investment Bankers Association of America, in Chicago, March 31, 1954, gave what can be called formal notice of this trend, when he said "It is interesting to note that a lineup of about 60 stations will be sufficient to cover about 75 percent of the total television homes in the country."

At about the same time, NBC issued a press release on the occasion of the signing of the contract for the Lux Theater program. This release stated that 71 NBC affiliates scheduled to carry this hour program would cover 81 percent of the Nation's receivers.

A tabulation of CBS network shows as listed in Sponsor, May 31, 1954, showed the median number of stations per nighttime program was 74, while for daytime programs the average was 50 stations. NBC averaged 79 and 55 stations, respectively.

Chairman Hyde in his testimony before this committee said that the prefreeze VHF stations in the top 63 markets at the time the freeze was lifted covered 60 percent of the Nation's population. Since then, most of these stations have been granted superpowers and heights and probably include an ever greater portion of the population.

This apparent agreement that a limited number of stations with the preferential allocations cover most of the country leaves little opportunity for competitive service to the public by the inferior facilities or smaller markets. There can be little wonder that a philosophy has developed that this residue population and coverage appears insignificant.

nificant and uneconomic. Apparently, this 20 percent of the population doesn't need television service. In any event, they won't be able to receive it, if the present trend is allowed to continue. And the 80 percent of the population generally will have to be content with only two program sources.

I might mention here, Mr. Chairman, Mr. Witting was bringing in this rural area, and I think it's something for the committee to consider, as to whether or not 1 station or 1 network, or even 2, is within the public service. I think that's part of a basic problem here. Where does subservice begin and end, if we have one, then that is something they must accept, and I think it goes beyond just programing in terms of entertainment; I think it is very important not only from a political point of view, but from a news point of view. In the State of New Jersey, if they want to get any programing, or if the Senator from New Jersey, Mr. Smith, or any of the other Senators, or Congressmen, want to speak to their constituents, they have to go to Philadelphia or New York; there isn't any other way. They had a station in Atlantic City that is closed down because Philadelphia got superpower, and this is true throughout.

Now, it's up to the committee and the Commission, to decide whether the basic principle is one service, or whether this should be a diversity of service, and I would like to go on from there—I am sorry, Mr. Chairman.

Senator POTTER. Surely; it is perfectly all right.

Mr. GOLDBERG. If you have VHF stations with unlimited power and coverage, it leads to monopolistic practices, it is obvious that a station that has virtually no competition which is receiving all or most of the network programs, and which has all the sponsors it can handle, may charge whatever the traffic will bear. However, this practice hurts more than the advertiser. For, as Chairman Hyde's figures show, \$231.7 million in revenues went to the 4 networks and their owned stations, \$174.5 million went to the 92 prefreeze stations, and the remaining \$24.6 million, or 5.7 percent, was divided among 215 postfreeze stations.

As exhibit 15 shows, NBC and CBS affiliated stations charge higher rates than other stations. They can do this because they have the unnatural advantages established by the FCC allocation plan. They have superpower, superheight, coverage, programing, and no serious competition. And there is no realistic evidence that competition can be provided here by the UHF stations, as things stand now.

I would like to point out that these rates are just in those areas. I only selected where there are three VHF stations so as to provide some freedom.

Senator POTTER. I don't understand the exhibit.

This is the hourly rate charged by each of the networks? Is that \$205 an hour?

Mr. GOLDBERG. That is right.

Senator POTTER. You got that?

Mr. GOLDBERG. That's right.

On these, and the stations in these areas, these are the rates their affiliates charge.

Actually, Du Mont would be the fourth network, and if there are four stations, then they obviously go in there, as is the case in Chicago, Denver, Los Angeles, Washington, and New York.

ABC and Du Mont, if they cannot provide outlets, cannot get advertisers. Therefore, their stations, the affiliates they can provide cannot actually compete with the others, and they have to charge lower rates.

Senator POTTER. After looking at these rates, you can understand why it costs so much for politicians to run for office.

Mr. GOLDBERG. Exactly, and not only that. I understand CBS has just upped their New York rate to \$6,000 an hour.

Now, I don't know whether they want to keep politicians off the air, but if they do, this is a good way.

Senator POTTER. The only way they could have done it was to close up those hearings.

Mr. GOLDBERG. But it also serves to omit advertisers. You are taking that much more of the advertising budget. You can't get blood out of a stone, and if you have five-sixths of an advertising budget, the one-sixth then has to be distributed among all the others.

Senator POTTER. Are the network rates the same as local rates?

Mr. GOLDBERG. Usually there is a difference. Actually, the network rates are for network option time. It covers roughly from 6:30 in the evening, rather—7:30 in the evening to about 11 o'clock, or 10:30. It varies. This is known as class A time.

Now, they have developed something new, double-A time. You charge more for that. Its national advertisers. Your local rate would then be either class B or class A, whichever you have. That would be roughly from 5:30 or 6:30 on.

Preceding and following the network programs, so that you are going to do pretty well on those as well, leading and following. They do differ.

I might point to an analysis that was made in 1951. In that year I did an analysis and promised Senator Schoeppel, when he asked for it, the difference between the single station markets and those stations in the multimarkets where they had competition. I might point out where there were 10,000 sets there was a difference of 10 percent. That is the single station, it is 1 station channeled 10 percent more than those stations with competition, where there were 100,000 sets, the difference was 15 percent, and where there were a million sets, the difference was 23 percent.

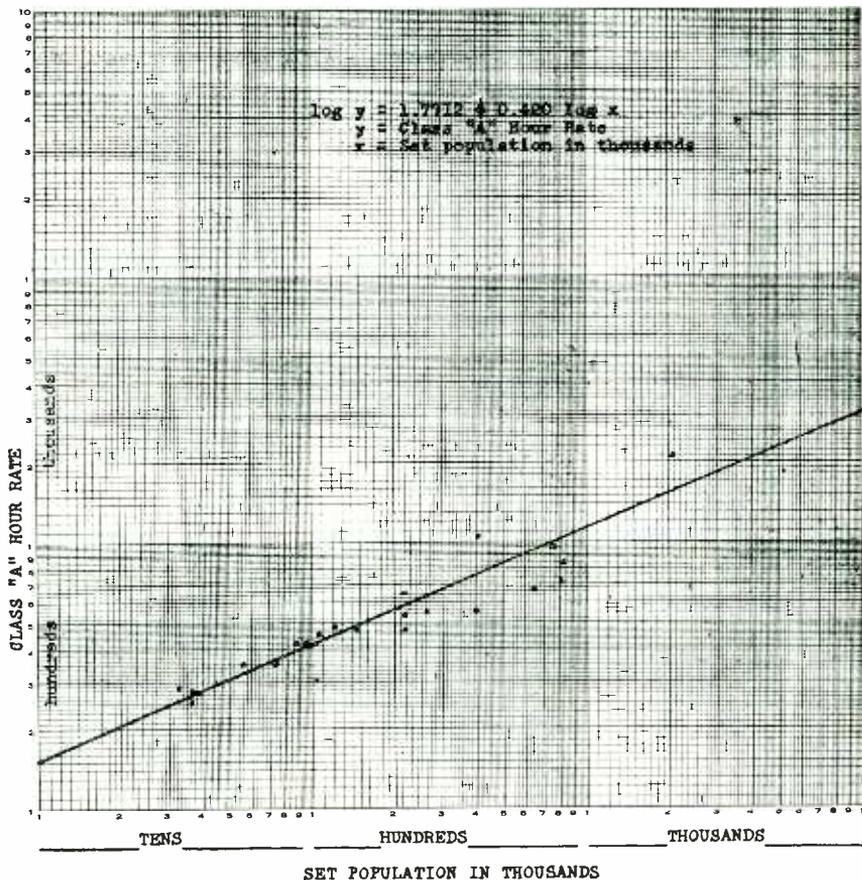
Senator POTTER. All right; that will be made a part of the record, at this point.

Mr. GOLDBERG. Yes, sir.

(The material is as follows:)

Based on the regression equations, values of the class A hour rate were computed at 3 levels of set population

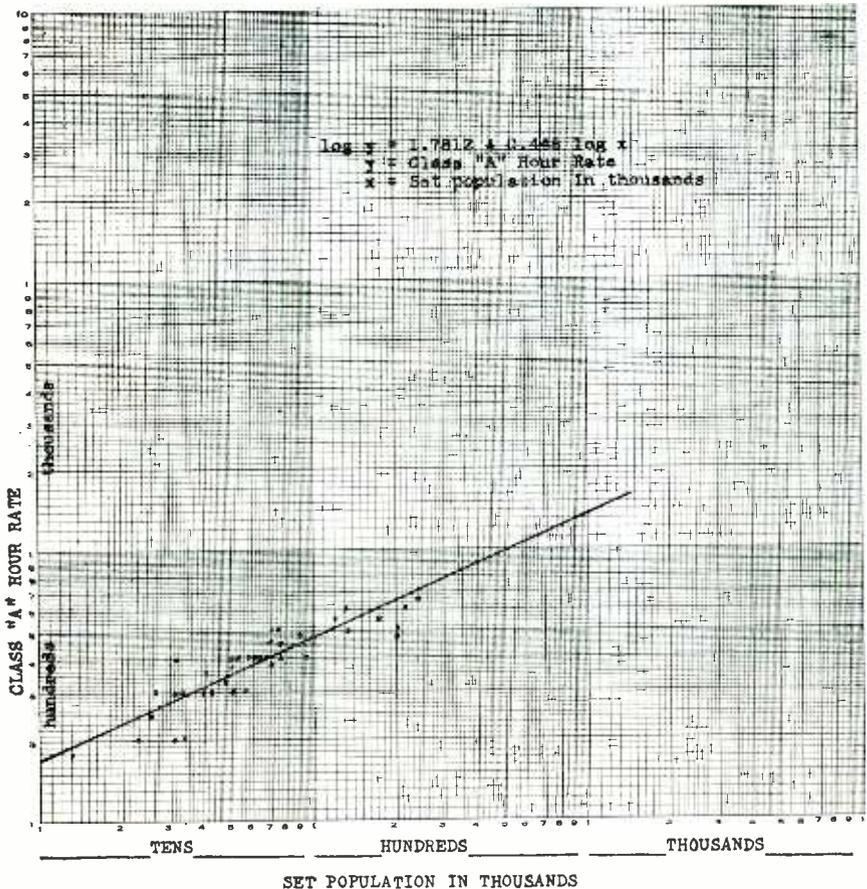
Set population	Single station markets	Multistation markets	Percent difference of single over multistation markets
At x equals 10, or 10,000.....	\$168	\$153	10
At x equals 100, or 100,000.....	469	408	15
At x equals 1,000, or 1,000,000.....	1,317	1,070	23



23 multistation markets, local class A hour rate

	Number of stations in market	x—Set population, Jan. 1, 1951 (thousands)	y—Class A hourly rate, Jan. 1, 1951 ¹
New York	7	2,050.0	2,108
Los Angeles	7	801.0	820
Chicago	4	830.0	956
Washington	4	220.0	463
Baltimore	3	265.0	550
Cincinnati	3	220.0	537
Cleveland	3	396.0	558
Columbus	3	120.0	483
Dallas-Fort Worth	3	100.6	300
Detroit	3	405.0	1,066
Philadelphia	3	750.0	966
San Francisco	3	143.0	470
Atlanta	2	86.2	413
Birmingham	2	37.0	275
Boston	2	642.0	675
Davenport-Rock Island	2	38.5	325
Dayton	2	107.0	450
Louisville	2	73.3	350
Minneapolis-St. Paul	2	217.0	650
Omaha	2	55.8	350
Syracuse	2	95.1	425
Salt Lake City	2	36.4	250
San Antonio	2	37.2	275

¹ Average of all stations in each city, except New York where WATV was omitted.



38 single station markets, local class A hour rate

	x—Set population, Jan. 1, 1951 (thousands)	y—Class A hour rate, Jan. 1, 1951		x—Set population, Jan. 1, 1951 (thousands)	y—Class A hour rate, Jan. 1, 1951
Ames.....	33.7	\$300	Norfolk.....	50.5	\$400
Bloomington.....	13.1	175	Pittsburgh.....	212.0	600
Buffalo.....	171.0	550	Providence.....	120.0	550
Charlotte.....	50.4	300	Richmond.....	57.1	400
Erie.....	40.1	350	Rochester.....	70.1	500
Grand Rapids.....	70.0	375	Schenectady.....	133.0	500
Greensboro.....	42.0	300	St. Louis.....	239.0	650
Huntington.....	32.5	300	Toledo.....	75.0	500
Indianapolis.....	88.9	480	Utica.....	33.0	200
Jacksonville.....	26.0	300	Wilmington.....	53.6	400
Johnstown.....	61.3	400	Binghamton.....	31.3	200
Kalamazoo.....	31.1	400	Houston.....	59.3	400
Kansas City.....	93.2	400	Miami.....	50.0	375
Lancaster.....	76.5	450	New Orleans.....	47.2	325
Lansing.....	40.0	300	Oklahoma City.....	68.0	400
Memphis.....	70.1	450	Phoenix.....	25.1	250
Milwaukee.....	202.0	500	San Diego.....	76.0	400
Nashville.....	23.0	200	Seattle.....	63.1	400
New Haven.....	130.0	600	Tulsa.....	58.2	300

Mr. COTTONE. Mr. Chairman, that was requested by Senator Schoepel at the last session of these hearings.

Senator POTTER. Oh.

Mr. GOLDBERG. He asked that of Dr. Du Mont.

Senator POTTER. This will be brought to his attention.

Mr. COTTONE. Yes.

Mr. GOLDBERG. The effect of these higher rates, if continued, obviously is to use up the major portion of the advertising budgets and limit the amount of funds available for all other stations.

Now, monopoly stations mean exorbitant profits. Naturally, where stations can charge exorbitant rates, there will also be exorbitant profits. This is shown clearly in exhibits 16 to 19.

Mr. Chairman, this table was requested by members of the Commission; and they made those available as a special publication.

In 1953, for example, 7 prefreeze stations made more than 200 percent on the cost of their broadcast property, even after including all additions and improvements.

Senator POTTER. A pretty good investment.

Mr. GOLDBERG. I would like to get into that.

One station even showed a return of better than 300 percent for the 1 year. For the 1 year of 1953, the median return of all prefreeze VHF stations, including improvements and additions, was 66 percent of their tangible investment.

For the years 1951 and 1952, the FCC made its data available on a different basis than the data published for 1953. The average return per station (prefreeze) for each of these years on original tangible property investment (not including improvements) was 56 percent in 1951 and 73 percent in 1952.

It is only natural that these entrenched stations would wish to continue such a trend, to the exclusion of a truly nationwide competitive system on an equal basis. In fact, it becomes almost ridiculous to compare these prefreeze stations, with their exorbitant profits, to the UHF competition. In addition to engulfing them with their superpower and coverage, and intermixture, and producing a scarcity of programming, the prefreeze VHF stations also drain off 95 percent of all advertising dollars and leave 5 percent for all of the remaining stations.

What kind of service and future can be projected for the UHF stations under these circumstances?

How can anyone interested in the maximum service to the public contend that the conditions should remain unchanged—awaiting the panacea of time?

VHF stations sell for millions—UHF stations go off the air.

Lastly, if we really want to see the difference between VHF and UHF we might look at the "stock market" of television stations—where supply and demand meet and set a price. Here we find three completed UHF sales—1 for \$1 (KCTY, Kansas City), which later went off the air, 1 for about \$350,000 (KTVR, Little Rock) for studios because the station was forced to go off the air, and 1 (KAFY, Bakersfield, Calif.) for \$85,000 for 51 $\frac{2}{3}$ percent. To complete the picture, 15 UHF stations have been forced to go off the air, with substantial losses.

At the same time, we find VHF stations sold for prices up to \$8,500,000. In 1 case, a station that was on the air for less than 6 months was sold, but not yet approved, for about \$4 million. It becomes apparent that it isn't merely a station that is being sold; rather, it's a monopolistic allocation with major network affiliation that is being bought. In reality, the right to obtain programs of a particular network is the selling point, not the station. And the major reason such a network uses the station is because the station enjoys a monopolistic position, which cements the network's position.

In conclusion, it cannot be overemphasized that competition can never be equal as long as allocations and facilities are unequal. As long as a UHF station must face direct VHF competition, there can be no equality; and there can be no nationwide competitive television service with a two-network system.

The American public is entitled to the widest possible choice of programs for entertainment, information, and education. It cannot get this wide choice if the present television situation is allowed to continue unchanged. Neither can free choice of programs be guaranteed if halfway measures are taken. Only prompt and bold action can relieve the critical situation that is producing a duopoly of television service to the American people.

Only by establishing a single system of television with equal and comparable facilities available to all stations that seek to serve the

public can you assure at least an opportunity for the widest choice of programs and a healthy competitive system.

Now, Mr. Chairman, I have been asked by the committee to read a further statement.

Those VHF stations with superpower and superheights will tell you that any allocation change will destroy wide service coverage to rural areas of America. This is the historical and legendary battlecry of broadcasting entrenched interests who enjoy the monopolistic advantages of tremendous coverage of wide areas of our country. It may aptly be described as the coat of sugar on the pill of monopoly.

Perpetuation of the present would at best provide coverage to 75 or 80 percent of the Nation's television receivers, according to the advocates of the present system, and its perpetuation would generally restrict such service to the public to a choice of 2 programs generally in each area, with considerable overlap between such stations carrying the 2 major network programs.

Perpetuation of the present allocation of a limited number of superpower VHF stations is accomplishing for such stations a greater concentration of power and restrictive public service than the type that the Government thwarted when one high-power station sought to lead an allocation path for a limited number of radio stations to operate with superpower of 500,000 watts in radio. And, the granting of superpower clear-channel radio assignments was stopped, even though such stations would not have enjoyed the advantage in radio that such superpower stations now enjoy in television of controlling all the viewers that do not want to spend extra money to get the inferior, weaker UHF stations without comparable lineup of full network programs.

Furthermore, since such limited number of superpower television stations can lay claim to rendering 2 services to an area generally that comprises approximately 75 to 80 percent of the Nation's population, it must be recognized that the perpetuation of such a system has to be compared with a revised allocation that will afford wide choice of many comparable station services to America. It would seem apparent that this should be more in the public interest to more people and to more communities. And if the ultimate powers and service, foretold for UHF at the time of the lifting of the freeze, becomes realized, certainly, more choice of service will be readily available to as many, if not more, viewers of America. Only a sound allocation system will assure equality of facilities to all who seek to serve the public, rather than one with unnatural advantages to a limited number who claim wide service. But which, in reality, prevents opportunity for the maximum number of services for public choice through a claim of wide rural service that is, in fact, restrictive.

Mr. Chairman, they are referring there to the clear-channel case in which, I understand, Congress stepped in and stopped this experimental procedure. And that is the case that is happening today to VHF.

Senator POTTER. I wish to thank you for your statement, Mr. Goldberg.

Mr. GOLDBERG. Thank you, sir.

Senator POTTER. Your exhibit No. 1 will be made a part of the record.

(The exhibit referred to is as follows:)

EXHIBIT 1

INDEPENDENTLY OWNED STATION OPERATION

POTENTIAL REVENUES

Based on 35 Program Hours Weekly (70 ½ Hour Programs)
and a Class A Rate of \$300 Per Hour

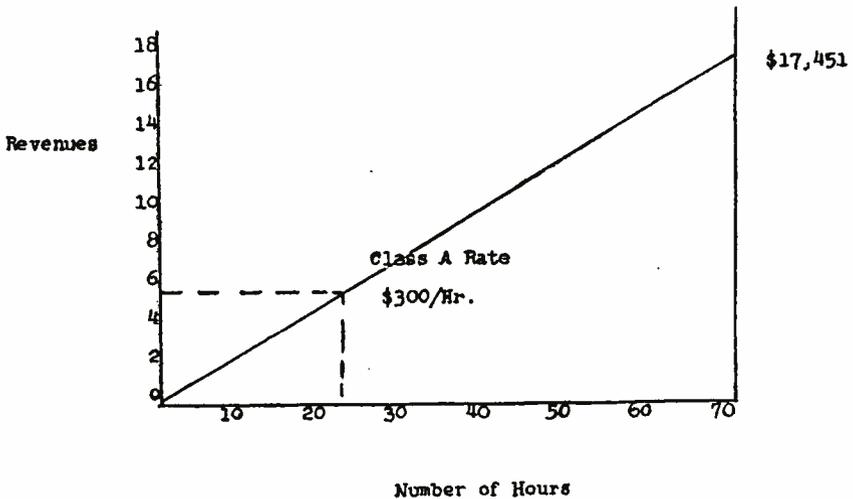


EXHIBIT 2

INDEPENDENTLY OWNED STATION OPERATION

TOTAL EXPENSES

Based on 35 Program Hours Weekly and 50% Fixed Ratio

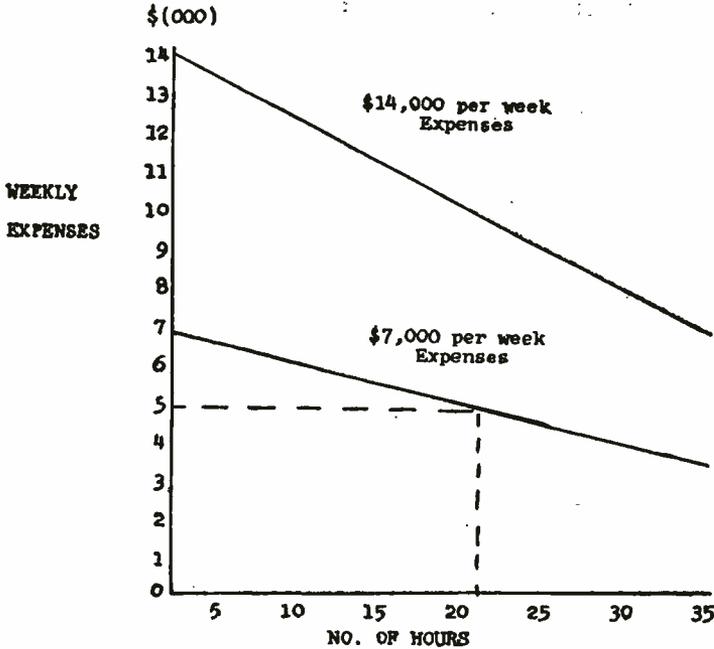


EXHIBIT 4

UHF markets classified by number of VHF signals received by 50 percent of the TV homes

UHF saturation of TV homes	Number of cities showing number of VHF channels received by at least 50 percent of TV homes							
	0 to 1		2		3 or more		Total	
	Cities	Percent	Cities	Percent	Cities	Percent	Cities	Percent
0 to 49 percent.....	14	34	7	41	16	62	37	44
50 to 100 percent.....	27	66	10	59	10	38	47	56
Total.....	41	100	17	100	26	100	84	100

¹ 9 of the 14 cities having less than 50 percent UHF saturation, and receiving VHF signals from less than 2 stations, have UHF stations on the air less than 6 months prior to the date of the survey.

NOTE.—4 UHF stations in markets having better than 75 percent UHF conversions have gone off the air—KRTV, Little Rock; KFAZ-TV, Monroe, La.; WOSH-TV, Oshkosh, Wis.; WROV-TV, Roanoke, Va.

Source: "A Study of UHF-VHF Reception in Selected Metropolitan Areas", April 1954, American Research Bureau.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 545

EXHIBIT 5

UHF stations classified by number of VHF stations received in the UHF market (table 9 of FCC report)

Number of VHF received by 50 percent or more of the TV homes in UHF market ¹	Number of stations	5 percent of total homes with UHF sets, ² average per city	Average monthly revenues, ³ average per station	Total network hours carried ⁴ average per station
0.....	12	35	\$32,000	23
1.....	32	25	21,000	17
2.....	12	18	20,000	14
3 or more.....	23	16	13,000	16
	79	23	20,000	17

¹ "A Study of UHF-VHF Reception," April, 1954, American Research Bureau, Inc.
² Based on the station's home county, United States TV ownership by counties, Nov. 1, 1953.
³ During the period January through March 1954.
⁴ During the week of Mar. 14-20, 1954.

EXHIBIT 6

Elapsed time between CP and operation dates

Elapsed time:	Number of stations
Under 12 months.....	4
12 months, less than 18.....	21
18 months, less than 24.....	13
24 months, less than 30.....	12
30 months, less than 36.....	5
36 months, less than 40.....	7
40 and over.....	3
Total.....	65

Source: Sponsor, April 19, 1954 and TV Digest Directory No. 5, Oct. 1, 1948.

EXHIBIT 7

Prefreeze—108 TV stations

State and city	Station	Date of CP ¹	Beginning date of operation	Number of months elapsed	
				Months	Days
Alabama: Birmingham.....	WABT.....	Apr. 29, 1948	Aug. 1, 1949	14	12
	WBRC-TV.....	Jan. 30, 1948	July 1, 1949	17	1
Arizona: Phoenix.....	KPHO-TV.....	June 2, 1948	Dec. 4, 1949	18	2
California: Los Angeles.....	KABC-TV.....	Dec. 19, 1946	Sept. 16, 1949	39	29
	KCOP (KLAC-TV).....		Sept. 17, 1948		
	KHJ-TV.....		Aug. 14, 1948		
	KNBH.....	Dec. 19, 1946	Jan. 16, 1949	36	29
	KNXT.....		May 6, 1948		
	KTLA.....		Jan. 22, 1947		
	KTTV.....	Dec. 19, 1946	Jan. 1, 1949	36	14
	KFMB-TV.....	Jan. 16, 1948	May 15, 1949	16	6
	KGO-TV.....	Jan. 9, 1947	May 5, 1949	24	26
	KPIX.....	Oct. 17, 1946	Dec. 25, 1948	26	8
San Diego.....	KRON-TV.....	July 18, 1946	Nov. 15, 1949	39	28
	WNHC-TV.....		June 15, 1948		
San Francisco.....	WDEL-TV.....	Aug. 28, 1947	May 13, 1949	20	8
	WMAL-TV.....		Oct. 3, 1947		
Connecticut: New Haven.....	WNBW.....		June 27, 1947		
	WTOP.....	Apr. 26, 1946	Jan. 15, 1949	20	22
	WTTG.....		Jan. 1, 1947		
Delaware: Wilmington.....					
District of Columbia, Washington.					
Florida: Jacksonville.....	WMBR-TV.....	May 27, 1948	Oct. 16, 1949	16	19
	WTVJ.....	Mar. 12, 1947	Mar. 21, 1949	24	9
Miami.....					
Georgia: Atlanta.....	WAGA-TV.....	Dec. 30, 1947	Mar. 8, 1949	14	9
	WLW-A.....	Jan. 18, 1948	Sept. 30, 1951	45	12
	WSB-TV.....		Sept. 29, 1948		

See footnote at end of table.

546 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

Prefreeze—108 TV stations—Continued

State and city	Station	Date of CP	Beginning date of operation	Number of months elapsed	
				Months	Days
Illinois:					
Chicago	WBBM-TV		Sept. 6, 1948		
	WBKB		Sept. 17, 1948		
	WGN-TV		Mar. 5, 1948		
	WNBQ	May 2, 1946	Jan. 7, 1949	35	5
Rock Island	WHBF-TV	June 9, 1948	July 1, 1950	24	22
Indiana:					
Bloomington	WTTV	May 8, 1947	Nov. 11, 1949	31	3
Indianapolis	WFBM-TV	Jan. 30, 1948	May 30, 1949	16	
Iowa:					
Ames	WOI-TV	Sept. 19, 1946	Feb. 21, 1950	45	1
Davenport	WOC-TV	June 2, 1948	Oct. 31, 1948	16	29
Kentucky: Louisville	WAVE-TV		Nov. 24, 1948		
	WHAS-TV	Oct. 19, 1946	Mar. 27, 1950	41	8
Louisiana: New Orleans	WDSU-TV	Jan. 16, 1948	Dec. 18, 1948	11	2
Maryland: Baltimore	WAAM		Nov. 2, 1948		
	WBAL-TV		Mar. 11, 1948		
	WMAR-TV		Oct. 30, 1947		
Massachusetts: Boston	WBZ-TV		June 9, 1948		
	WNAC-TV		June 21, 1948		
Michigan:					
Detroit	WJBK-TV		Oct. 24, 1948		
	WWJ-TV		Mar. 4, 1947		
	WXYZ-TV		Oct. 9, 1948		
Grand Rapids	WOOD-TV	July 29, 1948	Aug. 15, 1949	12	16
Kalamazoo	WKZO-TV	do	June 1, 1950	22	4
Lansing	WJIM-TV	do	May 1, 1950	22	3
Minnesota: Minneapolis-St. Paul	KSTP-TV		Mar. 23, 1948		
	WCCO-TV	Oct. 3, 1946	July 1, 1949	32	28
Missouri:					
Kansas City	WDAF-TV	Jan. 30, 1948	Oct. 16, 1949	20	16
St. Louis	KSD-TV		Feb. 8, 1947		
Nebraska: Omaha	KMTV	May 13, 1948	Sept. 1, 1949	15	19
	WOW-TV	Jan. 30, 1948	July 9, 1949	17	9
New Mexico: Albuquerque	KOB-TV	May 21, 1946	Nov. 29, 1948	30	8
New York:					
Binghamton	WNBF-TV	Feb. 5, 1948	Dec. 1, 1949	11	26
Buffalo	WBEN-TV		May 14, 1948		
New York City	WATV		May 15, 1948		
	WABC-TV		Aug. 10, 1948		
	WABD		May 2, 1944		
	WCBS-TV		July 1, 1941		
	WNBTV		do		
	WOR-TV	May 8, 1947	Oct. 5, 1949	28	27
	WPIX		June 15, 1948		
Rochester	WHAM-TV	Feb. 5, 1948	June 11, 1949	16	6
Schenectady	WRGB		Dec. 1, 1947		
Syracuse	WHEN	July 12, 1948	Dec. 1, 1948	4	20
	WSYR-TV	do	Feb. 15, 1950	19	3
Utica	WKTV	May 27, 1948	Dec. 1, 1949	18	3
North Carolina:					
Charlotte	WBTV	Jan. 30, 1948	July 15, 1949	17	15
Greensboro	WFMY-TV	June 2, 1948	Sept. 22, 1949	15	20
Ohio:					
Cincinnati	WCPO-TV	Feb. 20, 1948	July 26, 1949	17	6
	WKRC-TV	Jan. 16, 1948	Mar. 4, 1949	13	19
Cleveland	WLWT		Feb. 9, 1948		
	WEWS		Dec. 17, 1947		
	WNBK	May 16, 1946	Oct. 31, 1948	29	15
	WNBL	Oct. 30, 1947	Dec. 17, 1949	25	18
Columbus	WBNS-TV	Mar. 17, 1948	Oct. 5, 1949	18	18
	WLW-C	Nov. 21, 1946	Mar. 4, 1949	27	13
	WTVN	Mar. 17, 1948	Aug. 30, 1949	29	13
Dayton	WHIO-TV	Jan. 30, 1948	Feb. 23, 1949	12	24
	WLW-D	Apr. 4, 1947	Mar. 15, 1949	23	9
Toledo	WSPD-TV		July 21, 1948		
Oklahoma:					
Oklahoma City	WKY-TV	June 2, 1948	June 6, 1949	12	4
Tulsa	KOTV	do	Oct. 22, 1949	15	20
Pennsylvania:					
Erie	WICU	Mar. 17, 1948	Mar. 15, 1949	12	2
Johnstown	WJAC-TV	Aug. 29, 1946	Sept. 15, 1949	36	17
Lancaster	WGAL-TV	Jan. 8, 1948	June 1, 1949	15	24
Philadelphia	WCAU-TV		Mar. 15, 1948		
	WFIL-TV		Sept. 13, 1947		
	WPTZ		Sept. 16, 1941		
Pittsburgh	WDTV	Jan. 16, 1947	Jan. 11, 1949	23	5

See footnote at end of table.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 547

Prefreeze—108 TV stations—Continued

State and city	Station	Date of CP ¹	Beginning date of operation	Number of months elapsed	
				Months	Days
Rhode Island: Providence.....	WJAR-TV.....	May 16, 1946	July 10, 1949	37	24
Tennessee:					
Memphis.....	WMCT.....	Nov. 28, 1947	Dec. 11, 1948	12	13
Nashville.....	WSM-TV.....	July 29, 1948	Sept. 30, 1950	26	1
Texas:					
Dallas.....	KRLD-TV.....	Sept. 12, 1946	Dec. 3, 1949	38	12
	WFAA-TV.....	Sept. 11, 1947	Sept. 17, 1949	23	27
Ft. Worth.....	WBAP-TV.....		Sept. 29, 1948		
Houston.....	KPRC-TV.....	Jan. 30, 1948	Jan. 1, 1949	11	2
San Antonio.....	KGBS-TV.....	June 2, 1948	Feb. 15, 1950	20	13
	WOAI-TV.....	May 27, 1948	Dec. 11, 1949	18	14
Utah: Salt Lake City.....	KDYL-TV.....		July 1, 1948		
	KSL-TV.....	1948	June 1, 1949		
Virginia:					
Norfolk.....	WTAR-TV.....	Aug. 18, 1948	Apr. 2, 1950	31	15
Richmond.....	WTVR.....		Apr. 15, 1948		
Washington: Seattle.....	KING-TV.....	Dec. 17, 1946	Nov. 25, 1948	24	3
West Virginia: Huntington.....	WSAZ-TV.....	July 29, 1948	Nov. 15, 1949	27	17
Wisconsin: Milwaukee.....	WTMJ-TV.....		Dec. 3, 1947		

¹ C. P.'s outstanding as of Oct. 1, 1948 (date of freeze), TV Digest Directory No. 5—If no date, station was in operation as of Oct. 1, 1948.

Source: Sponsor, Apr. 19, 1954, except CP date.

EXHIBIT 8

Network affiliations of 108 prefreeze TV stations

Number of networks	December 1950 ¹	May 31, 1954 ²
None.....	6	6
1.....	39	47
2.....	17	14
3.....	14	24
4.....	31	17
Total.....	³ 107	108

¹ Television Magazine, December 1950.

² Broadcasting-Telecasting, May 31, 1954.

³ WLW-A, Atlanta, Ga., was not on the air at this time.

EXHIBIT 9

108 prefreeze TV stations

[Key: A=ABC; C=CBS; D=Du Mont; N=NBC]

State and city	Station	Network affiliation	
		December 1950 ¹	May 31, 1954 ²
Alabama: Birmingham.....	WABT.....	A, C.....	C, A, D.
	WBRC-TV.....	D, N.....	N.
Arizona: Phoenix.....	KPHO-TV.....	A, C, D, N.....	D, C.
California:			
Los Angeles.....	KABC-TV.....	A.....	A.
	KCOP.....		
	KHJ-TV.....		D.
	KNBH.....	N.....	N.
	KNXT.....	D.....	C.
	KTLA.....		
	KTTV.....	C.....	
San Diego.....	KFMB-TV.....	A, C, N.....	A, C, D.
San Francisco.....	KGO-TV.....	A.....	A.
	KPIX.....	C, D.....	C, D.
	KRON-TV.....	N.....	N.

See footnotes at end of table.

548 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

108 prefreeze TV stations—Continued

[Key: A=ABC; C=CBS; D=Du Mont; N=NBC]

State and city	Station	Network affiliation	
		December 1950 ¹	May 31, 1954 ²
Connecticut: New Haven	WNHC-TV	A, C, D, N	A, C, D, N.
Delaware: Wilmington	WDEL-TV	D, N	D, N.
District of Columbia: Washington	WMAL-TV	A	A.
	WNBW	N	N.
	WTOP-TV	C	C.
	WTTG	D	D.
Florida:			
Jacksonville	WMBR-TV	A, C, D, N	C.
Miami	WTVJ	A, C, D, N	A, C, D, N.
Georgia: Atlanta	WAGA-TV	D, C	D, C.
	WLW-TV	A	A, D.
	WSB-TV	A, N	N.
Illinois:			
Chicago	WBBM-TV	C	C.
	WBKB	A	A.
	WGN-TV	D	D.
	WNBQ	N	N.
Rock Island	WHBF-TV	A, C, D	A, C, D.
Indiana:			
Bloomington	WTTV	A, C, D, N	A, C, D, N.
Indianapolis	WFBS-TV	A, C, D, N	A, C, D, N.
Iowa:			
Ames	WOI-TV	A, C, D, N	A, C, D.
Davenport	WOC-TV	N	N.
Kentucky: Louisville	WAVE-TV	A, D, N	A, D, N.
	WHAS-TV	C	C.
Louisiana: New Orleans	WDSU-TV	A, C, D, N	A, C, D, N.
Maryland: Baltimore	WAAM	A, D	A, D.
	WBAL-TV	N	N.
	WMAR-TV	C	C.
	WBZ-TV	N	N.
Massachusetts: Boston	WNAC-TV	A, C, D	A, C, D.
Michigan:			
Detroit	WJBK-TV	D, C	C, D.
	WWJ-TV	N	N.
	WXYZ-TV	A	A.
Grand Rapids	WOOD-TV	A, C, D, N	A, C, D, N.
Kalamazoo	WKZO-TV	A, C, D, N	A, C, D, N.
Lansing	WJIM-TV	A, C, D, N	A, C, D, N.
Minnesota: Minneapolis-St. Paul	KSTP-TV	N	N.
	WCCO-TV	A, C, D	C, D.
Missouri:			
Kansas City	WDAF-TV	A, C, D, N	N.
St. Louis	KSD-TV	A, C, D, N	A, C, N.
Nebraska: Omaha	KMTV	A, C, D	A, C, D.
	WOW-TV	N	D, N.
New Mexico: Albuquerque	KOB-TV	A, C, D, N	N, D.
New York:			
Binghamton	WNBF-TV	A, C, D, N	A, C, D, N.
Buffalo	WBEN-TV	A, C, D, N	A, C, D.
New York	WATV		
	WABC-TV	A	A.
	WABD	D	D.
	WCBS-TV	C	C.
	WNBTV	N	N.
	WOR-TV		
	WPIX		
Rochester	WHAM-TV	A, C, D, N	N.
Schenectady	WRGB	C, D, N	A, C, D, N.
Syracuse	WHEN	A, C, D	A, C, D.
	WSYR-TV	N	N.
Utica	WKTU	A, C, N	A, C, D, N.
North Carolina:			
Charlotte	WBTV	A, C, D, N	C, D, N.
Greensboro	WFMY-TV	A, C, D, N	A, C, D.
Ohio:			
Cincinnati	WCPO-TV	A, D	A, D.
	WKRC-TV	C	C.
	WLW-TV	N	N.
Cleveland	WEWS	A, C	C.
	WNBK	N	N.
	WXEL	A, C	A, C, D.
Columbus	WBNS-TV	C	C.
	WLW-C	N	N.
	WTVN	A, D	A, C, D.
Dayton	WHIO-TV	A, C, D	A, C, D.
	WLW-D	N	N.
Toledo	WSPD-TV	A, C, D, N	A, C, D, N.

See footnotes at end of table.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 549

108 prefreeze TV stations—Continued

[Key: A=ABC; C=CBS; D=Du Mont; N=NBC]

State and city	Station	Network affiliation	
		December 1950 ¹	May 31, 1954 ²
Oklahoma:			
Oklahoma City	WKY-TV	A, C, D, N	A, N.
Tulsa	KOTV	A, C, D, N	A, C, D, N.
Pennsylvania:			
Erie	WICU	A, C, D, N	A, N, D.
Johnstown	WJAC-TV	A, C, D, N	C, D, N.
Lancaster	WGAL-TV	A, C, D, N	A, C, D, N.
Philadelphia	WCAU-TV	C	C.
	WFIL-TV	A, D	A, D.
	WPTZ-TV	N	N.
Pittsburgh	WDTV	D, A, C, N	D, A, C, N.
Rhode Island: Providence	WJAR-TV	C, N	A, C, D, N.
Tennessee:			
Memphis	WMCT	A, C, D, N	A, D, N.
Nashville	WSM-TV	N	N.
Texas:			
Dallas	KRLD-TV	C	C.
	WFAA-TV	A, D, N	A, D, N.
Fort Worth	WBAF-TV	A, N	A, N.
Houston	KPRC-TV	A, C, D, N	A, D, C, N.
San Antonio	KGBS-TV	A, D	A, C, D.
	WOAI-TV	C, N	N.
Utah: Salt Lake City	KDYL-TV	N	N.
	KSL-TV	A, C, D	A, C, D.
Virginia:			
Norfolk	WTAR-TV	A, C, N	A, C, D.
Richmond	WTVR	C, D, N	N.
Washington: Seattle	KING-TV	A, C, D, N	A.
West Virginia: Huntington	WSAZ-TV	A, D, C, N	A, N, D.
Wisconsin: Milwaukee	WTMJ-TV	A, C, D, N	A, N, D.

¹ Television Magazine, December 1950.

² Broadcasting-Telecasting, May 31, 1954.

EXHIBIT 10

Number of hours of programing daily of 108 prefreeze stations

Number of hours daily	At start	Jan. 1, 1954	Number of hours daily	At start	Jan. 1, 1954
1 but less than 2	1		12 but less than 13	2	2
2 but less than 3	9		13 but less than 14		4
3 but less than 4	9		14 but less than 15		5
4 but less than 5	17		15 but less than 16	1	15
5 but less than 6	18		16 but less than 17		10
6 but less than 7	11		17 but less than 18		29
7 but less than 8	4	1	18 but less than 19		14
8 but less than 9	2	1	19 but less than 20		3
9 but less than 10	3	1			
10 but less than 11	2	2		82	87
11 but less than 12	3		Median (hours daily)	5.3	17.1

EXHIBIT 11

Percent of total time derived from networks for 108 prefreeze stations

Percent of time from networks	At start	Jan. 1, 1954	Percent of time from networks	At start	Jan. 1, 1954
0 to 9.9	19	5	80 to 89.9	2	1
10 to 19.9	6	5	90 to 99.9	2	1
20 to 29.9	11	1			
30 to 39.9	9	1	Total	72	81
40 to 49.9	7	15	Unknown	36	27
50 to 59.9	6	24			
60 to 69.9	8	21	Total stations	108	108
70 to 79.9	2	7	Median (percent)	30	55.8

550 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

EXHIBIT 12

108 prefreeze TV stations¹

State and city	Station	At start		Jan. 1, 1954	
		Number of hours daily	Percent of hours, net	Number of hours daily	Percent of hours, net
Alabama: Birmingham	WABT				
	WBRC-TV				
Arizona: Phoenix	KPHO-TV	5	30	14	50
California: Los Angeles	KABC-TV				
	KCOP	4	None	10	None
	KHJ-TV	1	None	10½	None
	KNBH		50		60
	KNXT	6	20	18	66
	KTLA	4½	None	9	None
	KTTV				
San Diego	KFMB-TV	5	30	17	40
San Francisco	KGO-TV	6	20	13	15
	KPIX	4	20	17	63
	KRON-TV	3¾	43	15½	46
Connecticut: New Haven	WNHC-TV				
Delaware: Wilmington	WDEL-TV	5		18	
District of Columbia: Washington	WMAL-TV				
	WNBW			17½	65.8
	WTOP-TV	9	68	18	43
	WTTG				
Florida: Jacksonville	WMBR-TV	5	80	18	75.5
Miami	WTVJ	6	10	18	42
Georgia: Atlanta	WAGA-TV				
	WLW-A	10	(2)	17½	18
	WSB-TV	7	None	15	52
Illinois: Chicago	WBBM-TV	(2)	(2)	18	70
	WBKB	(2)	(2)	16½	19
	WGN-TV	5.6	None	15	12
	WNBQ				
Rock Island	WHBF-TV	3	26	14	72
Indiana: Bloomington	WTTV	2	15	17-18	50
Indianapolis	WFBM-TV	2	51	19	41
Iowa: Ames	WOI-TV	4	60	15	70
Davenport	WOC-TV	2	26	14¾	63
Kentucky: Louisville	WAVE-TV	4	49	17	63
	WHAS-TV	5	19	15	56
Louisiana: New Orleans	WDSU-TV	5	66	19	59
Maryland: Baltimore	WAAM	4½	78	15	31
	WBAL-TV				
	WMAR-TV	6	None	15	62
Massachusetts: Boston	WBZ-TV	4½	24	18	63
	WNAC-TV				
Michigan: Detroit	WJBK-TV	4	10	15	60
	WWJ-TV	5½		17	54
	WXYZ-TV	2½	30	16½	15
Grand Rapids	WOOD	11	65	16	59
Kalamazoo	WKZO-TV	5	95	17	60
Lansing	WJIM-TV	7	49	16½	90
Minnesota: Minneapolis-St. Paul	KSTP-TV				
	WCCO-TV	6½	30	16½	48
Missouri: Kansas City	WDAF-TV	4	55	17	60
St. Louis	KSD-TV	4	None	17½	70
Nebraska: Omaha	KMTV	3		17	60
	WOW-TV	10	28	15½	56
New Mexico: Albuquerque	KOB-TV	2	25	8	47
New York: Binghamton	WNBW-TV	3½	65	13	74
Buffalo	WBEN-TV	4	None	17½	60
New York	WATV	7	None	13	None
	WABC-TV	12		14	
	WABD	2		12	
	WCBS-TV				
	WNBT	2	None	18	55
	WOR-TV		None	7	None
	WPIX	6½		12½	
Rochester	WHAM-TV	5	57	17	57
Schenectady	WRBG	4¾		17½	62
Syracuse	WHEN	5	6	15½	66
	WSYR-TV	6	95	18	55
Utica	WKTU				

See footnotes at end of table.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 551

108 prefreeze TV stations¹—Continued

State and city	Station	At start		Jan. 1, 1954	
		Number of hours daily	Percent of hours, net	Number of hours daily	Percent of hours, net
North Carolina:					
Charlotte.....	WBTV.....	4¾	37½	15½	45
Greensboro.....	WFMY-TV.....	11	63	15	60
Ohio:					
Cincinnati.....	WCPO-TV.....	11	9	17¼	27
	WKRC-TV.....	5	32	17½	50
	WLW-T.....				
Cleveland.....	WEWS.....	4½	None	17	52
	WNBK.....	5½		18½	46
	WXEL.....				
Columbus.....	WBNS-TV.....	4½	49	16	51
	WLW-C.....	5	None	18½	65
	WTVN.....	9	50	14	
Dayton.....	WHIO-TV.....	8		18	
	WLW-D.....				
Toledo.....	WSPD-TV.....	6	2	15	45
Oklahoma:					
Oklahoma City.....	WKY-TV.....			17½	50
Tulsa.....	KOTV.....				
Pennsylvania:					
Erie.....	WICU.....	8	52	17	72
Johnstown.....	WJAC-TV.....	3	25	17	65
Lancaster.....	WGAL-TV.....	6		18	
Philadelphia.....	WCAU-TV.....	14	31	17½	53½
	WPIL-TV.....				
	WPTZ.....	3	None	18	45
Pittsburgh.....	WDTV.....	12	35	19	50
Rhode Island: Providence.....	WJAR-TV.....	6	70	17½	50
Tennessee:					
Memphis.....	WMCT.....	5	15	16	61
Nashville.....	WSM-TV.....	9½	66	15½	65
Texas:					
Dallas.....	KRLD-TV.....	4	46	17	45
	WFAA-TV.....	7		17	45
Ft. Worth.....	WBAF-TV.....	3½	14	17	45
Houston.....	KPRC-TV.....	6½	46	17	53
San Antonio.....	KGBS-TV.....	4	25	16½	40
	WOAI-TV.....	5	25	16	60
Utah: Salt Lake City.....	KDYL-TV.....	3	40	15	50
	KSL-TV.....	2	67	13	57
Virginia:					
Norfolk.....	WTAR-TV.....	5	80	16	58
Richmond.....	WTVR.....	5½	None	17	80
Washington: Seattle.....	KING-TV.....				
West Virginia: Huntington.....	WSAZ-TV.....	2	30	17	65
Wisconsin: Milwaukee.....	WTMJ-TV.....	3½	None	17	50

¹ Where blank, no information available.

² Unknown.

Source: Sponsor, April 19, 1954.

EXHIBIT 13

Profit or loss per TV station in 1950 according to number of stations in community and interconnection

Number of stations in community	Profit or loss per station			
	Interconnected and in operation full year		Noninterconnected and in operation full year	
	Profit or loss	Number of stations	Profit or loss	Number of stations
1.....	\$174,000	15	-\$29,000	11
2.....	105,000	5	-143,000	6
3.....	49,000	18	-100,000	3
4.....	187,000	8		
7.....	77,000	16	-310,000	7
Total.....	115,000	52	-113,000	27

¹ 1 station did not report.

Source: FCC public notice 61519, Mar. 29, 1951: 1950 Television Financial Data, table 3.

552 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

EXHIBIT 14

Present power, tower height, and coverage of 108 prefreeze television stations

City and State	Station	Network affiliation	Visual power ¹	Height	Estimated coverage (radius)
			Kilowatts	Feet	Miles
Alabama: Birmingham.....	WABT.....	A, C, D.....	316	840	
	WBRC-TV.....	N.....	35	910	
Arizona: Phoenix.....	KPHO-TV.....	D, C.....	17.5	500	36
California:					
Los Angeles.....	KABC-TV.....	A.....	110	2,970	100-150
	Authorized.....		165		
	KCOB.....		31.4	2,955	
	KHJ-TV.....	D.....	30.4	3,100	90
	KNBH.....	N.....	47	3,200	150
	KNXT.....	C.....	46.8	3,140	100
	KTLA.....		30	2,921	180
	Authorized.....		50		
	KTTX.....		30.9	2,345	
San Diego.....	KFMB-TV.....	A, C, D.....	27	247	75
	Authorized.....		316	1,000	
San Francisco.....	KGO-TV.....	A.....	120	1,261	80
	Authorized.....		316		
	KPI.....	C, D.....	100	1,354	85
	KRON-TV.....	N.....	100	1,480	60
Connecticut: New Haven.....	WNHC-TV.....	A, C, D, N.....	316	720	
Delaware: Wilmington.....	WDEL-TV.....	D, N.....	2.5	700	
District of Columbia: Washington.....	WMAL-TV.....	A, N.....	22	515	
	WNBW.....	N.....	100	739	80
	WTOP.....	C.....	54.9	738	
	Authorized.....		316		
	WTTG.....	D.....	17.5	587	
Florida:					
Jacksonville.....	WMBR-TV.....	C.....	100	440	
Miami.....	WTVJ.....	A, C, D, N.....	100	1,007	80
Georgia: Atlanta.....	WAGA-TV.....	D, C.....	100	530	
	WLW-A.....	A, D.....	23.5	345	90
	Authorized.....		316		
	WSB-TV.....	N.....	100	1,062	150
Illinois:					
Chicago.....	WBBM-TV.....	C.....	25.4	689	65
	WBKB.....	A.....	114	670	100
	Authorized.....		316		
	WGN-TV.....	D.....	120	610	60
	Authorized.....		316		
	WNBQ.....	N.....	75	720	
Rock Island.....	WHBF-TV.....	A, C, D.....	100	485	60
Indiana:					
Bloomington.....	WTTV.....	A, C, D, N.....	100	1,000	100
Indianapolis.....	WFBM-TV.....	A, C, D, N.....	28.2	468	65
	Authorized.....		100		
Iowa:					
Ames.....	WOI-TV.....	A, C, D.....	100	580	90
Davenport.....	WOC-TV.....	N.....	100	625	80
Kentucky: Louisville.....	WAVE-TV.....	A, D, N.....	100	914	100
	WHAS-TV.....	C.....	316	600	70
Louisiana: New Orleans.....	WDSU-TV.....	A, C, D, N.....	100	425	80
Maryland: Baltimore.....	WAAM.....	A, D.....	50	530	58
	Authorized.....		316		
	WBAL-TV.....	N.....	240	550	
	WMAR-TV.....	C.....	100	591	100
Massachusetts: Boston.....	WBZ-TV.....	N.....	100	658	60
	WNAC-TV.....	A, C, D.....	316	480	
Michigan:					
Detroit.....	WJBK-TV.....	C, D.....	100	1,057	100
	WWJ-TV.....	N.....	20.5	697	60
	Authorized.....		100	1,063	
	WXYZ-TV.....	A.....	112	490	50
	Authorized.....		311		
Grand Rapids.....	WOOD-TV.....	A, C, D, N.....	100	1,000	100
	Authorized.....		316		
Kalamazoo.....	WKZO-TV.....	A, C, D, N.....	80	600	90
	Authorized.....		100	1,000	
Lansing.....	WJIM-TV.....	A, C, D, N.....	27.54	500	85
	Authorized.....		100		
Minnesota: Minneapolis-St. Paul.....	KSTP-TV.....	N.....	100	560	
	WCCO-TV.....	C, D.....	100	608	75
Missouri:					
Kansas City.....	WDAF-TV.....	N.....	100	724	125-135
St. Louis.....	KSD-TV.....	A, C, N.....	100	546	

See footnotes at end of table.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 553

Present power, tower height, and coverage of 108 prefreeze television stations—Continued

City and State	Station	Network affiliation	Visual power ¹	Height	Estimated coverage (radius)
			Kilowatts	Feet	Miles
Nebraska: Omaha	KMTV	A, C, D	100	590	85
	WOW-TV	D, N	100	580	
New Mexico: Albuquerque	KOB-TV	N, D	11	183	40-70
	Authorized		310		
New York: Binghamton	WBNF-TV	A, C, D, N	250	820	55
	Authorized		310		
Buffalo	WBEN-TV	A, C, D	54	1,057	60
	WATV		22.5	1,200	
New York	Authorized		180		62.2
	WABC-TV	A	80	1,378	
Authorized	WABD	D	110	1,340	65
	Authorized		16.7		
WCBS-TV	Authorized		37		1,290
	Authorized		43		
WNBTV	Authorized		14.5		80
	Authorized		130		
WOR-TV	Authorized		100		60
	Authorized		100		
Rochester	WPIX	N	100	1,408	50
	WHAM-TV	N	23.4	500	
Authorized	Authorized		100		90
	Authorized		93		
Schenectady	WRGB	A, C, D, N	190	1,200	90
Syracuse	WHEN	A, C, D	100	941	90
	WSYR-TV	N	100	1,000	75
Utica	WKTU	A, C, D, N	186.9	790	
	Authorized				
North Carolina: Charlotte	WBTV	C, D, N	100		100
	WFMY-TV	A, C, D	16.7	470	80
Ohio: Cincinnati	WCPO-TV	A, D	250	570	80
	Authorized		316		
WKRC-TV	Authorized		250		60
	Authorized		316		
Cleveland	WLW-TV	N	100	500	(⁶)
	WEWS	C	93	1,020	110
WNBK	Authorized		39		75
	Authorized		100		
Columbus	WXEL	A, C, D	45	1,000	
	WBNS-TV	C	219	575	75
WLW-C	Authorized		26		65
	Authorized		100		
Dayton	WTVN	A, C, D	19.8	627	50
	Authorized		100		
Dayton	WHIO-TV	A, C, D	316	1,104	90
	WLW-D	N	100	510	
Toledo	WSPD-TV	A, C, D, N	24.5	590	40
	Authorized				
Oklahoma: Oklahoma City	KOTV-TV	A, N	100	975	100
	Authorized		100		
Tulsa	WKTU	A, C, D, N	100	1,270	
	Authorized				
Pennsylvania: Erie	WICU	A, N, D	30	309	50
	Authorized		2		
Johnstown	Requests		248		
	Requests		70		
Lancaster	WJAC-TV	C, D, N	7	1,120	65
	WGAL-TV	A, C, D, N	7.2	1,523	
Philadelphia	Authorized		316		
	Authorized		27.3		
Pittsburgh	WCAU-TV	C	316	1,003	65
	Authorized		316		
WFTL-TV	Authorized		100		650
	Authorized		100		70
WPTZ	Authorized		100		1,041
	Authorized		100		818
Rhode Island: Providence	WDTV	D, A, C, N	100	818	60
	WJAR-TV	A, C, D, N	225	601	60
Tennessee: Memphis	Authorized		316		
	Authorized				
Nashville	WMCT	A, D, N	100	1,088	95
	WSM-TV	N	23.8	575	75
Texas: Dallas	Authorized		100		
	Authorized				
KRLD-TV	Authorized		100		85
	Authorized		27.1		60
Fort Worth	WFAA-TV	A, D, N	316		
	Authorized		16.4		100
Houston	WBAP-TV	A, N	100	502	
	Authorized		100		
San Antonio	KPRC-TV	A, C, D, N	100	750	100+
	KGBS-TV	A, C, D	100	555	
Utah: Salt Lake City	WOAI-TV	N	100	572	140
	Authorized		27.15		200
KDYL-TV	Authorized		30		
	Authorized		30		
KSL-TV	Authorized		30		150
	Authorized		30		9,200

See footnotes at end of table.

554 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

Present power, tower height, and coverage of 108 prefreeze television stations—Continued

City and State	Station	Network affiliation	Visual power ¹	Height	Estimated coverage (radius)
Virginia:			<i>Kilowatts</i>	<i>Feet</i>	<i>Miles</i>
Norfolk.....	WTAR-TV.....	A, C, D.....	24	1,049	100
	Authorized.....		100		
Richmond.....	WTVR.....	N.....	100	1,049	(?)
Washington: Seattle.....	KING-TV.....	A.....	100	570	125
West Virginia: Huntington.....	WSAZ-TV.....	A, N, D.....	100	580	75-100
Wisconsin: Milwaukee.....	WTMJ-TV.....	A, N, D.....	100	1,035	80

¹ Where it is not indicated, authorized power is same as present.

² 3,500 square miles.

³ Above sea level.

⁴ C. P.

⁵ Under construction.

⁶ 677 terrain.

⁷ State of Virginia.

Source: Sponsor, Apr. 19, 1954, p. 43 ff. Survey conducted among the 108 prefreeze television stations. The data is that which the stations submitted. Network affiliation, Broadcasting-Telecasting, May 31, 1954.

EXHIBIT 15

Comparison of network affiliated station rates where there are 3 or more VHF stations

	CBS	NBC	ABC	Du Mont
Albuquerque.....	250	325	250	(1)
Atlanta.....	800	950	725	(1)
Baltimore.....	1,300	1,300	1,200	(1)
Chicago.....	2,500	3,000	2,200	2,200
Cincinnati.....	1,200	1,200	1,200	(1)
Cleveland.....	1,500	1,900	1,500	(1)
Columbus, Ohio.....	850	850	800	(1)
Denver.....	600	600	500	450
Detroit.....	1,850	2,000	1,700	(1)
Kansas City.....	1,075	1,075	1,075	(1)
Los Angeles.....	2,700	2,750	2,000	1,600
Minneapolis-St. Paul.....	1,070	1,150	950	(1)
New York.....	5,500	5,700	4,250	3,200
Philadelphia.....	2,400	2,400	2,200	(1)
Salt Lake City.....	550	550	550	(1)
San Francisco.....	1,500	1,700	1,300	(1)
Washington, D. C.....	1,300	1,350	950	950

¹ Where there are only 3 VHF stations, Du Mont usually shares time.

Source: Standard Rate and Data Service, networks, June 10, 1954.

EXHIBIT 16

Percent relationship between 1953 broadcast income¹ and original cost of tangible broadcast property for 92 prefreeze VHF-TV stations

Percent	Number of stations	Average per station	
		1953 income ¹	Original cost of broadcast property ²
200 and over.....	7	\$1,857,790	\$713,027
175 to 200.....	2	742,430	391,630
150 to 175.....	5	1,009,936	618,687
125 to 150.....	8	1,091,524	808,238
100 to 125.....	6	826,506	705,903
90 to 100.....	1	2,292,631	2,339,417
80 to 90.....	6	1,004,814	1,203,074
70 to 80.....	7	558,634	765,835
60 to 70.....	9	425,097	638,579
50 to 60.....	9	594,375	1,098,379
40 to 50.....	6	519,387	1,175,410
30 to 40.....	7	416,473	1,185,688
20 to 30.....	6	237,252	1,063,086
10 to 20.....	2	201,709	1,169,912
1 to 10.....	3	49,825	1,110,780
Stations with loss.....	8	\$ 268,114	1,414,736
Total stations ⁴	92	657,609	719,627

¹ Before Federal income tax.

² This figure represents the original owner's cost of the station's broadcast property when first placed in service, plus additions and improvements since that time and does not reflect any reevaluation of the property by a new owner based on the purchase price of the station.

³ Loss.

⁴ Excludes 16 TV stations owned by networks.

Source: FCC Form 324.

EXHIBIT 17

Income as percent of original cost¹

Population of TV market ²	1952		1951	
1,000,000 and over.....				
500,000 to 1,000,000.....	67		53	
250,000 to 500,000.....	66		48	
100,000 to 250,000.....	87		64	
Under 100,000.....	101		58	
	50			
Total.....	73		56	

¹ Before depreciation on tangible broadcast property income before Federal income tax.

² 1950 census.

³ Data available only for category "Under 250,000."

556 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

EXHIBIT 18

Average per station investment in tangible broadcast property for 93 TV stations, classified by population of TV market—1951¹

Population of TV market (1)	Number of stations reporting ² (2)	Average per station investment in tangible broadcast property ³ (3)	Average per station broadcast income (4)	Income as percent of cost (5)
1,000,000 and over.....	29	\$923, 716	\$488, 000	53
500,000 to 1,000,000.....	26	571, 242	271, 000	48
250,000 to 500,000.....	25	383, 726	245, 000	64
100,000 to 250,000.....	11	299, 334	171, 000	58
Under 250,000 ⁴	2	277, 245		
Total.....	93	592, 262	329, 000	56

¹ 1950 census.

² Excludes owned and operated stations of networks.

³ Before depreciation.

⁴ Averaged income data for markets 1 to 2 million and 2 million and over to conform with investment data.

⁵ Interpolation for markets under 250,000 to conform to income data available.

Source: FCC Public Notice 79420, Aug. 20, 1952—Final TV Broadcast Financial Data, 1951, tables 7 and 14.

EXHIBIT 19

Average per station investment in tangible broadcast property for 93 TV stations, classified by population of TV market—1952¹

Population of TV market ¹ (1)	Number of stations reporting ² (2)	Average per station investment in tangible broadcast property		Average per station broadcast income ³ (5)	Income as percent of original cost (6)
		Original cost (3)	Depreciated cost (4)		
1,000,000 and over.....	29	\$1, 001, 893	\$600, 331	\$674, 393	67
500,000 to 1,000,000.....	26	680, 540	427, 243	451, 412	66
250,000 to 500,000.....	25	477, 461	295, 839	413, 917	87
100,000 to 250,000.....	11	345, 237	198, 186	348, 672	101
Under 100,000.....	2	313, 454	138, 768	155, 623	50
Total.....	93	678, 602	412, 597	492, 351	73

¹ 1950 census.

² Excludes owned and operated stations of networks.

³ Before Federal income tax.

Source: FCC Public Notice 93525, July 31, 1953—Final TV Broadcast Financial Data, 1952, table 8b.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 557

EXHIBIT 20

Major sales and transfers of television stations—1949-54

Dec. 31, 1953:

KCTY, Kansas City, Mo., UHF	\$1
KXLY-TV, Spokane, Wash., VHF (with AM)	1, 750, 000
KLAC-TV, Los Angeles, Calif., VHF	1, 375, 000
KAFY-TV, Bakersfield, Calif., UHF (with AM) 51¾ percent	85, 000
KFSD-TV, San Diego, Calif., VHF (½)	350, 000
KFDA-TV, Amarillo, Tex., VHF (75 percent with AM)	550, 000
WABI-TV, Bangor, Maine, VHF (with AM) 50 percent	125, 000
KCMO-TV, Kansas City, Mo., VHF (with AM)	¹ 2, 000, 000
KRBC-TV, Abilene, Tex., VHF (with AM)	500, 000
KOLN-TV, Lincoln, Nebr., VHF (with AM)	² 125, 000
KRTV, Little Rock, Ark., UHF (50 percent—studios)	³ 42, 500
KDYI-TV, Salt Lake City, Utah, VHF (with AM)	2, 100, 000
WAFM-TV, Birmingham, Ala., VHF (with AM)	2, 400, 000
WBRC-TV, Birmingham, Ala., VHF (with AM)	2, 400, 000
WPTZ, Philadelphia, Pa., VHF	8, 500, 000
WTVN, Columbus, Ohio, VHF	1, 500, 000
1951-52: WBBM-TV, Chicago, Ill. (WBKB), VHF	6, 000, 000
1952: WMBR-TV, Jacksonville, Fla., VHF (with AM)	2, 470, 000
1951: WLWA, Atlanta, Ga. (WSB-TV), VHF channel swap	525, 000
Resold 2 years later	1, 500, 000
1952:	
KPHO-TV, Phoenix, Ariz., VHF (with AM)	1, 500, 000
KOB-TV, Albuquerque, N. Mex., VHF (with AM)	⁴ 900, 000
WCCO-TV, Minneapolis, Minn., (WTCN-TV), VHF	⁽⁵⁾
KOTV, Tulsa, Okla., VHF	2, 500, 000
Resold May 1954	4, 000, 000
1951:	
WOR-TV, New York, N. Y., VHF (with AM)	⁶ 4, 500, 000
KEYL, San Antonio, Tex., VHF	1, 050, 000
WOW-TV, Omaha, Nebr., VHF (with AM)	⁷ 2, 525, 000
KHJ-TV, Los Angeles, Calif., (KFI-TV), VHF	2, 500, 000
WOOD-TV, Grand Rapids, Mich., VHF (form WLAV-TV)	1, 382, 086
1950:	
KNXT, Los Angeles, (KTSL), VHF	3, 600, 000
KFMB-TV, San Diego, Calif., VHF (with AM)	925, 000
Resold 1953	3, 150, 000
22.22 percent sold	633, 330
WTOP-TV, Washington, D. C., VHF	1, 400, 000
KPRC-TV, Houston, Tex. (KLEE-TV), VHF	740, 000
WFAA-TV, Dallas, Tex. (KBTW), VHF	575, 000
1949:	
KING-TV, Seattle, Wash. (KRSC-TV), VHF	375, 000
1951: 25 percent into. sold	375, 000
1953: 25 percent rebought	450, 000

¹ Plus long-term debt up to \$450,000.

² Plus about \$500,000 in debts.

³ Plus about \$300,000 in obligations.

⁴ Including net quick assets of \$300,000.

⁵ Stock.

⁶ Plus 10 percent stock and 25-year lease—\$315,000 per year.

⁷ Including assets surplus—\$720,000.

Source: Television Factbook, No. 18, Jan. 15, 1954, pp. 37, 38.

Senator POTTER. Mr. Chisman is from WVEC-TV, of Norfolk, Va.

STATEMENT OF THOMAS P. CHISMAN, WVEC-TV, NORFOLK, VA.

Mr. CHISMAN. My name is Thomas P. Chisman, and I appear here in behalf of Peninsula Broadcasting Corp. which owns and operates UHF station WVEC-TV, located in Hampton, Va. Our station serves the whole Norfolk area.

I should like to state that I am not a member of any UHF association or committee. I speak here today only for Station WVEC-TV, which I manage and in which I am a stockholder.

Peninsula Broadcasting Corp., which owns WVEC-TV, has been in the broadcasting business in the Hampton and Norfolk area since 1948. We operate radio station WVEC, also located in Hampton. It was, therefore, only natural that we should enter the field of television.

It was apparent to us, however, that if we filed for a VHF channel we would be involved in a long hearing which would prevent us from bringing television service to our area for a long period of time. Accordingly, we filed for the UHF on July 14, 1952. Our application was granted on February 4, 1953. We immediately began construction and we have been operating WVEC-TV since September 1953.

When we decided to apply for the UHF, we felt confident that we could get a network affiliation since there was only one other television station in operation in the large and important Norfolk-Hampton-Portsmouth-Newport News area. Our confidence was not misplaced.

The National Broadcasting Co. entered into an affiliation agreement with us whereby we could bring NBC television service to this area on a regular basis. We are a basic affiliate of the National Broadcasting Co., and we have the usual 2-year contract of affiliation, running until January 1956.

At the outset of our operation, it became obvious to us that our biggest job was one of education. We had to educate the people of our area as to the nature of the UHF and the nature of conversion. I should like to make clear that this process of education was and continues to be a gigantic job. The lack of information and the amount of misinformation which people have about UHF is unbelievable.

In cooperation with the National Broadcasting Co., a large-scale program of promotion of UHF was instituted by our station. It was the largest UHF promotion for a city of our size conducted any place in the United States. It was so effective that it even aroused the ire of the existing VHF station which had a television monopoly on our area for so many years. To indicate the kind of job we did, I can tell you that WVEC-TV together with NBC, has spent more than \$100,000 in promoting UHF television. I might add that NBC has never shown any reluctance in endorsing or promoting UHF in the Norfolk area. To me, at least, they have shown complete confidence in the ultimate success of UHF stations.

After about 7 months of operation, we have lost in the neighborhood of \$100,000. But we believe we have made great progress; we are now making money, and we are not concerned about the future, with the exception of one big "if."

UHF cannot be sold short in one part of the country without being sold short throughout the country. If we had made a million dollars from UHF, we still could not stand idly by and play ostrich while UHF, as a system of television transmission, was permitted to die.

We think both this committee and the Federal Communications Commission should make clear to the public that there can be no full and truly comprehensive system of television broadcasting in the United States without UHF and that UHF is here to stay—period.

There are many ways in which this committee could indicate to the public the importance of UHF. One positive way would be to instruct or recommend to the Commission that it cease adding VHF channels to areas not allocated those channels in the sixth report. Some persons would, by using phantom cities, attempt to squeeze in a VHF channel here and there. One such request which would affect our community is now pending before the Commission.

It would not surprise me if none of the members of this honorable committee has ever heard of the community of Princess Anne, Va. Princess Anne, Va., is a literal crossroads, in effect marking the place on an automobile map where two roads meet. Princess Anne has a population of about 250 persons. It has, however, a country post office. Having found a post office, some Norfolk people have now proposed to the Commission that this post office should be used as a basis for assigning VHF channel 13 to the Norfolk area on the ostensible basis that it is assigned to Princess Anne.

We have to go out of New Bern, N. C. They have channel 13 allocated.

Senator POTTER. We have three members of the Commission here that heard your statement. So we will take some cognizance of Princess Anne.

We think that this committee should make clear its disapproval of attempts to subvert the Commission's allocation plan by adding VHF channels to phantom cities as a device for curing the problem of the UHF. If channel 13 is added to the Norfolk area on the pretense of being assigned to this phantom community of 250 persons, UHF in the Norfolk area will be dealt what may well be a death blow. Not only would the UHF operator suffer, but the many thousands who have gone to the expense of converting to receive the UHF will have in effect been defrauded by the adoption of a policy which would disregard the effect that new VHF assignments have on existing stations.

We feel that the Commission would be completely derelict in its duty—to both the public and UHF operators who have spent large sums of money in an effort to promote the UHF—if it should permit the addition of VHF channels based upon pretext assignments to phantom cities.

I know of no immediate cure for the problem facing the UHF broadcaster today. I do know of one change which, if made today, would insure more and better television for the entire country in the not too distant future. I think that the Commission should immediately rule that color television will be permitted only on UHF stations. I would like to explain the background in arriving at this conclusion.

I would like to get away from the statement for a moment.

Senator POTTER. Surely.

Mr. CHISMAN. This is not an original idea of mine. In 1950, when Wayne Coy was Chairman of the Commission, Chairman Hyde was a member of the Commission, and Commissioner Hennock and Sterling, Jones and Walker, and another one, I believe. After they had finished with the color proposal, and before they got the alloca-

tions I believe it was Commissioner Jones who proposed what I am proposing now.

There were technical reasons why it was not adopted at that time. I have reason to believe that Commissioner Jones and Commissioner Walker and Commissioner Hennock would have favored at that time the placing of color television in the UHF. They believed, and I believe now, on the basis of good, sound engineering and legal advice that there is sufficient room in the UHF channels for this to take place.

When any change in the rules affecting radio or television stations is considered, the public must first be considered. Today there are 30 million television sets in the homes throughout the country. These sets have a life expectancy of approximately 5 years. This means that within the next 5 years there will be a complete turnover of all television sets in the country. With the advent of color, the turnover of these sets will be appreciably increased since the present television sets cannot receive color transmission. In effect, what we have here is the second opportunity to start from scratch in the development of television without any injury or cost to the public. The first opportunity was muffed when the Commission adopted an intermixture plan. Color need not be—and should not be—intermixed.

If the Commission were to switch color to the UHF frequencies today, the manufacturers would immediately step up their research in the UHF and immediately put UHF in all color television sets and, since they must be competitive, UHF receivers in the television sets would be priced in line with the VHF sets only.

I understand some manufacturers have said they will do this. But the proof of the pudding is in the eating. I'd like to see them really producing, not just in pilot models.

Those viewers who in the next 5 years do not buy color sets could for a very nominal fee convert their present sets to UHF and continue to receive, in black and white, the color transmission. I say nominal fee because I am positive that within the next 3 years UHF receivers will be just as far advanced, if not farther, than VHF receivers are today; the price will be down, and there is a good chance that no antennas will be needed by the set owner.

The VHF operators may raise a question concerning comparative coverage. I think the Commission should make it clear at this time that while this change will be made in the next 5 years, those stations desiring to hold off on the change can continue to broadcast black and white for 5 years on VHF and may wait before taking any action on the UHF until the one megawatt transmitter is available. Thus they would lose no service area presently covered.

I think it is basically wrong when a man builds something to tell him to tear it down, particularly when it is so widespread today, and it is providing a service which would have to be serviced with B coverage if forced to reduce the power.

The cost to the viewer would be practically nothing since it is my opinion that the viewers all over the United States will follow normal economic trends and buying habits in replacing their sets at least once in the next 5 years. Those who do not desire color could still buy an all-band VHF-UHF set. There may be a question raised as to why a viewer should have to buy UHF-VHF if it is not necessary. Once again, I say that the competitive situation in the television-set business will make all sets competitive, and the viewer will not have to pay a penalty for buying UHF-VHF.

There is a term that the engineers use—and dirty; and that is the way they will make them to be competitive, regardless of whether it is UHF or VHF. They will bring the price down within the reach of all those people.

Senator POTTER. Isn't it true that there are so many people moving from one locality to another, there might be one locality where they are serviced by a VHF station; and they have a television set they maybe paid \$400 for; and they will move to another locality where they are serviced by a UHF station. Particularly if we could have removed the tax on the UHF receivers, it seems to me that would be a big impetus to set manufacturers to include this all-channel tuner in the new sets.

Mr. CHISMAN. That is particularly true in my own area, where there are over 100,000 military personnel and their families; and they are constantly on the move. They come in to buy a VHF and UHF set if they don't already have one. But those people move to another area and their service is still limited to one station.

Senator POTTER. What is the percentage of conversion that is taking place in your area?

Mr. CHISMAN. The American Research Bureau says 38 percent; and I don't buy their figures at all. I never have; I never will. I don't think it exceeds that by a great deal. I think they are probably 10 percent short.

They were 10 percent short when I could prove I had 28,000; and they said it was something 'way under that

Senator POTTER. Doesn't that affect your advertising?

Mr. CHISMAN. Absolutely. I would not have lost \$100,000 if it had not affected it.

This would be particularly true if the tax on all-channel sets could be removed.

Now, let's look at the broadcaster's expense. Here again, I contend that the broadcaster would pay practically nothing additional for the switch to UHF. Most broadcasters today are going to color eventually and if they go to color at the same time they go to UHF the outlay is considerable. It is an expenditure, however, that they must make and would make during the normal course of business in the next 5 years.

Those who have VHF equipment now could take advantage of their amortization schedule and write off the VHF equipment in the next 5 years. If the present tax structure does not permit as rapid a write-off as this, then this committee should recommend to Congress that it change its tax regulations to permit this step to be taken.

Some persons who have appeared before this committee have defended the intermixture of UHF and VHF stations in a market on the ground that the same situation exists today in radio; 250-watt stations and a 50,000-watt station existing in one market. However, such an argument overlooks the basic fact that all radio receiving sets today can receive any radio station—no matter what its power is—broadcasting between 550 and 1600 kilocycles. Thus, the 250-watt station with good programming can get just as many listeners in his primary area as a 50,000-watt station. That is not so in television when UHF and VHF are mixed, and conversion is necessary.

There has been a great deal said about a nationwide competitive television system. I think this phrase is completely overworked and the real meaning has been lost. Most telecasters and most people think

of this competition in the terms of dollars. However, the competition which I visualize is not confined to dollars; it also relates to television's obligation to the public to serve its social, economic, and political needs.

It has been a common experience in radio for the large 50 kilowatt stations to give a general overall service, while the small 250-watt station particularizes on the communities social, economic, and political interests. A system of mixed VHF and UHF television stations, where communities and whole areas dependent on outside television stations for coverage is completely inadequate. Stations which are 40 and 50 miles away cannot possibly serve the social, economic, and political interests of all communities within their coverage area, and a burden is placed on the viewer when he must, to receive a station in his own area, go to an external conversion, or a system that is not completely comparable to the signal received from the outside market.

There is little equity in the mixed system we have now, and if this committee fails to take strong corrective steps, this matter will come back to haunt you, or your successors on this committee, 10 years from now. I do not consider that this is a problem that can be laid at the doors of the networks, or placed solely in the hands of the operators.

This is a situation that has been thrust upon us by an error made several years ago when the theory of intermixture was adopted. Today, we not only have UHF and VHF, but a third and revolutionary factor. That factor is color, and if we make the same mistakes in color today that we did in black and white 2 years ago, we will have bungled our last opportunity to correct a very difficult problem.

Senator POTTER. I wish to thank you for your statement.

Mr. Green.

Mr. Green is from the little State of Texas. Mr. Green is with KNUZ-TV of Houston, Tex.

STATEMENT OF LEON GREEN, STATION KNUZ-TV, HOUSTON, TEX.

Mr. GREEN. Mr. Chairman, and members of the subcommittee, my name is Leon Green. I am part owner of KNUZ-TV, located in Houston, Tex. First, I want to thank you for this chance to testify before this subcommittee of the United States Senate. We are grateful to you for holding these hearings. We hope from the matters presented in this forum that there may be a better understanding of the problems confronting those broadcasters who operate television stations on what are commonly called the ultra-high frequencies.

I have been connected with radio for the past 5 years. Prior to our venture in television, we operated KNUZ, as an independent AM facility in Houston, and enjoyed a fair measure of success. Our company is known as Veterans Broadcasting Co., and derives from the fact that four veterans of World War II, returning from combat areas, pooled our resources and applied to the Commission for a franchise to operate an AM station. Since October 1953 we have operated KNUZ-TV, on channel 39, in Houston, Tex.

In preparation for the hearings before your subcommittee, I have made several trips to New England, and the Midwest, in addition to areas in the Southwest. I have personally visited many operators of UHF television stations, and viewed their operations firsthand. I have been in communication with all UHF stations. All or prac-

tically all, UHF operators find themselves in the same situation. Too few sets converted for UHF, too little power, and too few network programs.

These conditions do not arise by virtue of any one circumstance, but rather by reason of a combination of factors. If one can generalize, it might be said that our problems are economic, but that might be said of many businesses.

However, UHF television has never tasted the fruits of economic success, and it may well be that a business with great potential good for the American people will die aborning before it ever even learns to walk. There are approximately 40 UHF television stations in this country at this very minute which may not be operating 60 days from now unless some action is taken to relieve the situation. We aren't going through a period of readjustment or recession—we never have experienced a boom, or even a short period of good business.

There are approximately 40 UHF stations which are experiencing economic difficulties. Most of these stations are holding on by the skin of their teeth—just waiting to see what will be the result of these Senate hearings.

Each of these stations represents an investment averaging about \$300,000 or \$400,000, or a total investment of approximately \$16 million, in the stations alone. These 40 stations serve several million people. If we consider the investment of the listening public of approximately \$200 million—added to the \$16 million used to put these 40 stations on the air—you get some idea of the magnitude of the money put into UHF by your constituents.

I believe that this subcommittee can take notice of the fact that the two major networks in this country have now reached the point in their monopoly where they have a life-or-death strangle hold on television stations, both VHF and UHF. Even in the AM field the basis of affiliation with the two major networks was never realistic. Long-time affiliates of the networks were able successfully to block the affiliation of other stations upon the ground that the area proposed to be served already received service from the first station, when, in truth and in fact, the listeners in the area could no more tune in the station than they could fly to Mars.

It is commonly recognized in radio circles that the two big networks are not interested at all in affiliations except in the first 100 cities of the country. This means that the rest of the country who want to watch Bishop Sheen or Jack Benny can either put themselves up an expensive antenna which will pick up the distant station, or just move into a larger city. If they get the network program from the distant city, their chances of getting local programs from a local station are almost nil, because the local station cannot telecast local programs without the help of some network programming.

The people are getting a little bit tired of having to rely upon distant cities for programs which they should be getting from stations in their own area and which are more likely to be responsive to their needs and tastes.

It has already been called to the attention of the subcommittee that UHF stations, which have, through their ingenuity and resources, been able to get on the air first in their community and obtain a network affiliation, have been compelled to sit by powerless while their network programs are lost to new VHF stations coming on the air.

The networks refuse to grant UHF stations the normal term contracts—it's either take a short-term deal which the network can terminate or nothing.

So, the UHF, out of necessity, signs up the network and helps build up the audience, only to lose it when VHF comes along. There can be no question but what the Federal Communications Commission has utterly failed in bringing about the intended truly competitive television system.

With the network it's a matter of dollars and cents—they have no public interest in whether people in any area will be able to get a variety of programs which include a combination of national network and local programs. The networks are not concerned with the so-called white areas—the vast sparsely settled parts of this country—inhabited by people who are just as good Americans, and entitled to the same rights, privileges, and benefits, as people in the heavily populated markets. In hundreds of such areas the people are denied, by reason of geography, the opportunity to view many of the great shows produced for television.

If the FCC can't or won't do anything about it, then the Congress should step into the picture.

I am not a lawyer. But I understand that section 307 (b) of the Federal Communications Act of 1934 provides that the Commission must insure an equitable allocation to all the States and communities of television channels. I am sure they tried to do just that by their sixth report. The question now arise: Did they succeed in carrying out this mandate of the Congress.

With 40 UHF television stations about to go on the rocks—with experienced businessmen unable to compete in the market place—I seriously question the wisdom of the Commission's allocation plan. And at this point, I'd like to add that the great majority of these men who received UHF grants are men of past radio experience—men who know broadcasting.

The FCC is charged with the responsibility of carrying out the laws as passed by the Congress. They have been described as an "arm of the legislative branch." Are we holding these hearings today because the Commission has completely and successfully carried out its responsibilities?

On the contrary, we are here today because the Commission's efforts have failed—the purpose of a television allocation plan has been and is being frustrated. It may be that the present plan could work—theoretically. But the realities of the situation have prevented it, and the attitude of the two major networks are two of the realities.

Even the manufacturers have added their bit to the plight of UHF. It is said that it is much easier to build a TV set with VHF only—and that it can be made to sell cheaper. The public will buy a set which is cheaper—and most of the public never realized when they bought these thousands of sets with VHF only that they would ultimately be obsolete because they couldn't get the programs of all the stations allocated to their towns. But that didn't seem to trouble the manufacturers. After all, if the public did not become too inquisitive, they could sell the poor sucker another set with UHF, or a converter which would cost him \$40 or \$50.

Most of us, when we bought our first radio sets, kept those sets for many years. And they served us well. Today, there are literally

thousands—yes, millions—of TV sets in the homes of this country, bought within the last year, which are at least partially obsolete because they cannot receive the stations assigned to their towns.

I don't need to call attention to the fact that one of the major networks is a subsidiary of a company which is probably the largest manufacturer of TV sets. If that network had really intended that its network programs should be seen on UHF stations as well as VHF stations, it should not have had too much trouble persuading its parent to manufacture only all-channel receivers.

I would like to pose a very simple analogy to what the manufacturers have been doing in regard to VHF-only sets. If the Commission tomorrow were to open up 50 more kilocycles for more AM stations above the present AM band in order to provide 300 or 400 more AM stations throughout the country, you can well imagine the howl that would go up if the manufacturers continued to make new sets to receive only the present AM band.

Specifically, I respectfully recommend that the Congress take action:

1. To require a complete freeze on grants for new VHF TV stations, and on the allocation of additional VHF channels.
2. To require TV stations, allocated to a particular city, to locate their transmitter sites near the principal city, and not attempt to place their transmitter sites near other cities in an effort to draw advertising revenue from the second city.
3. To require TV stations to establish studios only in the cities to which their channels are assigned.
4. To adopt Senator Edwin Johnson's bill for the removal of excise taxes from UHF receiving sets.
5. To adopt Senator Bricker's bill, S. 3456.
6. To require immediate reallocation proceedings having the purpose of eventually eliminating the inequalities existing between VHF and UHF stations where the two classes of stations will be in competition with each other.

It is my belief that if President Eisenhower knew of the present serious threat to nationwide competitive television service, and of the possibility that 40 UHF stations may soon close their doors, he would certainly try to see that such a calamity will not happen during the regime of the Republican Party.

Senator POTTER. We have enough calamities as it is.

Mr. GREEN. Remember, gentlemen, there are millions of people who stand to lose an investment of approximately 200 million dollars in UHF. Through these hearings, the Congress has clearly recognized that something can and should be done to prevent this threatened calamity. You have shouldered the responsibility to do something effective to stop the threat to nationwide competitive television service.

There is now widespread whispering in the trade, recently prompted by those who want no change in the status quo to the effect that these hearings will result in nothing to help UHF. I, for one, have implicit faith that this subcommittee sincerely desires to and will, take prompt and vigorous remedial steps.

Senator POTTER. Thank you very much, Mr. Green, for your statement.

Do you want the other part of your statement put in the record?

Mr. GREEN. Yes, sir.

Senator POTTER. That additional part of the statement will be put into the record.

(The additional statement of Mr. Green is as follows:)

In view of the importance of the policy questions presented, I believe it is appropriate to submit to this committee comments filed by KNUZ Television Company, licensee of UHF station KNUZ-TV, with respect to the unfair competitive situation presented by a Galveston VHF station that has been permitted to operate as a Houston station. A copy of the comments submitted by KNUZ Television Company in Federal Communications Commission proceedings, Docket No. 10989, is attached hereto.

BEFORE THE FEDERAL COMMUNICATIONS COMMISSION

Washington 25, D. C.

Docket No. 10989

In the Matter of Amendment of Section 3.658(b) of the Commission's

Rules and Regulations

COMMENTS

On behalf of KNUZ Television Company (hereinafter referred to as "KNUZ"), licensee of television station KNUZ-TV, channel 39, Houston, Tex., the following comments are filed in support of the Commission's proposed rule. In support thereof, it is stated:

1. Although KNUZ supports the proposed rule which, in its opinion, will to some extent be helpful, KNUZ nevertheless desires to make clear that this proposed rule, while it may to some extent aid, it can in no way cure the unfair competitive situation which has arisen in the city of Houston by the Commission's failure to deny the application for modification of construction permit of KGUL-TV (a VHF station), Galveston, Tex., to move its transmitter site to a location which has enabled it to place a primary signal into the city of Houston.

2. On April 30, 1954, the Commission released its memorandum opinion and order (FCC-54-564; 4807) granting the application of Spartan Radiocasting Company, Spartanburg, S. C. (File No. BMPCT-2042) over the protest of two UHF stations, one located in Greenville and the other in Anderson, S. C. By this application for modification of construction permit, the Spartanburg permittee sought authority to move its transmitter site in order to enable it to send a primary signal into Greenville and Anderson, S. C. In its memorandum opinion and order granting that application, the Commission grounded its reasons for granting that application (over objections) upon the following statement:

"The instant application meets the requirements of the Commission's rules with respect to minimum signal required to be placed over Spartanburg * * * no substantial reasons have been advanced by the objecting parties which would justify refusal to grant the subject application at this time, particularly in view of the fact that all of the allegations of the petitioners are concerned with the intentions of the applicant and since the petitioners have offered no substantive proof in support of such allegations, but only speculations, inferences and presumptions which we do not believe can properly be drawn from the application itself or from past actions of the applicant."

3. The Commission's decision in the Spartanburg case, supra, is but another recent example of the Commission's failure to recognize as an incontrovertible fact that section 3.685(a) of the Commission's rules which was designed to restrict television stations to one principal city by the requirement of a minimum signal strength, has proven impotent in achieving that objective. In contrast to the recent example of the Spartanburg situation, however, which the Commission believed to be buttressed upon mere speculations, inferences, and presumptions, KNUZ, Houston, Tex., now comes before this Commission as a living monument of the same type of Commission decision, where the Commission refused some time ago to recognize the impact of permitting KGUL-TV (a VHF station) Galveston, Tex., to invade the Houston market. Thus with this lapse of time and its resulting experiences, KNUZ can now translate into facts what has heretofore been characterized as inferences, speculations, and presumptions.

Upon information and belief KNUZ alleges the following facts:

A. If the Federal Communications Commission had not allowed KGUL-TV, channel 11, of Galveston to move its transmitter to a location which enables it to place a primary signal into the Houston market, KNUZ undoubtedly would have the CBS network, or at the very least the ABC network. As it is, the two

VHF channels serving Houston, channel 2 (KPRC), which is allocated to Houston and is the NBC outlet, and channel 11, have both CBS and ABC tied up to the point where KNUZ cannot obtain even shows which are not now being aired by either of these stations. It is KNUZ's understanding that CBS has an exclusive 2-year contract with KGUL-TV covering the Houston area, and KNUZ has been told by ABC that their arrangement is as follows: KPRC, Houston, has first choice of ABC programs; KGUL-TV, Galveston, has second choice on those KPRC cannot clear. KNUZ was told that it could have third choice of any shows not wanted by the two VHF outlets provided KNUZ could sell the advertising agencies on buying a UHF station. The ABC network made it clear it would make no sales effort in KNUZ's behalf.

B. The DUMONT network, which found itself with virtually no outlet for its programing also refused to give KNUZ a basic network affiliation on the ground that its sales department could not force agencies to buy a UHF station. DUMONT's top commercial shows are on KGUL-TV, and KNUZ has been relegated to DUMONT's sustaining programs for which it must pay and which it attempts to sell on a participating basis.

C. While the proposed rule limiting exclusivity might help some, in the case of KGUL-TV, such a rule will not make any material difference. ABC and Du Mont do not now have exclusive contracts with KGUL-TV, but they might as well have, since the availability of a VHF outlet to carry some commercial shows effectively blocks KNUZ from obtaining those top commercial network shows which are valuable as audience builders.

D. KGUL-TV from the beginning has considered itself a Houston station, not a Galveston station. Its major sales effort has been in Houston, not Galveston. It spends large sums on billboards in Houston, bus-card advertising, full-page advertisements in Houston newspapers, and on other promotion. It has recently concluded a lease with the Prudential Insurance Co. of America for a full floor in Houston's newest and most modern skyscraper building. Very elaborate studios are planned in this new Houston building, and it is further understood that KGUL-TV plans to move its main business and sales offices there. Compared to its very modest Galveston studios and offices, these Houston quarters are plainly the main offices and studios, where KGUL-TV's local programming and sales efforts will be concentrated.

E. Standard rate and data lists four salesmen in Houston offices of KGUL-TV: none are listed in its purported main studios in Galveston.

F. In the background of all this, it must be borne in mind that KGUL-TV's transmitter is so located that relatively few Galvestonians can receive its signal without the same elaborate types of antennas which are necessary to receive the signal in Houston. By invading the Houston market with its signal, Galveston has been placed in a sort of fringe area by KGUL-TV, and the people of Galveston have in effect been deprived of a local station. They must make a heavy investment in antennas to receive a usable signal. They are but little better off in this respect than if they had no local station and were wholly dependent upon Houston stations.

G. KGUL-TV carries very little local Galveston advertising and virtually no local Galveston programing. This is entirely due to the emphasis which KGUL-TV places on Houston. Because it is geared to compete in a great metropolitan market of more than a million population, it must operate on a scale which makes its advertising rates out of reach of all but a handful of Galveston, and that when it is mentioned on I. D. slides it is in such small type it cannot be read and frequently is so located that it does not even show on most TV screens.

H. For the period April 22-28, 1954, KNUZ monitored the programs of KGUL-TV. Based upon these monitoring reports which will be submitted to the Commission upon its request, a total of only four Galveston merchants used the facilities of KGUL-TV. With these few exceptions, all other advertisers were either national or Houston advertisers.

5. In view of the foregoing facts, it is the position of KNUZ that the Commission's failure to recognize the impotency of section 3.685 (a) of its rules in limiting television stations to one principal community greatly outweighs the benefits which might under some circumstances be achieved by the proposed change of the Commission's rule on network territorial exclusivity. Insofar as the Houston situation is concerned and based upon KNUZ's past experience, it is evident that the proposed change in the network territorial exclusivity rule will merely improve KNUZ's legal position in any effort which it may make to

invoke the antitrust laws against the network companies and KGUL-TV. From a practical standpoint, however, it can be anticipated that the networks will merely repeat to KNUZ what they have said in the past, vis: "We just can't force advertisers to take you." It is therefore clear that the network companies will either make no contract at all for Houston, or, if they do, they will make no effort to sell a UHF outlet, such as KNUZ, but instead will rely on their nonexclusive Galveston contract to cover that market. Again, it is emphasized that these expectations are not based upon inferences, presumptions, or speculations; but upon KNUZ's past experience. Accordingly, it is respectfully requested that the Commission in adopting its proposed rule on territorial network exclusively, at the same time issue a notice of proposed rule-making modifying section 3.685(a) of its rules to require a substantial increase in the minimum signal strength now provided for, in order to eradicate completely the impotency of that rule in limiting television stations to one principal community.

Respectfully submitted.

KNUZ TELEVISION Co.,
By MARCUS COHN, COHN & MARKS,
Attorneys.

MAY 3, 1954.

Senator POTTER. Mr. Merryman.

Mr. Merryman is with the Southern Connecticut and Long Island Television Co., Associates of Bridgeport, Conn.

STATEMENT OF PHILIP MERRYMAN, SOUTHERN CONNECTICUT & LONG ISLAND TELEVISION CO. ASSOCIATES, BRIDGEPORT, CONN.

Mr. MERRYMAN. I would like to begin by extending my thanks to you and the committee for the privilege of appearing here and presenting my thoughts on this most intricate and complicated problem.

Senator POTTER. We are very pleased to have you here. We are anxious to have the best views of every person who can throw some light on this complicated subject.

Mr. MERRYMAN. Thank you, Senator. I am not sure that my own are the best views. I assure you they represent my own best thinking.

Senator POTTER. That is important.

Mr. MERRYMAN. I would like to divert for just a second to apologize to the gentlemen at the press table. I came down here with the press statement. I had 25 copies of it and I had intended to testify from notes. I still do. But I decided to write a press statement; and after I got through with it I decided it was such a good, succinct statement of my position that I ought to put it in the committee's record. So it will be available to them. I will have additional copies made.

Senator POTTER. That is the press statement?

Mr. MERRYMAN. That is labeled press statement.

Senator POTTER. Do you plan to read the statement?

Mr. MERRYMAN. No. I am going to testify from notes.

Senator POTTER. Well, without objection, your statement will be made a part of the record at this point.

(Press release statement of Philip Merryman is as follows:)

The present intolerable monopolistic conditions in the television broadcasting industry stem directly from the FCC's regulations and the rigid allocations system adopted by that body in 1952. This allocations system could be characterized as an engineer's dream which ignores the broad social and economic facts of our democracy. Had the two networks which monopolize national television broadcasting devised their own plan of allocating designed to consolidate and perpetuate their monopolies, they could not have conceived an allocations system better suited to their purposes.

I have frequently stated in public that television broadcasting has a greater destiny and a greater obligation to the preservation of our democracy than does a mere purveyor of goods and services. It has a social obligation that far outweighs its economic significance.

In the worldwide ideological struggle for men's minds, television broadcasting could and should be the public communications medium most effective in uniting our democracy against the aggressive attacks of the cynical prophets of communism. It also has an obligation to take the leadership in solving such national social problems as juvenile delinquency.

This can best be done by insuring for each community throughout our land the opportunity for its own television station or stations. These objectives of our democracy can best be achieved at the local community level, and unless something is done to remove the artificial restraints on local television broadcasting now embodied in the regulations of the FCC they cannot be realized.

Looking toward the elimination of the present inequities and a long-term solution to the general problem, I made these recommendations to this committee last May 20:

The recommendations are divided into two categories; those looking toward immediate relief for television broadcasters, and those looking toward a long-term solution of the entire television industry's problem. The recommendations made for immediate relief were as follows:

1. That the Commission rescind its rule against the use of directional antennas for allocation purposes in the VHF-TV frequencies. Should this rule be relaxed, WICC could operate on channel 6 and thus could provide an immediate television service to Fairfield County. I am sure that similar grants could be made in many other important cities in the United States. WICC-TV is preparing to file with the FCC for channel 6.

2. Recommend to the Small Business Administration that they relax their rule against extending relief to companies engaged in public communications to the extent of taking first mortgages on buildings of UHF television stations when it can be shown that reasonable mortgages are not otherwise obtainable.

3. I recommended support of Senator Johnson's bill proposing to eliminate the 10 percent excise tax on all-channel television receivers. Thus, the retail price of VHF only and VHF-UHF television receivers could be equalized at the retail level.

4. I recommended support of the Commission's proposed rule to eliminate exclusive area affiliations between television stations and networks.

5. In view of the controversy over whether the 70 channels in the UHF television frequency spectrum could support a national competitive television broadcasting system, I recommended that the FCC present to the subcommittee when it reconvenes, an allocation plan for television stations using only UHF frequencies.

Looking toward a long-term solution of the television station allocations problem, I recommended that:

1. That color television broadcasting be restricted to UHF stations only. The public at the present time has approximately \$6 billion invested in VHF television receivers. It would obviously be impractical to discontinue VHF broadcasting on an immediate cutoff basis. However, to receive color television a completely new television set must be purchased. If color television broadcasting is authorized for UHF only, we will not at some future date find the public with \$12 billion invested in a television broadcasting system which is insufficient for our country's needs. In other words, let's prevent the situation which arose early in 1952 when the FCC found it could not institute a UHF only allocation because, at that time, the public had some \$3 billion invested in VHF only television receivers.

2. In order to prevent undue economic injury to the existing VHF broadcasters, I suggest that they be authorized to operate a companion UHF television station and thus implement a gradual transition to UHF broadcasting only.

I would now like to make two further recommendations:

1. That a 3-year depreciation writeoff for tax purposes of undepreciated investment in VHF technical equipment be granted each VHF television station that elects to operate a companion UHF television broadcast station.

2. That the present mileage separation for VHF television stations on adjacent channels be eliminated.

This plan is painless to the public and fair to existing VHF stations. It will if adopted solve the present difficulties in television broadcasting as a public

service. Within 2 years, the present 10 percent conversion nationally could in my opinion be increased to 50 percent, and within 3 years to 80 percent. Within 5 years, the transfer to UHF should be virtually complete.

Mr. MERRYMAN. I do intend to refer back to a statement I filed on my previous appearance of May 20, at which time I made these recommendations which are essentially the same today except that I have added two new ones which implement the previous position.

Now, I have been quite pleased at listening to the testimony here today from my fellow broadcasters in UHF. I was particularly pleased with Mr. Kohn's statement to the committee. It seemed to me that it was a very statesmanlike presentation.

Senator POTTER. He made an excellent presentation.

Mr. MERRYMAN. And that he touched on many of the things I wanted to talk about. He has already talked about them; so I will just skip over them very briefly.

Now, Mr. Chairman, it seems to me that the basic trouble here is that we have an allocation system which does not present to the broadcasting equal opportunity. I feel that the basic solution to be found is some way of equalizing those inequities.

I don't mean by that, as the previous witness heretofore stated, that we and the other UHF broadcasters here are like the Communists; we want everything equal and everything divided up between us without the result of individual effort. I think that I am a promoter of the philosophy of free, private enterprise. I believe in competition. I don't believe in artificial supports or subsidies of any kind to affect your competitive ability.

But I also don't believe that artificial restraints on competition should be imposed so that those of us who are trying to serve the public in the best way we know find ourselves against apparently insurmountable handicaps. It seems to me that the basic conflict here—the basic reason for the conflict is a misconception of the philosophy on the part of the Federal Communications Commission itself.

If you will examine Chairman Hyde's testimony, he told you that priority No. 1 of the Commission in coming out with the allocations of 1952 was to provide at least one television service to all parts of the United States; and then he set up his priority No. 2 to provide—I say he: I should say the Commission—to provide each community with at least one television station.

I was pleased to hear Mr. Kohn say this morning that conclusions should be on the allocation of the communities which are really the basic safeguards of our nation; that they should not be based on the needs of networks or the needs of the larger cities to the exclusion of the smaller cities' rights to have this facility. And I submit at this time, Mr. Chairman, that those priorities should have been reversed: and had they been reversed, we would not be in as difficult a situation as we are at the present time.

The very fact that priority No. 1 talks about service to all of the people of the United States sets out the condition whereby you justify the monopolistic coverage that was given to the VHF stations, and that directly led to the monopolistic situation we have today. And this present intolerable monopolistic condition in the television industry stems directly from the ICC allocations system adopted by that body in 1952.

Now, this allocation system, in my opinion, should be characterized as an engineer's dream which generally ignores the broad social and

economic facts of our democracy. And I think that further, in my opinion, had the two networks which monopolize the national television broadcasting devised their own plan of allocating stations, designed to consolidate and perpetuate their monopolies, they could not have conceived an allocation system better suited to their purposes.

I have frequently stated in public that television broadcasting has a greater destiny and a greater obligation to the preservation of our democracy than does a mere purveyor of goods and services. It has a social obligation that far outweighs its economic significance.

In the worldwide ideological struggle for men's minds, television broadcasting should and could be the public communications medium most effective in uniting our democracy against the aggressive attacks of the cynical prophets of communism.

It also has an obligation to take the leadership in solving such national social problems as juvenile delinquency. This can best be done by insuring for each community throughout our land the opportunity for its own television station or stations.

These objectives of our democracy can best be achieved at the local community level, and unless something is done to remove the artificial restraints on local television broadcasting now embodied in the regulations of the FCC they cannot be realized.

Now, an allocation system is not solely an engineering problem. It is also a social and economic problem. And, moreover, it is about as complex a problem in distribution as one can find. But we find, with those complex problems before the Commission, the attempt to solve at the source all of the economic and social problems in the distribution of stations, that we have what must now be apparent to the members of this committee, a miserable failure.

We have an allocation system that sets up 7 stations in New York City, and none, for example—and I use my own city as an example—in the 36th largest market in the United States. We find that we have stations assigned to post offices.

And, all in all, Mr. Chairman, it is not a good economic solution, nor one which apparently will meet the social problems. And I think this is a problem that concerns not only the people in the UHF industry.

What is important to you and your committee is not the difficulties that we in Bridgeport have in competing in this television field, or the difficulties that Mr. Kohn will have in Allentown, or the difficulties Mr. Green has in Houston, or Mr. Chisman in Norfolk. What is important, it seems to me, is that we have here a system for the distribution of the public's property in spectrum space which is not equitable to all people of the United States; and we all should look together for a solution of that problem. And I think it is a problem for the VHF broadcasters also and the networks who are largely affiliated with the large VHF stations. I think it is a problem to them because competition is the essence of our economic system and our democracy; and without competition—which we certainly don't have under this system—if we continue the monopolistic conditions that exist at the present time, I think that both the networks and the larger stations must face the possibility that there will be Government regulation of their activities and possibly even regulation of the program presentations.

Now, in that connection, I would like to comment and to cite what happens when money becomes the all-powerful thing:

Last May 31, during the interim in this committee's meetings, the President of the United States made an address of international significance at 9:30 in the evening. Now, certainly, I don't need to recite here the great problems that are facing our administration, and our Republic, in the present situation in international affairs. I don't need to recite the necessity for constantly impressing upon the minds of our people that these problems exist both internally and externally, and that they must be thinking about those problems and uniting to meet them.

Yet we find, at 9:30 on Monday night, May 31, when the President went before the television cameras to give the people of the United States his thoughts on the international and national problems at that time, we find that only channels 5 and 7 of the New York stations were carrying that program.

Channel 5 is the Dumont Television Network—key station in New York; and channel 7 is the key station of the ABC network.

Of the other 2 networks, NBC carried a recording of the program, a filmed recording of it, at 11:15 at night, and a large share of the population had gone to bed; and CBS carried the program at 11:30 at night.

Now, let's take a look at what the programs were that were so important on these two monopolistic networks that could not carry the message of the President to States when he was trying to get a message across to our American people.

On CBS we find Red Buttons. And here is a description of the program contained in this program digest:

Red Buttons appears as a country bumpkin, raspberry buttons, in a half-hour musical comedy. The show has original music, as well as parodies on popular tunes.

That was what CBS thought was more important than the President of the United States.

Here is what NBC thought was more important:

"Once Upon a Time"—this is Montgomery Presents—

Once Upon a Time: A bridal couple stand in their receiving line. As the guests pass by the bride and groom look into the faces that recall the days of their courtship, and the people they might have married, if—

Now, obviously, if they continue that type of programming, it is not meeting their public service obligations and if they don't meet the public service obligations then, of course, Federal regulation of some type will be required.

Senator POTTER. The other two carried it live?

Mr. MERRYMAN. The other two carried it live. As we did in our channel 43 in Bridgeport.

Now, Mr. Chairman, getting back to this allocation system, in 1945, at a time when there were only seven television stations in the United States operating, and they were all operating at terrific losses, I testified before the Federal Communications Commission. At that time people were saying—people in the industry—that it took a city of a basic population of 500,000 to support a television station.

I didn't believe it; so I took the stand and—and I was then the director of facilities, development and research for the National Broadcasting Co.—I took the stand and testified that, in my opinion,

400 cities would have their own television stations within 10 years. And I said that television stations could be supported in towns having populations as little as 25,000.

This is a pamphlet entitled "Television Dollars and Sense."

Senator POTTER. Would you like to have it made a part of the record?

Mr. MERRYMAN. I would.

Senator POTTER. It is made a part of the record at this point.

(The pamphlet "Television Dollars and Sense" is as follows:)

TELEVISION DOLLARS AND SENSE

By Philip Merryman, Director, Facilities Developments and Research,
National Broadcasting Co.

Reprinted: Radio Age, July 1945

At the beginning, I want to make it clear that I have no "prevision" on television. I have looked at the facts—learned by experience while developing sound broadcasting—and I have examined most of the evidence available, good and bad, concerning the problems we expect to meet in television. From these explorations I have drawn the conclusions that follow.

It is not my purpose to argue with anyone regarding the technical standards for television. That is a mental blind alley that yields little comfort to the careless thinker. For instance, I prefer to let the public decide whether six megacycle black-and-white television is satisfactory. Mr. and Mrs. Public will make the ultimate decision anyway. The pent-up demand for postwar television is apparently so great that it will reach floodtide as soon as new sets appear on the market. If we are to deprive the public of these sets we need very convincing reasons. King Canute could not stop the tide. It is just as foolish to believe that television can be withheld from an eager public.

One fact is certain—a television picture cannot be evaluated in the same terms as an oil painting. Television pictures were not intended to grace the walls of world's art galleries. They were created for the specific job of bringing into homes the public meeting places, the living, vital, instantaneous reproductions of the pictures and sounds associated with interesting human or natural events wherever they may occur. Any attempt to evaluate television picture on any other basis leads to fundamental errors of interpretation.

Flawless image is objective

Of course, the television industry will not be content until it achieves a picture as flawless as nature itself but this ultimate goal cannot be reached through laboratory research alone. Like the automobile its final perfection will be attained only after millions of people have contributed to its improvement. The names of the engineers who have devoted major efforts to the development of television can be counted by hundreds—perhaps by thousands—but the names of the program, advertising and businessmen who have devoted creative thought to the development of a television service can be counted on the fingers of two hands. Television's real progress as a public service will begin when thousands of such men think constructively on television's problems.

Yet all the constructive thinking in the world will not carry television forward unless labor offers a full measure of cooperation. This failure to evaluate the future possibilities of television in terms of its present status is particularly evident among organizations that have the greatest stake in the ultimate place of video art in the entertainment field.

Orderly progress in television is dependent on far more than the initiative of broadcasters. They cannot do the job alone. They must have the sympathetic support of all factions concerned. With little financial return from their pioneering activities at this time, any additional burdens the television companies are forced to bear because of the extreme demands of labor groups might easily retard the extension of the service to the public.

A little commonsense will show that it is not a "something for nothing" attitude on the part of broadcasters. Television is willing to pay a fair price for contributed services during the present developing stage but if supporting costs are lifted

so high that resources are threatened, the industry will face a critical situation that could easily be its Waterloo.

Television producing companies take the stand that labor should be content to grow with the industry in the same way that broadcasters expect to develop it and the advertisers to use it. There must be fair play and generous treatment by all concerned if television is to become a national medium of entertainment with consequent opportunities for mass employment.

400 cities with television

Last October in testimony before the Federal Communications Commission I stated that I believed television stations could be supported in towns having populations as low as 25,000. I submitted cost and operations statements to support my contention. I can now expand that statement to say that it is my belief that within 10 years more than 400 cities in the United States will have television stations, all operating at a profit.

Unfortunately, sound broadcasters have been led to believe that the installation and operation of television facilities entail a very considerable outlay from the start. This is not so. Television programing can be started in a small way and expanded as receiving sets and commercial sponsors increase. How this can be done is suggested in the illustration on page 5. The objects shown in heavy outline are those that would form the nucleus of a studio. The lighter figures are those that would be added as the scope of the station's programs is extended. It will be seen that one operator, handling cameras and lights by remote control, would be sufficient for simple productions. By restricting their movements to the areas outlined, the actors would always be within the focus of the camera. The latter, once adjusted, would then operate unattended throughout the performance, eliminating need for an operator at each camera.

A studio arrangement such as the one shown here, supplemented by one or two 16-millimeter motion picture projectors, would comprise all essential equipment for a start. As program time is increased and additional studio space secured, the transition from these limited facilities to those that will be required eventually could be carried out in gradual and logical steps.

Now what about the other advertising media—newspapers, magazines, cards, billboards, direct mail and so on? I predict that all of these media, including sound broadcasting, will be more prosperous than ever, even after television becomes commonplace. It has been the history of advertising that no new form ever completely displaces the older ones. On the contrary, history reveals that the resulting increased volume of advertising increases the distribution of goods and services so that the overall national wealth is increased.

Between 1927 and 1943, for example, newspaper circulation increased from 63 million to 82 million and magazine circulation mounted from 36 million to 63 million. This was the period during which broadcasting was growing most rapidly. There is no fundamental reason why this experience should not be repeated with television even though television should prove to be the most powerful advertising medium devised by man.

I believe that there must be a new program format developed for television just as sound broadcasting had to devise its own program technique. This is not intended to imply that audiences around New York do not like the programs they see now. They do, most emphatically, but we can and will improve the service.

Cannot copy older mediums

Television programs cannot simply ape the older forms of entertainment if they are to fulfill their promise. Although the scope of program material available to television broadcasters will be fully as great as that now available to sound broadcasters, the technique of presentation must be different since the television broadcaster will be presenting pictures themselves—not just sounds which create mental pictures. The technique of the stage will not be suitable since television will use the world for its stage and the usual fifty- by a hundred-foot space behind the footlights will be only a small fraction of its area of activities. Nor can it be the technique of the movies, because television will broadcast events as they happen. Furthermore there can be no takes and retakes which, after the final cutting, may lie in cans for months before they are released. No, television's technique must be different from any entertainment technique yet developed and the genius who perfects it is probably still unaware of the part he is to play in its development.

Recently, the British Broadcasting Corp. announced that its postwar television service expansion plans are based on the use of its 405-line standards.

This decision did not exclude the possibility of rapid development of a higher definition television system. It simply recognized that if the British public is to have immediate postwar television service it would have to start with six-megacycle black and white pictures. That should be the program in the United States. No one questions that television techniques will improve as time goes on, but that improvement will be made for 6-megacycle television as well as for 18- and 20-megacycle television. We don't know how long it will take to develop 20-megacycle television. We do know that we can plan postwar television on the six-megacycle basis and every rule of common sense tells us that we should go ahead on that basis.

In 1927, when broadcasters went to the White House to broadcast a speech by the then President Calvin Coolidge, a truck was needed to transport the equipment. Today one man with one suitcase can carry the necessary equipment for a Presidential address into the Presidential Mansion. In 1927, we had cumbersome, unattractive and expensive radio receiver sets. In 1941, we could purchase better sets for \$19.95. With all the ingenuity, originality, and progressive thinking the collective brains of the broadcasting industry can bring to bear on television's problems as soon as television becomes an established service, it is inevitable that we shall see progress just as rapid and as revolutionary as we have witnessed in sound broadcasting.

Television seems destined to bring regularly to all America the best in American culture. Later we may exchange programs with the rest of the world. The social and economic effects of thus broadcasting information and entertainment will be considerable. Socially, because television will enlarge mental horizons of people in all walks of life; economically, because it will increase the demand for goods and services so that national employment will be enlarged and national income increased. I look forward eagerly to the rapid release of materials to the communications industry so that we can get on with the job.

Mr. MERRYMAN. However, I did not visualize at that time in 1948, there would be a freeze on the development of the television industry which would last for 4 years; and I never visualized that after a 4-year freeze, while we were studying the problems of providing a competitive national television system, that we would come out of that with a more monopolistic system than that which we went into the freeze.

Senator POTTER. Could you visualize the coverage of one station when you prepared this?

Mr. MERRYMAN. I was thinking in those days, as we all were, in the 25-mile maximum coverage area for a television station.

Now, it seems to me that some of the thinking that has gone into our allocation system is based on a misconception of costs of installation and operating a television station. I said in 1945 that I thought television stations could be supported in cities of 25,000 population, and I still do. That is, provided there is set up a fair opportunity for stations in such cities to compete. Without it, of course, it will not be possible.

It seems to me, also, that in this allocation system there has been a little too much preoccupation with the welfare of the networks. In the history of sound production, networks were extremely important in the early part of the broadcasting history. It was almost impossible for a sound broadcasting station to exist without network relations. That is not true today.

And, in fact, independent stations not affiliated with networks today usually have larger audiences than the network stations themselves.

In television today, it is important for stations to have network service. We have network service on our own stations. The programs of the American Broadcasting Co. and an occasional program from Du Mont. Without such programs we would not be able to exist.

We have been refused program service by both NBC and CBS.

But this preoccupation with the ability of the networks to set up their system seems to be a matter of secondary importance to that of seeing that each community throughout our land has its own television service. When we built our television station in Bridgeport, we knew we'd have competition from 7 stations in New York, and 1 in New Haven. But we felt, and still feel, that our community is entitled to own its own television service. We established that station 15 months ago. We are still operating it; and we expect to continue operating it no matter how much money we use because we are going to give our city a television program service.

We are suffering losses. We are down now where we have two employees on our television payroll. And we are paying the out-of-pocket expenses of the television station from the profits of the radio station, which, incidentally, is having far more competition than does the television station. That is, insofar as the programs coming in from the outside is concerned. That is not what we are afraid of. We will compete with any of their services insofar as furnishing the programs for our community is concerned. What we are concerned with is that our sound station is available to 100 percent of the cities in the area, with television service available to 10 percent; and the situation is not improving too rapidly.

Now, politics has been mentioned here. I would like to touch on it briefly. The area I have talked about in the State of Connecticut happens to be a congressional district. There is no way that the candidates of that congressional city can communicate by television with their fellow Americans.

One of the gentlemen who preceded me mentioned that CBS had increased the rate to \$6,000 in New York. CBS has increased it to \$6,200—that is, for the class AA time. Obviously, no candidate for public office can afford to pay for the service in order to reach Fairfield County, which this station is serving. They can't reach them from the VHF stations in New Haven because all the antennas are turned around and pointed to the seven stations in New York, and they don't look at the New Haven stations.

That is \$6,200 an hour charged by the New York station. If we had sold just 3 one-half hour programs a month at those rates, that would support the operation of our television station in Bridgeport; and 36 half-hour programs sold per year at that rate, would support our operation for another year. And from IDS and the 20-second spots, we could make a very handsome profit, probably more than we will ever make on the station in Bridgeport.

But the big thing is that UHF appears to carry a stigma in the public mind. There is the necessity for them to buy a converter; in many other cases, a large percentage of the cases, there is necessity for putting up an antenna on the outside. So it is something different. It is UHF instead of VHF; and it must be a little bit inferior to VHF; so the public finds it hard to believe that we are going to give them a better program service than the alien services arising from the outside of our community.

And then there is a continued effort on the VHF station operators to employ superior VHF stations, and that news gets around all over the area, and tends to substantiate this inherent belief on the part of the public that there is something inferior about UHF.

We have presented a program service in Bridgeport. We don't take a back seat to anyone as to the type of service we have rendered during the 1953-54 season—the educational year. We presented over this station five separate college courses for credit in cooperation with an independent university in Bridgeport called the University of Bridgeport. Two of these programs dealt with English literature; one of them with economics; one with music appreciation; and one with sociology.

Now, we were giving the public educational television, and we were giving it to them at no cost, because the private university has no subsidy of any kind, and neither does our television station. We have exhausted the approach to local programs in our efforts to arouse the public need for these services that we are trying to give them. And we always run up against this factor of the cost of getting our channel 43 over the existing receivers.

Now, we should not have to be in that situation, because Fairfield County, as I said, is the 36th in population. It is the 37th most populous area in the United States. It is the 37th in number of families. It is the second in per capita income and family income in the United States. And we rate 28th in retail sales in the United States.

This market was originally assigned channel No. 1 under the allocations prior to 1947. Then when channel 1 was deleted and turned over to the mobile service, it was taken away from Bridgeport, and now VHF was reassigned. So if we were going to serve our area with the television service, we had no choice but to operate a UHF station. And we have been doing that for a 15 months' period.

There is another commercial UHF assigned to the Bridgeport area. There was a CP granted to it; but the owners, after watching our experience, let the CP lapse, and that channel is now unassigned.

Now, there has been a great deal said here about the effect of this competition; and I would like to pinpoint it just a little bit. In a statement I left with your committee on the 20th of May, I included, as appendix F, a letter from J. von Volkenburg, then president of CBS television.

Now, Bridgeport is located 50 airline miles from New York City. And we had an order for the Jack Carson show in May or June of 1953, after we went on the air, before this unfavorable climate toward the economic accidents of UHF had been set up—we had an order for that program. And it was filed in the Chicago office of CBS, and transmitted to the authorities. The sponsor of the program that was advertising the program wanted our channel 43 in Bridgeport. CBS refused to take it because they said we had no network affiliation with them. I have, of course, tried to get an affiliation, quite unsuccessfully.

So, I wrote a letter to Frank Stanton, who is the president of the CBS station—not just the television network—and he had Mr. J. von Volkenburg reply. I would like to draw your attention to Item No. 3 of his letter, in which he says:

Field Strength Measurements indicate that WCBS-TV delivers a median field of approximately 60 db u. (1 MV/M.) in Bridgeport. We believe this is an adequate signal.

Now, this is one of the most populated industrial cities, 50 miles from New York City. Chairman Hyde stated that in his presentation that the reason for the increase in the power and the antenna height of this station was to insure better coverage of these areas.

Yet, here we are in Bridgeport, where sets are backed up against factories in some places, and we are getting a grade A signal from this station in New York 50 miles away.

Now, you notice, Mr. von Volkenburg uses engineering terms, with which he is not familiar. So this represents the opinion of CBS engineering department.

And then in Item No. 4, Mr. von Volkenburg says:

Supporting the adequacy of the WCBS-TV signal in your area, the Nielsen Coverage Service shows WCBS-TV with an evening circulation of 95 percent of the television homes in Fairfield County. In fact, it shows that 82 percent of these homes watch WCBS-TV on 6 or 7 nights a week.

Now, you have heard the testimony here previously of Mr. Kohn that 40 miles as being the edge of the A area. That is not the edge area designed to support areas which have large segments of industry, such as we have in Bridgeport. That is the area which controls largely suburban or rural types of residence.

They have another designation for covering the industrial sections of the city, which they call the employment contour, which is considerably closer to the station than is the limit of the A area. And here we are 50 miles from New York. I think that will give you a pretty good picture of what the coverage of these stations is.

Now, in that connection, I would like to submit another exhibit here. I will give it to you in just a minute.

I did not pick this station because it happened to be WSAZ-TV in Huntington, W. Va. I picked it because it is illustrative of a problem that exists here that has been talked about at some length today. But I would like you to look at it and I would like to put it in the record.

Senator POTTER. Without objection, it will be a part of the official files of the committee.

Mr. MERRYMAN. Now, if you will read the caption at the top above the map, you will see that it is labeled:

"Three Prime Trading Areas in WSAZ-TV's Big Coverage Core."

And then when you read underneath, it says:

While WSAZ-TV's 100,000 watts on channel 3 actually covers 5 States and 114 counties, the heart-shaped area circumscribed in the map below represents the station's primary coverage. Within this primary area are 3 flourishing urban trading areas totaling over 700,000 people. In approximate population, these 3 areas break down this way: The Huntington-Tri-State area 275,000; Charleston-Great Kanawha area, 335,000, and the Portsmouth area, 120,000. Also within the primary but not spotlighted on the map is another important trading center—Parkersburg—which WSAZ-TV offers in this relation as merely one of its bonuses in audience coverage.

Now, I have not measured out the mileage on that map; but certainly they claim that they cover three important trading areas; and they give another one away free.

I believe, in the previous session of your committee, there was a UHF station over here from Parkersburg, which was trying to tell you the problems it had there; and of course, with this station which carries the programs of all four networks, the gentleman from Parkersburg had quite a time convincing the National Advisory Committee.

Now, the Portsmouth area at the present time supports two radio stations. It is assigned one UHF station on channel 30. That UHF is going to have little chance of success. I don't believe anybody has applied for it.

And in Charleston, which is the largest city among those mentioned, there are five radio stations. That city has assigned 1 VHF and 1 UHF; and 1 UHF, educational, station.

From the network coverage they are getting from Huntington, they will be in a lot of trouble. I don't know whether they have applied to appear here. But it is one thought that is apparent, as an observation.

Now, I thought it was quite significant that in the first session of your committee, the appearances here were largely on behalf of UHF stations. I did not think there was much interest or concern with this problem; and, certainly, when the association meeting for which you adjourned the hearing convened, in Chicago, it was demonstrated there was no great concern with the people controlling the industry; because they didn't have one single subject of UHF on the Chicago meeting.

They did not discuss it in their open meeting, nor in their engineering meeting, which was a subsidiary part of it.

There were something like 25 technical papers presented. There was not one presented dealing with the problems of UHF television broadcasting. But there were 13 papers dealing with the subject of color television.

I'd like to put that in the record. It is entitled: "Technical Paper Summaries."

Senator POTTER. It is now made a part of the official files of the committee.

Mr. MERRYMAN. I think that a lot of your appearances that will follow after I get through, will be from the VHF stations; and they seem to be of the opinion that we in the UHF are particularly attacking them.

As I tried to say before, it is not a matter of attacking anybody, trying to take something away from someone. What we are talking about here and attacking here is a national problem with social and economic significance to the future of our country.

Now, Sponsor magazine secured from the pioneer TV stations information regarding their activities and their history, and they published it all in short form, which you have before you. And I would like to submit that for the record. I think it might be useful to the committee in studying the presentation of these VHF broadcasters.

Senator POTTER. Without objection, it will be made a part of the official files of the committee.

Mr. MERRYMAN. I think one pertinent thing to call your attention to is that Mr. von Volkenburg, I think, called attention to the manner in which VHF operators delayed going into the business. It was obvious that those 60 that went in in 1949 and 1950 and 1951 were waiting to see how the competitive situation shaped up before they put their money on the line.

So these averages here, I don't think reflect the true situation. But there is an item in the summary which says that when they started out the starting time of the hourly rate was \$250; and in 1952 it was \$728; and in 1954 it was \$920. This is a very good history of the television industry which comes from Sponsor magazine.

Senator POTTER. This will be made a part of the official files of the committee.

Mr. MERRYMAN. There is one more aspect of this situation I would like to touch on; and then I'd like to get on to a brief discussion of the recommendations.

It appears there is developing now a situation which we had not visualized, where the monopolistic situation existing in the television broadcasting industry is beginning to have its effect on the AM broadcasting industry. I have my statement—the original statement, showing the efforts that we have made to get national business; and the frustration we have had. That letter was not written for the purpose of introducing into the testimony. It was a part of the regular business, and I presented it because it was informative.

I have some additional letters I'd like to put in.

This one is dated May 24, addressed to our sales manager, subject: Cashmere Bouquet (Colgate-Palmolive-Peet).

Dear Manning: Subject account used spot radio during 1953, however, all spot radio was canceled at the end of last year and money which would normally have gone into spot radio for the year of 1954 was allocated to the network TV show the Big Payoff. The additional cost of adding stations to the Big Payoff network was the reason why spot radio was canceled. Unfortunately, they do not contemplate going back into spot radio in the near future.

On May 25, subject: Veto (Colgate-Palmolive-Peet):

Dear Manning: Effective January 1 all Veto spot radio was canceled in order to help pay for the Mr. and Mrs. North network radio program and the Strike It Rich daytime TV network program.

Aside from Halo which you are currently carrying there is practically no Colgate business on the loose from the national spot standpoint. Their expanded TV network coverage has required all the money they can get to pay for the additional facilities and unfortunately spot radio has taken a beating. I certainly do not agree with this philosophy but with their recent cost of TV they had to steal the money from somewhere. Kindest regards.

This one is May 25: Subject: BAB-O.

Dear Manning: Early last year BAB-O used radio.

Dancer, Fitzgerald Sample took the account from Benton & Bowles March 1 of 1953 and they let in many cases existing radio schedules run to conclusion. After these radio schedules expired any further activity in the broadcast field was confined to TV. The account is very shortly going off the air and they do not plan to do anything during the summer months either on TV or on radio. Their plans however do call for the reinstatement of TV only beginning about September 1 or mid-September. In short; all future money will be confined to TV instead of radio.

This one is dated May 25. Subject: Lipton Ice Tea.

Dear Manning: Lipton Ice Tea will use nothing but TV for the eastern area this coming campaign. They are buying TV spots on WNBC-TV in New Haven plus 2 or 3 stations in New York City including the CBS and NBC stations. The only markets where radio will be used this year will be in non-TV markets.

Now, there is an indication of the trend of the radio stations taking their money out of radio and putting it into this monopolistic television setup. So that it appears that we may well have the radio-broadcasting industry from the national standpoint threatened by the continued existence of this monopoly, as well as the UHF stations.

Now, when I appeared before the committee on last May 20, I made a series of recommendations. I divided these recommendations into two categories: Those looking toward immediate relief for television broadcasters, and those looking toward a long-term solution of the entire television industry's problem.

The recommendations made for immediate relief were as follows:

1. That the Commission rescind its rule against the use of directional antennas for allocation purposes in the VHF-TV frequencies. Should this rule be relaxed, WICC would operate on channel 6 and thus could provide an immediate television service to Fairfield County.

I am sure that similar grants could be made in many other important cities in the United States. WICC-TV is preparing to file with the FCC for channel 6.

2. Recommend to the Small Business Administration that they relax their rule against extending relief to companies engaged in public communications to the extent of taking first mortgages on buildings of UHF television stations when it can be shown that reasonable mortgages are not otherwise obtainable.

And there are some exhibits in the back of my testimony.

Senator POTTER. That is part of the record.

Mr. MERRYMAN. My third recommendation was the support of Senator Johnson's bill proposing to eliminate the 10 percent excise tax on all-channel television receivers. Thus, the retail price of VHF-only and VHF-UHF television receivers could be equalized at the retail level.

No. 4, I recommended support of the Commission's proposed rule to eliminate exclusive area affiliations between television stations and networks.

No. 5. In view of the controversy over whether the 70 channels in the UHF television frequency spectrum could support a national competitive television broadcasting system, I recommended that the FCC present to the subcommittee when it reconvenes, an allocation plan for television stations using only UHF frequencies.

I would like to add a sixth short-term recommendation, and that is that the present mileage of adjacent channels be eliminated. I think the testimony from the receiver manufacturers show that that mileage separation on adjacent channels is not necessary.

Senator POTTER. What do you mean by that?

Mr. MERRYMAN. I mean you cannot only operate on channel 4 and channel 2 on New York; but you can put No. 3 in some other city, like Bridgeport, where it was needed more.

Senator POTTER. Without any interference?

Mr. MERRYMAN. Without any interference to the existing receivers.

Looking toward a long-term solution of the television station allocation problems, I recommended that:

1. That color television broadcasting be restricted to UHF stations only.

The public at the present time has approximately \$6 million invested in VHF television receivers. It would obviously be impractical to discontinue VHF broadcasting on an immediate cutoff basis. However, to receive color television a completely new television set must be purchased. If color television broadcasting is authorized for UHF only, we will not at some future date find the public with \$12 million invested in a television broadcasting system which is insufficient for our country's needs. In other words, let's prevent the situation which arose early in 1952 when the FCC found it could not institute a UHF-only allocation because, at that time, the public had some \$3 million invested in VHF only television receivers.

2. In order to prevent undue economic injury to the existing VHF broadcasters, I suggested that they be authorized to operate a companion UHF television station and thus implement a gradual transition to UHF broadcasting only.

I would like to make one more long-range recommendation, and that is that a three year depreciation writeoff for tax purposes of undepreciated investment in VHF technical equipment be granted each VHF television station that elects to operate a companion UHF television broadcast station.

Now, this plan—and I have used my best judgment in preparing it—it seems to me is painless to the public and it is fair to the existing VHF stations. It will, if adopted, solve the present difficulties in television broadcasting as a public service. And I predict that within 2 years the present 10 percent conversion nationally could, in my opinion, be increased to 50 percent and within 3 years to 80 percent. Within 5 years the transfer to UHF should be virtually complete.

Now, that may sound like an optimistic prediction; but the collateral benefits of coming out with this type of a program for the development of the television industry in the United States would extend not only to color television receivers that the public will have to be buying for either UHF or VHF, but it would extend also to the existing receivers the public has.

UHF would take on a new stature, a new dignity, a new feeling on the part of the public of substantiality. Someone said previously the manufacturers would intensify their research or problems of UHF equipment. So, in a short time, without having to impose governmental regulation on the programs we would find these problems melting away by setting up a really competitive free enterprise system in television broadcasting.

Senator POTTER. I wish to thank you for your statement, Mr. Merryman.

We had planned on hearing Mr. Brown as the next witness.

Is Mr. Brown here?

I understand that you prefer to testify tomorrow?

Mr. GORDON BROWN. That will be much preferable. I will need information that I don't have now.

Senator POTTER. That will be fine.

We will adjourn until tomorrow at 9:30 a. m.

(Whereupon, at 5:10 p. m., the hearing was recessed to 9:30 a. m., Wednesday, June 16, 1954.)

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

WEDNESDAY, JUNE 16, 1954

UNITED STATES SENATE,
SUBCOMMITTEE NO. 2 ON COMMUNICATIONS OF THE
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D. C.

The subcommittee met at 9:42 a. m., pursuant to call, in room G-16 of the Capitol, Senator Charles E. Potter, chairman of the subcommittee, presiding.

Present: Senators Bricker (chairman), Potter, Schoeppel, Bowring, and Hunt.

Also present: Bertram O. Wissman, chief clerk; and Nick Zapple, counsel for the subcommittee.

Senator POTTER. The subcommittee will come to order.

Before we hear from any witnesses, I have several communications which I would like to make a part of the record at this point.

(The communications referred to are as follows:)

JUNE 10, 1954.

Senator CHARLES POTTER,
Senate Office Building, Washington 25, D. C.

MY DEAR SENATOR: I note with considerable interest, the proposal to shift all television to the UHF channels over a period of years which was made at the hearings of your committee recently. I understand that the committee asked if this were feasible, in view of the fact the total number of channels would be reduced to 70.

If you delve into the record of the 1949 hearings, you will find that former FCC Chairman Coy and I proposed such a shift at that time—I might add, in order to avoid the present TV mess, which was clearly foreseeable.

The pressure for "color TV now" by a majority of the Commission plus the pressure from the big producers of TV receivers who wanted to exploit every market as rapidly as possible, quickly squelched this proposal.

For your further information, I developed an allocation plan, using UHF channels exclusively, which is part of the FCC record. I think you will find that this plan will provide more than adequate coverage on an all-UHF basis.

While such a shift will cause great pain in the circle of the entrenched network operators, it will resolve the difficulties mentioned by Dr. DuMont in providing for four network programs. Further, it will reduce the cost of television receivers to all consumers because production can be concentrated on UHF receivers only.

It will further reduce receiver and antenna installation costs in areas where mixed VHF-UHF reception is now necessary. These costs exceed \$50 per receiver. It amounts to nothing more than an unwarranted tax on millions of people, a fact I pointed out in 1949.

While the subject of color television has as yet received little attention in the present hearing, I would like to suggest that if such a change is made it would be possible to change the UHF standards by increasing the width of the channels opening the door to the use of the low-cost CBS color system.

Prior to the adoption of the present standards, I opposed the adoption of this system, again on the ground of cost to the consumer. Several so-called backward

countries have provided for wider TV channels in order to permit the use of simpler, cheaper color receivers.

Because of the arbitrary decision by the FCC to use the same narrow 6-mega-cycle channel on both VHF and UHF, all opportunity to use anything but a complex color system was eliminated. Every color TV receiver-owner will be forced to pay for this complexity unless this situation is also changed.

I feel I am now in a position to tell both the FCC and the big television receiver producers, "I told you so," with respect to a mixed VHF-UHF system. I derive no pleasure from this. I have found no reason to change my views with respect to color television. While the House committee under Representative Wolverton was pushing for the adoption of the NTSC color standards, I wrote to him that this was a system "for the classes not the masses."

If a drastic change is to be made, the whole subject should be reexamined completely and carefully, including the use of a broader channel width, plus an appropriate set of standards which will permit the production of simpler, cheaper color television receivers.

Let me assure you that the technical means to do this are available to the industry. What is needed is the courage to accomplish it on the part of the FCC and the Congress.

Very truly yours,

COMMUNICATION MEASUREMENTS LABORATORY, INC.
DANA A. GRIFFIN, *President*.

JUNE 2, 1954.

Senator GUY GILLETTE,
Senate Office Building:

As a UHF operator strongly urge you to take a personal interest in hearing before Senate committee headed by Senator Potter. Relief needed. Tax on UHF sets should be lifted. That would help. Pressure should be exerted on networks to take on more UHF stations. FCC should require stations having more than 1 network to drop all but 1 of networks where it appears that other stations are in area having no network connections.

ED BREEN,
KOTC, Fort Dodge, Iowa.

JUNE 12, 1954.

Hon. CHARLES E. POTTER,
United States Senate, Washington, D. C.

DEAR SIR: Somewhat of a furor has been created by the UHF television operators who have been presenting their problems to the Potter subcommittee of the Senate Interstate and Foreign Commerce Committee.

They have their problems, but in considering them we must not lose sight of the fact that these UHF stations generally were intended to provide local or limited coverage. It is not yet generally accepted that they, even with the high power it is hoped they ultimately can attain, can provide the broader coverage which VHF stations now can give.

There is another side to this power question. This phase has been overlooked altogether in the subcommittee hearings, and yet it directly affects millions of people in zone 1. It can mean immeasurably better service to millions of people and has the potential of literally saving billions (correct) of dollars for outside antennas and other installations in rural districts and areas of high noise level.

WBEN has a definite interest in this because of the peculiar freeze in which it found itself after the big TV freeze was lifted in 1952. But pretty nearly everyone interested in TV in zone 1 has a stake in a proper solution of this problem which will eliminate the power restrictions affecting more than 60 million people living in zone 1.

Respectfully yours,

A. H. KIRCHHOFER, *Vice President*.

RESTRICTED TELEVISION SERVICE IN ZONE 1 AND WHAT IT MEANS TO VIEWERS IN DOLLARS AND PICTURE QUALITY

The FCC has made notable progress in granting VHF and UHF construction permits and licenses. This is an effective step in the public interest. It is promoting a nationwide, competitive television system.

The Congress should not allow the problems of the UHF operators, whose field was conceived to be local, to override the broader service possibilities of VHF, particularly to people in remote and rural areas. No amount of UHF stations, especially with the economic problems the limited number in existence already are facing, in the foreseeable future can give the public this broader service VHF now can provide.

To complete the service possibilities VHF stations can and should give for the benefit of the public, the arbitrary and unrealistic power limits imposed upon stations with tall towers in zone 1 should be removed. These limits adversely affect millions of people in an area in which roughly 40 percent of the national population. The condition is most pronounced within the limits of the grade B contours and fringe areas.

WBEN of Buffalo has filed an application for amendment of the power limitations in all of zone 1. (Petitions of WBEN, Inc., for amendment of section 3.614 (B) of the rules and regulations.) This has been pending since August 24, 1953. We understand that its engineering conclusions generally are concurred in by the FCC staff and the Bureau of Standards, both of which have studied the proposals.

The studies supplied to the Commission in connection with this application show that for all VHF assignments in zone 1 the potential service area would be increased one-third without proportionate interference to other stations if the arbitrary height limitation which applies only in zone 1 were removed.

Full power is permitted in all other sections of the country where tower heights up to 2,000 feet are permitted.

Expressed in terms that apply to the viewer, this means that a vast area and millions of people could receive improved television service if this arbitrary restriction upon television power in the most populous portion of the country were removed.

With full power not only is the service area of the VHF station increased, but more importantly the picture quality provided throughout the entire service area is improved. In many localities this improvement would permit the viewing public to avoid the cost of installing outdoor antennas. The resulting saving throughout a large portion of zone 1 easily could amount to some billions (correct) of dollars. These are not theories; they are engineering facts.

Millions of radio listeners do not have consistent or diversified grade A radio service at night time; this is particularly true at present. Signal strength in TV is vastly more important than in radio. Hence, any restriction upon TV signal strength in populous areas with a high noise level or in remote rural areas will condemn the public in those areas to inferior TV service when the opportunity exists to improve it—often at less cost to the viewer.

To reduce the power of TV stations is like cutting the power of a regional radio station from 5,000 watts to bring it down to the output of a purely local station with 250 watts. Neither procedure makes sense from a public-interest standpoint.

The hue and cry about UHF problems, which are no less real than the problems of many more radio stations as a result of television competition, must not be allowed to obscure the fact that the FCC has within its hands the power to bring better television service to large areas throughout zone 1 which now suffer degraded television service. The benefits removal of the power restrictions could bring to people living in New York City, for example, without harming UHF operation or cochannel stations, are almost incalculable.

To deny this service is a grave responsibility, because it is not public service within the broad meaning of the Communications Act. This aims to improve service to the public—not to restrict it.

A. H. KIRCHHOFER,
Vice President, WBEN, Inc.

States with restricted VHF television broadcast service

State :	Population, 1950 (U. S. Census)
Connecticut.....	2, 007, 280
Delaware.....	318, 085
Illinois.....	8, 712, 176
Indiana.....	3, 934, 224
Main (part) (estimated) ¹	456, 887
Maryland.....	2, 343, 001
Massachusetts.....	4, 690, 514
Michigan (part) (estimated) ¹	3, 185, 883
New Hampshire (part) (estimated) ¹	266, 621
New Jersey.....	4, 835, 329
New York (part).....	7, 415, 096
Ohio.....	7, 946, 627
Pennsylvania.....	10, 498, 012
Rhode Island.....	791, 896
Vermont (part) (estimated) ¹	188, 874
Virginia (part) (estimated) ¹	1, 659, 340
West Virginia.....	2, 005, 552
Wisconsin (part) (estimated) ¹	3, 434, 575
District of Columbia.....	802, 178

1950 total population..... 64, 871, 150

Or roughly 43 percent of 1950 total United States population, 150,697,361.

¹ Estimates cover portion of State included in zone 1.

Senator POTTER. We have several witnesses today, the first of whom is Congressman John Moss from the great State of California.

I assume, Congressman, you would like to make your statement first so that you can get back to your other duties.

We are happy to have you over on this side, and I wish to say that I served over on the House side for several years and I never realized how well they functioned over there until I came over here.

STATEMENT OF HON. JOHN E. MOSS, JR., A REPRESENTATIVE IN CONGRESS FROM THE THIRD DISTRICT OF THE STATE OF CALIFORNIA

Mr. Moss. Of course, Senator, it is a pleasure to be here before your committee.

I will make no comment on the functioning of the two Houses.

I have a statement which I have prepared for the committee and I will try to be brief and summarize some important points.

Senator POTTER. Go right ahead.

Mr. Moss. I represent 1 of the 2 largest areas in the United States not presently served by adequate TV facilities, a total broadcast area of about 750,000 population. The city of Sacramento, the population center of that area, has one station operating a UHF station, and the rest of the service is provided from San Francisco VHF stations.

During the past 4 or 5 years there has been approximately 53 percent of the families in the immediate Sacramento area, not in the total broadcast area but just in the immediate Sacramento area, buy their television sets in anticipation of improved telecasting for that section of the country. These people have had to make rather substantial investments.

I was one of the early pioneers in the area in buying a television set for my own home. Not only did I have to buy the set, but I in-

vested about the same amount of money in a 50-foot antenna and a booster and other equipment in order to bring in very weak signals.

Before the original freeze on telecasting or on the licensing of stations, applications had been filed with the Commission for the two VHF channels which were allocated to that area. There are 4 applicants competing for those 2 channels. At the present time the preliminary findings have been filed with the Commission by the examiner allocating those two channels.

The area has invested at least \$35 million in receiving sets. About 87,000 of those sets have been converted to UHF. It means that the majority of the sets in the area are still dependent upon San Francisco for stations. Those having converted are denied any great variety of programs, and this limits drastically the use of television as an advertising medium.

If there is any delay in the orderly processing of the applications and the granting of the licenses for the additional 2 channels, that is going to hold off the market an estimated \$30 million additional purchases of sets, because the most conservative estimates I could find have indicated within a year after putting those 2 VHF channels on the air, approximately \$30 million worth of sets could be sold in that area, and undoubtedly would be sold.

Senator POTTER. Do I understand you do have a UHF station in Sacramento?

Mr. Moss. One UHF station. That has been on the air for about 9 months.

Senator POTTER. Does that station have network affiliation?

Mr. Moss. That station, I believe, is securing programs from all of the networks at the present time. I don't think it is a basic affiliate of any of the networks.

Now, the interest in the licensing of these stations is not only one that touches upon the viewer, but the four applicants for those stations have invested approximately \$400,000, or an average of about a hundred thousand dollars each, in the processing of their applications.

If there is a delay brought about because of some freeze while some policies might be determined by the Commission, undoubtedly those men would again have to go back over the groundwork they have already laid and their investment would be increased substantially.

They have also has to pledge definite capitalization for the stations if the permits are granted. That amounts to about \$2½ million of capital that is definitely tied up, irrevocably committed to the construction and operation of the stations, if the licenses are granted, and delay there would be very costly and very burdensome.

When the two channels are finally granted, the successful applicants will have to immediately invest about \$1,250,000 in the construction of the necessary minimum facilities to get on the air and start telecasting.

But of the utmost concern, I think, is the fact that in this large area of the Nation, where you have a rich market for all of the services and the equipment that goes along with the establishment of television stations, the people are or would be denied a choice of programs. They would be denied those who have invested their money and opportunity to really get the benefits they had anticipated when they made their investments; and at a time when we are talking of stabil-

izing our economy in creating demands for consumer goods, it is a very substantial market for those goods and I would urge that no action be taken by this committee which would delay the processes now going on in the Federal Communications Commission for the licensing of stations in areas such as these.

Senator POTTER. In other words, you are opposed to any freeze?

Mr. Moss. Very definitely.

Senator POTTER. I assume, Congressman, your interest is to provide adequate television service for the area you represent, isn't that true?

Mr. Moss. That is correct.

Senator POTTER. And, whether it be by UHF or VHF, the main consideration is that adequate service be provided?

Mr. Moss. Without unnecessary delay.

Senator POTTER. Are there any questions?

Senator SCHOEPEL. Congressman, you recognize there is a limited channel in VHF, don't you?

Mr. Moss. Yes, sir.

Senator SCHOEPEL. And it is going to be somebody's responsibility either to expand that or give to the country, not only in these market areas but a lot of other areas, the opportunity to have adequate television service?

Mr. Moss. Yes, sir.

Senator SCHOEPEL. And, obviously, somebody has to wrestle with that problem?

Mr. Moss. I recognize that, Senator, but I believe for a period of almost 4 years a freeze was put on while a careful study was made.

Senator SCHOEPEL. Yes.

Mr. Moss. And at the termination of that freeze the ground rules were laid out and the people in my area have made substantial investments on the basis of those ground rules, after it was determined, after the freeze, there is no danger in that area of the country at least of having overallocation of channels either in UHF or VHF.

Senator SCHOEPEL. The reason I mentioned that is: Here we are sitting over on this side as you gentlemen over on your side there, and we have had a lot of testimony here showing this congested channel, showing what they contend to be a preferential treatment, which could develop into a restricted service that would be given through the medium of television to advertisers and everything else, and they point their finger to us and say, "What about it? You fellows over in Congress here have brought measures in. What are you going to do about it?"

We turn around and we point our finger to the FCC, and we say, "What are you going to do about it?"

They say, "We want some guidance from you up there. We guessed once, and it looks like we guessed wrong."

Somebody has to wrestle with that.

If we do have a situation that is going to get worse, it is going to be an ever-recurring problem for somebody to untangle.

What is the best thing to do, I don't know. I am going to look this record over and I am going to study it as conscientiously as I can, because there has to be something done about it some place.

I much prefer to have the industry itself do it.

Mr. Moss. Of course, that would always be the ideal.

Senator SCHOEPEL. Yes.

Mr. Moss. But I do believe this: In areas where we can pretty conclusively show that we are not congested, that any freeze should not apply to those areas.

There may well be areas of the country where there is overcongestion because of the earlier allocation of channels on both VHF and UHF, but I don't think that is true in my part of the country and I think the people I represent are entitled to service equally as that provided elsewhere in the Nation, and any policy that fails to recognize that is not doing justice to those people.

Senator SCHOEPEL. You are up here in the interest of your constituency and you are up here registering what you feel is your best candid judgment under the circumstances at the present time?

Mr. Moss. That is right.

I understand there is an area in Florida probably just as large as this area not receiving adequate service, and there are probably others across the country that could be clearly defined as large areas of inadequate service, and I don't think freeze policies should be applied to those areas.

Senator SCHOEPEL. I know, for some reason or another, a lot of folks think a committee of Congress can say, "Freeze it," and it is going to be frozen. I don't like that kind of an approach, but it has gotten abroad that there is something contemplated on freeze. I began getting some telegrams, telephone calls, and I wondered who started it all. I don't know.

Mr. Moss. You have had the same experience I have had, sir. I have had quite a number of telephone calls and telegrams and a considerable volume of mail from my area.

Senator SCHOEPEL. What we are seeking to do here—I can say for myself—is to try to get the best, clearest, concise record possible to base some kind of a judgment factor on findings recommendations on the legislation that is before us, and I wish that we could have down the line a perfect answer. I don't suppose we will get it, but, personally, I do appreciate your frank views about it, and it all goes into the general, overall record. It will be helpful to us if we get the time to study it like we ought to.

Mr. Moss. Thank you very much.

Senator POTTER. I might mention at this time, if it is agreeable to the other members of the committee, I hope we can meet in executive session in about the middle of next week to wrestle with some of these suggestions that have been made.

It is a problem. The Commission has told us and people interested in the field, people who are in the television industry have stated, that it is necessary, in order to have a nationwide competitive television system, that you are going to have to utilize the UHF band.

Now, we have had a great deal of testimony from UHF operators that at the present time they can't be competitive.

So, that is the problem we have to deal with.

Take your own area, where you have a UHF station—if the people who have sets were able to tune in on that station, you wouldn't have the trouble with the advertisers, you see, and it is sort of a vicious circle and the solution to it is not easy, and I assume the solution we make will be highly controversial.

Mr. Moss. Senator, I recognize the difficulties of the problem you have before you. I might point out, however, that my UHF operator enjoys a very profitable monopoly.

Senator POTTER. Yes.

Mr. Moss. With about 87,000 sets, and the only one in the area, he has a very fine operation, and the advantage he has because of the money spent by the people in the area in converting to UHF will be a continuing advantage regardless of the licensing of VHF stations.

Senator POTTER. I wish to thank you for giving us the benefit of your views, and I am sure that your constituents appreciate the fact that you have taken the time out of a busy schedule that I know that you have to come over here and present your views, and I can assure you that your views will receive the highest consideration by this committee.

Mr. Moss. Thank you, sir.

Senator POTTER. And, without objection, the statement you have submitted will be made a part of the record at this point.

(The prepared statement submitted by Mr. Moss is as follows:)

STATEMENT OF HON. JOHN E. MOSS, JR.

Mr. Chairman, I represent six counties in the Sacramento Valley of California with a population of almost one-half million persons. The city of Sacramento, in my district, is the center of the second most populous metropolitan center in the Nation which has been allocated VHF television channels but does not yet have complete television service.

The television broadcast area surrounding Sacramento is served at present by a single ultra high frequency station in Sacramento and is in the B broadcast area of another UHF station in Stockton, some 40 miles away. There is no very high frequency television reception available to the people in San Francisco, 100 miles away. If a householder has erected a huge housetop antenna, and if weather conditions permit, a choice of programs from VHF stations in San Francisco is possible.

In spite of these handicaps, some 53 percent of the 220,000 families in the Sacramento broadcast area have purchased television sets, confident that they would have a variety of entertainment. The people in the area have invested some \$35 million in television receiving equipment and are not now getting a choice of programs.

The hope of complete television service was held out to the people in the Sacramento area more than 6 years ago when four potential broadcasters applied for permits to operate two VHF television stations. In September 1948, as you know, all television applications were frozen. Since the freeze order was lifted in July 1952, the 4 applicants have made good progress toward providing the complete television service desired by the people in the Sacramento area.

In addition to the fact that some 750,000 people in the Sacramento broadcast area do not now have complete television service, it is well to consider the effect the situation has on the economy of the area. Many families have put off buying television sets until a local VHF station goes on the air. One estimate indicates there will be about \$30 million worth of sets sold in the Sacramento area within a year after the first VHF station begins broadcasting. This huge potential investment is important, not only to television dealers and repairmen in my area, but also to the national economy. It will provide an outlet for television sets and parts manufactured in plants throughout the United States.

The advertising service available through two more competitive television stations also is worth considering. The present UHF station in Sacramento has, in effect, a monopoly in television advertising, but it is a monopoly which the station will maintain after competing local VHF stations are on the air. The many already converted UHF television sets in the Sacramento area will remain a prime market for the present UHF station. Competitive television broadcasting in the area will, in fact, increase the interest in the programs and increase the number of UHF converted receiving sets. Granting of the two VHF channels allocated to Sacramento will, therefore, increase the economic stability of the present station.

The public investment already made in television receiving sets, the desire of the people in the area for complete television service, and the economic effect on the area are important considerations. Another factor worth considering is the investment which the 4 applicants for 2 VHF channels already have made in processing their claims and the final capital investment the 2 successful applicants will make.

The four applicants had firmly committed some \$2,500,000 in potential capital to be invested in VHF television broadcasting facilities. The two successful applicants will make an actual capital investment of about \$1,250,000. This is important to the economic livelihood of the area I represent; it is also important to consider that each of the four VHF permit applicants in Sacramento has spent up to \$100,000 processing applications so far. If there were a freeze at this time, they would be required to repeat the entire expensive process.

The applicants sought permits in good faith and followed all of the extensive rules and regulations. Now, a rule change is suggested just when the people in my area are hopeful they will have a choice of television programs in the very near future. To block the pending issuance of VHF television broadcasting permits in Sacramento would be unfair to the investors who have spent their time and money seeking permits; it would delay maximum economic development of an important part of the Nation and it would prevent some 750,000 persons in the Sacramento broadcast area from receiving the complete television service they have been anticipating for more than 6 years.

Senator POTTER. Out of order, because of pressing business, we will next hear from the Honorable J. Howard McGrath.

Mr. McGRATH. Thank you, Senator.

Senator POTTER. General, we are pleased to have you present your views to the committee. I know that you have a busy schedule and we are looking forward to hearing your statement. You know, of course, the scope of our investigation here and I hope you will keep within that scope.

STATEMENT OF J. HOWARD McGRATH, EXECUTIVE VICE PRESIDENT AND GENERAL COUNSEL OF EDWARD LAMB ENTERPRISES, INC.

Mr. McGRATH. I have tried to keep within the scope, Senator. Of course, the whole basis of profitable hearings is the experience of people who are in the business and, while our experiences are mentioned here, we hope we are mentioning them in a way that is broad enough to be helpful to the committee and to others as well.

I appreciate the courtesy of the subcommittee in hearing me out of order.

I also appreciate the courtesy of those who are to follow me to understand that I do have an engagement which, if it were not so important. I would not have asked to be heard at this time.

Senator POTTER. That is perfectly all right.

Mr. McGRATH. My name is J. Howard McGrath, and I appear here as executive vice president and general counsel of the Edward Lamb Enterprises, Inc., which directly or indirectly owns or controls several companies that are applicants for UHF stations; the grantees of a construction permit for another, and the purchasers, subject to Commission approval, of a third. In addition, the Edward Lamb Enterprises also own or control several other broadcast facilities, including a highly successful VHF station at Erie, Pa., as well as various concerns in other fields.

I am delighted to attend this hearing which is designed to solve some of the problems which have arisen by reason of the decision

of the Federal Communications Commission to establish a truly national competitive system of television broadcasting by the addition of the ultra high frequency channels.

I appreciate, especially, the courtesies of those members of the Senate committee who have made themselves available to the broadcasting industry in order that some of the woes of the so-called UHF broadcasters might be understood and possibly corrected.

First, let me say that we can all agree on the worthiness of the UHF signal. My company believes that it is entirely adequate to furnish a desirable nationwide television service.

My company and I are completely in accord with the decision to add the UHF channels, since it was apparent from the very beginning that the 12 VHF channels could not possibly be allocated in such a fashion as to make possible a truly competitive system. Large areas of the Nation could not be served. It was thought that with the UHF channels added, especially in rural areas or areas far removed from the VHF signals, all elements of the industry, including the networks, could back up and would back up the new UHF operators.

Events have not justified this assumption and the networks generally have avoided the U's like one would avoid the plague.

Possibly the ideas incorporated in Senator Bricker's proposal to permit regulations of the networks by the Federal Communications Commission might well be fully considered by this committee. After all, it doesn't seem right that this administrative agency be given the duty of regulating the airways, and then not permit it to control the practices of a very large segment of the broadcast industry.

Anyone familiar with present practices in the telecasting industry will admit that the grant of a network affiliation is of transcendent importance to the survival of a television station. When the Federal Communications Commission adopts regulations governing the conduct of networks, it is natural that steps should be taken to assure competition among various stations throughout the Nation.

We do not believe in stifling VHF in order to make UHF succeed. We think that if the networks are compelled to open up their programming to all stations within an area, just as the movie producers have been compelled to do, the forces of free competition will permit UHF stations to operate on the same basis as that afforded certain favored outlets.

Under the present setup, VHF has a virtual monopoly in telecasting. The situation is so bad that UHF channels have gone begging in major cities such as Columbus, Cincinnati, Minneapolis, and Kansas City.

UHF just can't get going where the networks continue to ignore them. UHF sets and converters will not sell where there is no substantial or alternative programming. It is truly the FM fight over again, whether the broadcasters recognize it or not. After all, the networks could write books about the reasons for the failure of FM.

The members of this committee should see the lineup before the Federal Communications Commission on Tuesdays just before closing, when competing VHF applicants get together their dropouts and mergers. The next day, after these negotiations, settlements or deals are consummated, the Federal Communications Commission oblig-

ingly hands out a VHF channel without hearings or opportunity for protest. These channels are worth, in cities like St. Louis, Buffalo, Milwaukee, and other markets, millions of dollars.

SENATOR SCHOEPEL. Might I ask right at that point, Mr. Chairman, I don't know how you feel about it, Mr. McGrath, but does that look right?

MR. McGRATH. It does not, Senator. It is not right.

SENATOR SCHOEPEL. Some of us on this committee are getting a tremendous lot of criticism on that score.

MR. McGRATH I don't doubt it.

SENATOR SCHOEPEL. And it is disturbing.

I don't know whether that is good administrative practice or not. I don't want to be critical. It is a factual situation that somebody has to deal with, and maybe this is the way to bring it out.

You are here with broad experience, not only executive experience as a former governor of your State, but a United States Senator and then former Attorney General of this great Nation of ours, and that is the reason I was very much interested in your viewpoint, sir

MR. McGRATH. I have one suggestion that will follow as I continue my statement.

SENATOR SCHOEPEL. I see.

MR. McGRATH. Unless it be thought otherwise, let me say here and now that I do not consider the Commission wholly to be blamed for this practice. As was so eloquently pointed out by Commissioner Hennock, the Congress, too, because of its frequent insistence on quickie grants, must share the responsibility for the resultant evils.

We realize, from the vast number of weddings among the competitors for the VHF stations which have been sanctioned by the membership of this Federal Communication Commission that the antitrust laws of the land have not been too carefully observed; but the abuse and violation of the antitrust laws does not vitiate or minimize the importance of these desirable laws, by any means.

With respect to this malicious merger practice, I have a recommendation which I believe merits the careful consideration of this committee. I recommend that the Antitrust Division of the Department of Justice be required by statute to investigate thoroughly any merger between applicants for television stations and to furnish the Commission with an opinion as to whether any antitrust laws are being violated. The statute would permit no action by the Commission until the opinion was received and then, of course, only if no violations were committed.

Such a statute would not only insure that the antitrust laws were enforced, but would tend, in my opinion, to discourage mergers since it would remove the possibility of an immediate aftermerger grant.

However, despite the seriousness of the so-called dropout situation and the problems caused by the networks and lack of proper transmitting and receiving equipment, about which there has been so much testimony before this committee, there are, in my opinion, other strong reasons for the poor economic health of the UHF industry.

Certain members of the Commission have been heard to say that the plight of the UHF is a result of a lack of good practical business sense on the part of the broadcasters. This, incidentally, comes from members who have never owned any broadcast facilities and who, on

the whole, have led lives largely sheltered from the interplay of competitive forces.

I can certainly testify that lack of good business sense has not contributed in any measure to the difficulties encountered in UHF by the Lamb companies. Mr. Lamb has been, as the entire business world knows, an outstanding success in the broadcasting field as well as in other keenly competitive fields requiring the utmost in business acumen.

What, then, is the cause of the stagnation and decline in growth of the UHF industry?

Speaking from our experience, the cause has been the Commission itself, its slow, strangling, and sometimes arbitrary and capricious procedures.

Let me illustrate.

One of our companies, the Mid-West TV Co., received a license in May of 1953 for a UHF station at Massillon, Ohio. We purchased more than \$200,000 worth of equipment. After being given the license and being told to proceed expeditiously, we signed contracts and began construction of a modern building on the most desirable site in the Akron-Canton-Massillon region. We engaged a staff. We signed contracts to bring Bishop Fulton J. Sheen, football games, and many other worthwhile programs to that area.

But then strange things began to happen. Suddenly Mr. Lamb's most routine applications were held up. This was done by the Commission, so it said, to study Lamb's qualifications to own and operate broadcast facilities—this, mind you, from the same Commission, except for certain personnel changes, which had six times previously found Mr. Lamb qualified in all respects. Indeed, it had only recently approved the sale by Lamb of his VHF station at Columbus, Ohio, to the late Senator Taft's fine family, for whom, incidentally, Mr. Lamb is at this very moment the television consultant. There were, and the Commission admitted this, no objections from anyone outside the Commission to the granting of the Lamb licenses. Despite the fact that Mr. Lamb and his operations have won almost every award for public service available to broadcasting operators, and despite the fact that he came forth with numerous testimonials from high church, Government, and other officials, the Commission had persisted in its stand and has continued to delay action on these applications and our property and our investment stands idle in the Canton area.

As a result of these delaying actions by the Commission, the investment of our company in Massillon, Ohio, is being rendered worthless and Mr. Lamb, at one time, even found himself in the unenviable position of not being able to turn back to the Government a license for a Portsmouth, Ohio, station which good business and engineering judgment dictated should not be built.

Mr. Lamb sought to sell his VHF transmitter in Erie, Pa., to the educational TV broadcasters of the city of Pittsburgh for \$50,000. The Commission sat on this request and even failed to acknowledge receipt of the petition. The sum was, of course, a loss to Mr. Lamb. Then he sought to purchase WTVQ, a UHF station at Pittsburgh, Pa. Again the Commission delayed and refused to act so that this UHF service could not be brought to the eighth largest market in the United States.

Recently Mr. Lamb's company was the highest bidder for UHF Station WSUN-TV at St. Petersburg, Fla. This is a municipally owned UHF station. Our bid was more than \$1½ million above that of the next highest bidder. Because of the Commission's delay in acting to clear this prominent American, the city of St. Petersburg has been unable to go forward with the transaction.

Senator SCHOEPEL. How long ago has that been?

Mr. McGRATH. This was about May, Senator.

Senator SCHOEPEL. This year?

Mr. McGRATH. Yes.

Senator POTTER. That is still being held in abeyance?

Mr. McGRATH. The city had to withdraw it from the market, and whether they will ever offer it again I do not know, and whether we would be willing to bid a million and a half above everybody else is something I do not know.

Thus, it is that a man who has been an outstanding success as a broadcaster, and who is financially able and willing to take the risks involved, and one who believes, incidentally, in VHF, has been deprived of an opportunity to help in the development of UHF in these critical days.

Some of the Commission's methods and procedures which we consider to be manifestly unfair and illegal are now the subject of pending court action by Mr. Lamb and several of his companies. Although we have complete faith in ultimate vindication in the courts, it is unfortunately true that "justice delayed is justice denied." Complete vindication, therefore, however welcome, can never fully repair the damage that has been done.

As we see it, the delay and harassment which we have experienced constitutes a threat not just to the Lamb companies but to the entire broadcasting industry. Let us then trust that this committee will examine the Communications Act and the functioning of the present Commission to the end that remedial action may be taken and all concerned may look forward to fair and expeditious administration and the establishment of a truly competitive nationwide television system.

Senator POTTER. Do you have any questions?

Senator SCHOEPEL. No; I do not.

Senator POTTER. Thank you.

Mr. McGRATH. Thank you, Senator, very much.

Senator POTTER. Thank you very kindly, General McGrath.

Mr. Kipnes.

Mr. Kipnes is with the Beachview Broadcasting Corp., of Norfolk, Va.

STATEMENT OF IRVIN M. KIPNES, SECRETARY, BEACHVIEW BROADCASTING CORP., NORFOLK, VA.

Mr. KIPNES. My name is Irvin M. Kipnes, and I am from Norfolk, Va.

This committee has heard testimony from UHF broadcasters who are apparently beset by a number of problems and, to the end of obtaining a cure, have come to Congress seeking drastic action. We are applicants before the FCC for VHF channel 10 at Norfolk, Va.

We have no quarrel with our friends in Norfolk and elsewhere who are licensees of UHF television stations. We are sympathetic to their problems and recognize that there are soft spots facing those who would develop UHF as a truly nationwide television service.

Many UHF broadcasters, it is acknowledged, have lost large sums of money in the operation of their stations, but a balancing of the equities would require that any measures taken to alleviate their burdens be positive and constructive rather than punitive to those of us who have planned and developed with infinite patience, a pioneering spirit, and at vast expense, VHF television service for our respective communities.

Senator POTTER. Could I ask you a question at this point?

Mr. KIPNES. Yes, sir.

Senator POTTER. Is this the channel that has been allocated to the Crossroads outside of Norfolk that somebody mentioned here yesterday?

Mr. ZAPPLE. Princess Anne.

Senator POTTER. Is it Princess Anne?

Mr. KIPNES. No; it is not, sir.

Senator POTTER. This is one for Norfolk?

Mr. KIPNES. This is one of the original allocations, that is, the original allocations issued by the Commission in February of 1953.

Senator POTTER. All right.

Mr. KIPNES. If there is any illness existing in UHF, or any phase of television—and there apparently is—we sincerely wish to have it remedied.

We hope, if the Commission favors us with a grant, to become an integral part of the television industry, and it is our sincere wish that the television industry as a whole be healthy and robust; but I respectfully point out to the committee that it would be contrary to the interests of the people of the Norfolk area and the country as a whole, and it would, moreover, be inequitable to those of us who in good faith have sought to acquire a television license, if Congress were to urge the Commission again to freeze television grants.

A brief résumé of our background is pertinent to my reference of a balancing of the equities:

Beachview Broadcasting Corp. was organized in June 1948, for the purpose of filing an application for a television station in Norfolk, Va., the 26th market in the United States. Our local attorney was stricken with a heart attack while preparing our corporate charter and, being sympathetic to his illness, we awaited his return to his office to prepare the legal instruments necessary for the filing of our application. The application was finally filed on August 8, 1948. Some 3 weeks later, the FCC imposed its freeze with the announcement that it would last approximately 6 months. The only VHF station in Norfolk filed its application 1 week prior to our application, and received one of the last grants issued by the Commission.

We have continued our organization during the intervening years. Our stockholders, some of whom will occupy staff positions, visited and studied television station operations in the East, attended a television school, and consulted frequently with our Washington legal counsel and engineers.

When the Commission issued its revised allocation plan, the Norfolk market was assigned 2 VHF channels, one of which being then in operation, and 3 UHF channels.

After numerous and lengthy conferences with our legal and engineering counsel, and after studies which we personally conducted in the market, we decided to reapply for the last remaining VHF channel. Accordingly, at great expense, we amended our application in February 1953. In the summer of 1953, after a 6-month lull, a rash of applicants filed for both VHF and UHF stations in the Norfolk market, apparently being spurred on by the glowing stories in *Fortune*, the *Wall Street Journal*, and other widely circulated publications concerning the vast riches to be plucked from the fertile field of television. The UHF applicants were quickly granted, there being no contests involved, but a total of six applicants remained to contest for the last remaining VHF channel.

As the date of the hearing for the VHF channel approached, and it became more apparent that considerably more was required for success in television than a mere application, 4 of the parties withdrew, leaving 2 groups, of which we were 1. In accordance with FCC requirements, detailed amendments were filed by both applicants in November of 1953; precise and intricate program schedules were exchanged in December 1953; and voluminous hearing exhibits were supplied the Commission in February 1954. Prolonged pre-hearing conferences were held by counsel for the applicants and the FCC in January and February of 1954 and the actual hearings began on March 7 and continued thereafter until they concluded on March 29. Both parties upon request of the examiner subsequently filed detailed findings, and later responses thereto.

The total investment of Beachview Broadcasting Corp. in television to date exceeds \$200,000 in time and money. This includes options on highly valuable studio and transmitter property, since 1948, legal and engineering fees, television consultants, travel, office expense, salaries, architects' fees, et cetera. The corporation has yet to realize one cent in income.

This is our investment in television. Our stockholders are men who have for years worked for the betterment of our community and who recognize in television a vehicle for public service unparalleled in potential. We were willing, in the face of all the gloomy talk of 1948, to invest and risk large sums of capital in the development of a great new and unexplored medium and industry. Indeed, at the very time we were preparing our original application, large corporations were returning VHF construction permits for television stations, and withdrawing applications rather than incur the loss which we were willing to assume.

Beachview Broadcasting Corp. and others who applied for television facilities prior to the freeze were pioneers in a medium where only one fact was certain—money would be lost with no assurance of a return on investment. Yet, despite this, we could only dream of the day when this intriguing art, combining sight and sound, would be the most powerful instrument yet devised for public service, enlightenment, and mass entertainment.

To cure the ills of some of the UHF broadcasters by a proposal prejudicial and punitive to VHF applicants such as a freeze would be to pile irreparable damage and abuse upon those who have in sincere good faith invested many hundreds of thousands of dollars in television applications. We do not feel that this committee should cut the throat of the VHF broadcasters to give UHF a blood transfusion.

From an analysis of the testimony and complaints of the UHF broadcasters before this committee, grave doubts exist that the majority of them, or some of them, have come before you with clean hands in pleading for what they acknowledge to be drastic action.

When the Commission issued its original allocation plan, VHF and UHF channels were available to all applicants in open competition. The Commission did not guarantee that any of the channels assigned would be profitable. In point of fact, no such guaranty can be made. Each license is obligated to operate in the public interest, and whether at a profit or loss is subject to the usual American system of competition and free enterprise which is inherent in all business, television being no exception.

The broadcasters—and others—who went in to UHF did so with their eyes wide open. In markets which were intermixed with VHF and UHF, the choice was simple, clear-cut: Apply for VHF and become involved in a prolonged, complicated, and expensive proceeding or apply for a UHF facility and receive a quick grant. Those who chose the latter course did so in the belief that, while the VHF applicants were tied up in hearings, they could secure a competitive advantage by promoting conversions and developing a loyal listening audience. Some have been successful; others have not, for various reasons. For these broadcasters now to come before you with the request that they be made whole at the expense of others is inequitable in the extreme—and they come with unclean hands.

In the Norfolk market there were in excess of 150,000 VHF sets outstanding at the time the 3 UHF stations went on the air. One of these stations is now affiliated with NBC and another with ABC and Du Mont. Of these two, one appears to be doing exceedingly well. Both of these operations, however, are distinguished by their modest, but good, programming and conservative business practices.

It would appear, however, that some of the UHF broadcasters have spent vast amounts of money on lavish studios, earmarking an infinitesimal amount for programs and promotion.

One of the broadcasters who appeared before you several weeks ago extolled the virtues to me of his very costly studios. I cannot help but wonder whether this same individual would have expended such a large sum of money on studios in opening a radio station.

Last summer I visited the station of still another UHF broadcaster who appeared before this committee crying for drastic action and was surprised to see their lack of promotion of UHF in the market; but, more so, I was astounded that this same station—the only station in the city which received fringe-area coverage from a VHF station 40 miles away—did not own a single camera after 6 months of operation with which to program a talent show featuring local children, or a newscast or a sportscast.

How on earth, I ask this committee, or any broadcaster present here today, can UHF succeed under these conditions?

This plainly indicates downright incompetence. Yet, this same individual has now come before you seeking relief, and yet does not have the desire or the intention of helping himself.

Other UHF broadcasters apparently used poor judgment in evaluating their markets: on the other hand, there are some who moved in to a market totally unknown to the people of the area, and operated

intelligently and made a success of operations. One of these individuals, still successful, has come before you for relief, and his only complaint is that he fears the future.

What possible sympathy can this committee feel for one seeking a built-in guaranty of success?

Aside from the inherent unfairness and the inequities of some of the proposals of the UHF broadcasters, a freeze on future VHF grants and the shift of all television to the upper band is not the answer to the problems which beset UHF. If intermixture of VHF and UHF was wrong, the broadcasters should have, at the time the Commission issued the broadcast plan, protested to the Commission and, failing there, should have sought the assistance of Congress.

A freeze now on VHF applications will not correct the abuses of present day arm's-length dealings with networks; nor will a freeze allay any questions held by some national advertising agencies concerning the value of certain UHF stations as an advertising medium. A freeze would only mitigate against those who have sincerely invested in and have earnestly worked for VHF grants.

The proposal to move all television to the ultra-high band indicates an alarming unconcern for the televiewer for whom television is really intended. It would be incompatible to the interests of the farmer, the laborer, the office worker—millions who own VHF sets, many purchased on long-term time payments. The UHF Association would make obsolete these sets because its members do not provide sufficient program incentive for the public to purchase a converter or an all-channel set.

Because of their dilemma, they would willingly create a public economic turmoil, having everlasting ill effect on the entire television industry. In effect they are saying to this committee: "Make John Q. Public receive our program so we can make money, or penalize him by making his set obsolete."

This is simply a "dog in the manger" approach to the problem—punitive and ill conceived.

When the FCC adopted its radio and television standards, it, in effect, established a sort of lock-and-key system which would forever protect the investment of the consuming public in sets. The UHF Association would now suggest breaking the lock, throwing away the key, and telling the public to relegate its 25 million sets to the ashcan—the very public whose interests they propose to serve.

The total investment in VHF sets and stations throughout the country would make the proposals of those who now seek easy street by Senate dictum impossible to reckon with. It would create chaos.

In the interest of solving this perplexity, we recommend that greater consideration be given by Congress to the proposal which would lift the tax from all-channel sets. We suggest also that you request the FCC to look closely into all phases of the ills which beset the UHF broadcaster, the network situation, the advertising agencies, and the set manufacturers.

Senator SCHOEPEL. To what extent would you suggest looking into that?

Now, you are in this business. From what angle would you look into it?

Mr. KIPNES. Well, the committee has heard testimony—Senator McGrath appeared before you a few months ago—concerning the possibility of regulation of the networks, which certainly originate the bulk of the programs now being aired on television.

Senator SCHOEPEL. Do you think that ought to be looked into?

Mr. KIPNES. I think so, sir. I think Congress, on the other hand, should give great consideration to relieving the excise tax on sets, all-channel sets.

Senator SCHOEPEL. Many people have testified before this committee that would be helpful because of the price differential.

Mr. KIPNES. Yes, sir.

Senator SCHOEPEL. And that a lot of these UHF sets or combination set are piling up in the warehouses.

Mr. KIPNES. That is true; and I think if there were given consideration by Congress to the possibility of eliminating that tax, it would be a great incentive, and I think a great deal of consideration, merit lies in the possibility of regulating the networks; but I think—

Senator SCHOEPEL. Now, in regulating the networks, do you mean that we should put them on some kind of a comparable basis as a public utility?

Mr. KIPNES. Well, sir, I don't know if you can get into the realm of regulating them precisely as you would a public utility, insofar as utilities are generally conceded to earn a 6-percent return. If you get into that phase of regulation of the networks, you are going to be getting into the field of judging and setting rates in a competitive, medium, in a medium that is competitive with newspaper advertising, magazine advertising, and all phases of advertising.

Senator SCHOEPEL. You understand I am just asking these questions in an effort to kind of explore this situation.

Have you looked into this bill that Senator John Bricker introduced?

Have you given some thought to that?

Do you have an opinion to express on that?

Mr. KIPNES. No; I have not, sir. I have not seen the bill. I have read a number of articles concerning it.

Senator SCHOEPEL. Mr. Chairman, might I at this juncture say I must be excused? We have an executive session of the Agricultural Committee that I happen to be a member of and I am just compelled to leave and I assure you I will read your statement.

Mr. KIPNES. Thank you, Senator.

Senator SCHOEPEL. And the other statements that will be made here in this morning session.

Senator POTTER. We hate to have you leave, but I know you have pressing business with another committee, and we look forward to your return.

Senator SCHOEPEL. Thank you.

Senator POTTER. All right, you may continue.

Mr. KIPNES. Thank you.

These protesting broadcasters, on the other hand, should give greater consideration to community-service programs, and prudent business techniques. The problems to a great extent are with the operator and not with the facility.

In conclusion, let me say again that we recognize the problems that presently confront the UHF broadcaster. What is more, we, as a potential television broadcaster, urge this committee to use its best

efforts to correct the same. We submit, however, that this should not be done at the expense of the VHF broadcaster, or the VHF applicant who in good faith and considerable expense has patiently pursued his application for a construction permit. This committee's action should be corrective, not punitive.

It is said that misery loves company. We sympathize with the UHF broadcasters, but we have no desire to join them at the weeping wall.

Senator POTTER. Do you agree with the Commission's position that it will be necessary to utilize the UHF band if we are going to have a nationwide competitive television system?

Mr. KIPNES. I certainly do, Senator.

Senator POTTER. I have noticed in your statement that you state a lot of the difficulty is in the management of the UHF facilities. Now, assuming that the management is good, what is the biggest problem, do you think, that the UHF operator has?

Is it lack of good programming?

Is it lack of receivers to get the signal?

Mr. KIPNES. Mr. Chairman, you state "assuming that the management is good"—assuming the management is good, we would also have to assume the programs were good, and if the programs were good, I think their main problem would be to get receivers and converters into the hands of the public, and I think if worthwhile programs were presented, programs of interest to the community, the public would buy the converters or the sets.

I think the example which I cited in my statement is a good one, wherein a station had been in operation for 6 months and did not own a single camera, and yet these people came to Congress, came before this very committee, asking for drastic action. They had no competition, Mr. Chairman, ladies and gentlemen, from any other existing facilities in town. They did receive fringe-area service from a market 40 miles away, but that is not a competitive situation in an advertising medium.

Senator POTTER. We have had a lot of testimony before this committee that a UHF station would lose its network affiliation when another VHF comes on the air. Now, do you think that a station can operate with a V station if it doesn't have adequate network affiliation?

Mr. KIPNES. Mr. Chairman, I would like to say this: Years ago it was said that radio could not compete or could not be successful unless it had a network affiliation. Today among the most successful stations in the country are the independent stations.

I might say in our market all the networks are presently affiliated with existing stations, VHF and UHF.

Senator POTTER. What will happen when you receive your grant or when that channel 10 is taken?

Mr. KIPNES. Well, sir, we have proposed to the Commission to cooperate as an independent television station, because a network affiliation will not be available to us; and I believe with the programs, the available film programs, and there are excellent programs available to all television stations on film, and with imaginative programming, we will be able to successfully compete with existing network affiliated stations.

Senator POTTER. You are not going to try to get a network affiliation?

Mr. KIPNES. Sir, we can't because the existing stations—or I hope we will have our grant very shortly——

Senator POTTER. Most of the contracts are 2-year contracts?

Mr. KIPNES. Two-year contracts; yes, sir.

So, therefore, we will assume it will be at least 2 years before a network will be available to us.

Senator POTTER. I notice one of the U's has an affiliation with NBC.

Mr. KIPNES. Yes, sir.

Senator POTTER. When their time runs out, are you going to try to get that NBC affiliation?

Mr. KIPNES. Mr. Chairman, that is a hypothetical question.

I would like to say this: If we can operate successfully as an independent station—and I think we can—I think we have a good competitive situation. I know we have an excellent staff of top program people available to us, or who will be with us, and I think we can operate successfully and perhaps do a much better job, community job, as an independent station and conceivably make more money than we could as a network affiliate.

Senator POTTER. Now, the Norfolk area is allocated three V's, is it not?

Mr. KIPNES. Two V's, sir.

Senator POTTER. Two V's?

Mr. KIPNES. Yes, sir.

Senator POTTER. And how many U's?

Mr. KIPNES. Three U's.

Senator POTTER. You have one V on the air?

Mr. KIPNES. One.

Senator POTTER. And how many U's?

Mr. KIPNES. Two U's.

Senator POTTER. So, one V is on the air, and you have applied for the other U?

Mr. KIPNES. No; we have applied for the other V.

One U went off the air about 3 months ago, and I think that is another example, Senator, of a group that went into television simply because they thought fast riches were available to them. They went in with a minimum amount of capital. They programed from signon to signoff a minimum of 6 hours a day with third- and fourth-run films and the people of Norfolk had already seen those films. They were some 20 years old and I think they saw them the second or third time around when the VHF station went on the air; but they simply wouldn't take them the fourth time around.

Senator POTTER. But you have two U's on the air now?

Mr. KIPNES. Two U's on the air at the present time; yes.

Senator POTTER. Could the Norfolk area handle three U's and two V's?

Mr. KIPNES. I don't know, sir. I think again that is a question of economics. I don't know if the Norfolk market can support five UHF stations. I know it is certainly not now supporting all of the existing radio stations that are presently located there, but I don't think that is within the jurisdiction of the problem of this committee or the problem of this Commission. I don't think the Commission can guarantee a radio or television station to be a success.

Senator POTTER. I think our main concern is that the people of the country receive adequate television service and that it is on a competitive basis.

Mr. KIPNES. That is correct.

Senator POTTER. Do you have any questions, Senator Hunt?

Senator HUNT. What percent of television sets in the Norfolk area have been converted or can receive both UHF and VHF?

Mr. KIPNES. Senator, I haven't been able to get any reliable figures. The UHF station has one set of figures and the VHF station has another set of figures. I think there are approximately two-hundred-odd-thousand VHF sets in the market, and I think, giving the UHF station the benefit of its figures, there are approximately a hundred thousand UHF sets outstanding at the present time.

Senator HUNT. Two to one?

Mr. KIPNES. Yes, sir.

Senator HUNT. What would be your reaction to a suggestion if the industry should all cooperate in helping to solve this problem, which is going to be very difficult to solve, I am afraid, by legislation, and limit the manufacture of new sets to those capable of receiving V and U?

Mr. KIPNES. To limit the manufacture?

Senator HUNT. Yes.

Senator POTTER. The all-channel tuner.

Senator HUNT. Yes, so they would receive both. Now, in a period of time, of course, sets will become obsolete and eventually, if such an arrangement could be made, then every home would be in a position to receive ultra high and very high; and it seems to me that might eventually eliminate this trouble. There would be a lot of casualties in the meantime, but eventually, I think, it would eliminate the trouble.

Mr. KIPNES. Senator, I hesitate to say I think Congress, by legislation, should limit the manufacture of sets to only those that will receive VHF and UHF. I think the question of free enterprise will take care of that problem.

Senator HUNT. I didn't say Congress do that; I said the industry getting together.

Mr. KIPNES. Oh, the industry.

Senator HUNT. Yes.

Mr. KIPNES. Yes; I heartily concur in that.

Senator HUNT. If they are interested in saving these ultra high frequency stations.

Mr. KIPNES. Yes; I think that would be very helpful if the industry were together to agree to limit the manufacture of all sets to those that would receive both VHF and UHF.

I would like to say this: I don't think that we have quite the analogy between radio and FM here and VHF and UHF. I think the analogy is closer to a regional station as opposed to perhaps a local station.

In radio we have seen that both can succeed and the local station can compete effectively with the regional station.

Senator HUNT. Are any of the communities down around Norfolk yet getting into this community television system service?

Mr. KIPNES. None that I know of, Senator. There may be some in the more isolated areas of North Carolina, but I haven't heard of any.

Senator HUNT. That is the next great forward step in television.

Mr. KIPNES. I think so.

Senator HUNT. And if this action I suggested with reference to manufacturing only one type of sets could be put into force and effect before this does take in all of these small communities in the United States, it would seem to me it would be a very advanced step and clear up the headache right now.

Mr. KIPNES. I think so, Senator. I think the community antenna system is growing rather rapidly.

Senator HUNT. It is going to spread over this country in the next year just like a rainfall over the whole United States.

Mr. KIPNES. I think that is something else that this committee should give consideration to, the committee and the FCC, and that is the question of whether or not community antenna services should be regulated by the Commission.

Senator HUNT. They will come into direct competition with already established television stations.

Mr. KIPNES. Certainly, and we are obligated and licensed by the Commission to operate in the public interest and, yet, there is no control of the community antenna services.

Senator HUNT. Yet, they will bring television to areas not now having television service?

Mr. KIPNES. Yes; they will.

Senator POTTER. I believe the Commission has refused to acknowledge whether they have or have not jurisdictional authority in this field.

Mr. KIPNES. I don't know if the Commission has yet acted on that, Mr. Chairman. I think that is something this committee can look into and perhaps recommend to the Commission. I think they might listen to you.

Senator POTTER. What do you think of the suggestion that has been made several times in order to accelerate the manufacturers to build sets that will receive UHF that color television be probably brought into only the UHF band?

Mr. KIPNES. I am opposed to that, Senator, for the reason I think it places an unfair burden upon the VHF station operator. I think that is a situation that primarily can be remedied essentially by free competition amongst the licensees.

As an example, if the UHF station in Norfolk that is now affiliated with NBC were to start programing color, I think they would have a definite competitive advantage over the licensee of channel 10.

I am a great believer in the fact that a great many of these problems rest with the operator rather than with the facility.

Senator POTTER. Do you agree that actually what we are dealing with is public property, that we are dealing with the facility of the spectrum, which is public property, and our interest, and it should be the Commission's interest, is to see that that public property is used to the best advantage of the public, and that, while we realize these channels are worth considerable money to the person who receives the channel, speaking now of the VHF, it is public property that you are dealing with and, while there is an economic problem

which is important to the individual, the individual is not the controlling factor; the controlling factor is the best service to the public.

We are confronted with some very serious problems here if the trend continues as it is now, say, with just two networks, for example, and we may end up with a lot more Government regulation.

I think people must recognize the fact you are going to have competition or you are going to have Government regulation.

It is not an easy problem for the committee or the Commission to cope with, but I think that everyone should recognize the fact that, while we all oppose Government regulation, we are caught in that position.

With this concentration of power in the hands of a few groups—the term “monopoly” has been used; I don’t know whether it is monopoly or not, and as that concentration builds up, the impetus for more Government regulation is going to go right along with it, and our concern is how fast the public can be served by its own facility, by its own air spectrum.

Mr. KIPNES. I agree very much with what you say, Mr. Chairman. I have a great feeling of the sense of responsibility of a licensee or a prospective licensee, and that we are dealing with the public spectrum and that the airways belong to the people and that we have to serve the people with our facilities.

I don’t know, however, that the Commission has rightfully served the public by granting perhaps some of the UHF stations to individuals who are uncapitalized and are not in the position to do the job of serving the public and developing their UHF facilities.

The UHF facility which is now off the air in the Norfolk market certainly cannot be said to have attempted to serve the public by running fourth-rate films all day long.

The UHF station to which I referred in my testimony certainly could not be said to serve the public interest in operating a television station without a camera for 6 months, and those were the critical 6 months, Senator, when they should have been developing their local audience with talent programs, local features, news, sports.

Those are the things which develop a responsible public-minded television operation or radio operation.

I agree that there are serious problems.

When the Commission was considering the television problem, I gave a lot of consideration to whether or not they should eliminate all VHF and put everything into UHF. In my own mind, like everyone else in the industry, I speculated as to what would be best in developing a truly nationwide system.

The Commission issued this allocation plan. I think it is a good one. I don’t want to discuss the merits of it.

Senator PORTER. Do you think that a UHF station can be competitive in, and take your own area, in a mixed market?

Mr. KIPNES. I do. Verily if a 200-watt station can compete with a 5,000- or 50,000-watt station in Washington and Baltimore—

Senator HUNT. Do you think that they could compete without a network program?

Mr. KIPNES. I don’t know, Senator. That is something that none of us can tell. Those who might think about the ultimate in television might wonder whether networks are the answer in television programming.

Recently a well-known movie producer suggested that he thought independent operations, utilizing films produced in Hollywood of top stars would be the ultimate success for television. I don't know.

As I said earlier, many people believe that a network affiliation is absolutely essential to success in radio. There are many broadcasters here today who will tell you that if they are affiliated in the networks a good independent will give them a run for their money, competitive-wise in their markets.

Senator HUNT. Would you view a local television show or one of the network shows?

Mr. KIPNES. It depends on the program, if the programs were of sufficient interest. Right here in Washington the Du Mont station competes rather effectively with the NBC, CBS, and ABC stations. I know that from my experience of having formerly been in the advertising agency business in Washington, and the Du Mont station in Washington I believe programs perhaps 80 percent of its time locally.

Senator HUNT. Do you think that UHF could be successful in Norfolk, Va., with only one-half the receiver sets that the VHF has?

Mr. KIPNES. I don't know the answer to that, Senator. I understand that the NBC affiliate—and I have not seen the figures—that it is doing rather well in Norfolk with 100,000 sets outstanding.

Senator HUNT. Thank you.

Senator POTTER. Do you have any further questions?

Senator HUNT. No, Mr. Chairman.

Senator POTTER. Mrs. Bowring.

Senator BOWRING. No questions.

Senator POTTER. Thank you for your statement, Mr. Kipnes.

Mr. KIPNES. Thank you, sir.

Senator POTTER. We will now hear from Mr. A. Earl Cullum, Jr., consulting radio engineer.

STATEMENT OF A. EARL CULLUM, JR., CONSULTING RADIO ENGINEER

Mr. CULLUM. I am a consulting radio engineer with offices located in Dallas, Tex. I have requested permission to appear before this committee because certain proposals have been made to it which I, as an engineer, feel are incompatible with the public interest. My qualifications are attached as appendix 1.

Before continuing I might inject at this point the television allocation hearing which was held over several years and which is being discussed here at great length went into many involved factors in trying to decide what channels should be allocated and how they should be allocated.

One of the factors that influenced the Commission, and I think properly so, is the public interest viewpoint, how much service you can render by a station. Particularly I would like to mention, and I can supply copies for the record if you should need them now or later, that there were two exhibits put into the television allocation hearings that probably did more to get the Commission to accept high power and high towers for VHF than any other two exhibits. I prepared the exhibits. If anybody wants to blame anybody for what happened, they can blame me as much as anybody else.

I rested my case at that time and I do at this time strictly on the point of providing public service. I think there is too much thought

given many times to the interests of Congress, the interests of the Commission or the interests of the broadcasters. We have to think about public service rendered.

I have prepared in previous cases and I intend to discuss most of these subjects now and I intend to direct most of my remarks to the public-service viewpoint.

The act of Congress, which created the Federal Communications Commission, stated that the Commission was created for the purpose—

* * * of regulating interstate and foreign commerce in communication by wire and radio so as to make available, so far as possible, to all the people of the United States a rapid, efficient, nationwide and worldwide wire and radio communication service * * *.

It is to the problem of making a television service available to all of the people of the United States that I wish to direct my remarks. It is recognized that engineering factors are not the only consideration in developing a truly nationwide service. The engineering considerations, however, are the basic considerations upon which any such service must be built. I, therefore, want to furnish this committee with the engineering background for my remarks.

Senator POTTER. You stated a truly nationwide service. You said nothing about a competitive service.

Mr. CULLUM. This has to come out. If we have more than one station we have to have competition. In certain parts of the country you cannot have two stations. If you have service you have to have one service. In most of the areas you can have two. You can have three, four, or five. There is a question as to whether you can have as many services as are provided for. That is an economic problem and not an engineering problem.

Senator POTTER. Your presentation deals with nationwide coverage and the competitive, the economic factor, is not a matter of consideration?

Mr. CULLUM. It has to be tied together, but not primarily a portion of my statement.

In the first place, it should be understood that, if an adequate signal is available, there need be no difference between the quality of television picture provided by either a UHF or VHF television station. There are differences in the ability of VHF and UHF to establish any given signal intensity and also there are differences in the signal intensity required to give adequate service.

In transmitting a television signal by VHF or UHF, electromagnetic energy is radiated from the transmitting antenna, attenuated through space, reflected or diffracted by the intervening terrain, intercepted by the receiving antenna and converted to signal at the receiver. Basically, the system is this—energy is radiated, there is a loss over the propagation path, some of the energy is intercepted and converted to usable signal.

In comparison with VHF the path losses are substantially greater at UHF, the amount of energy intercepted is generally substantially less at UHF unless extremely elaborate and expensive receiving antennas are used so that lesser signals are available at UHF. Furthermore, a greater strength of signal is required to produce a satisfactory picture at UHF. The signal required depends upon the electrical noise present in the receiver which appears as "snow" on the screen. Present UHF sets are relative snowstorms in this regard.

It is seen that all of the factors favor the VHF services, and in fact tend to favor the low band VHF services. In addition the same factors favor the lower UHF channels as compared with the higher UHF channels. This is a fact that is not generally recognized or admitted, but one which makes it extremely doubtful that all of the 70 UHF channels will be capable of providing satisfactory service. They are not now and will not be able to provide comparable service for many years to come, if ever.

Senator POTTER. In other words, the higher up the band they go the more power it takes to get the quality?

Mr. CULLUM. The same quality of picture. It takes more for channel 13 than for channel 2. The reason is that it causes more for channel 83 than for channel 14. It is a graded type of problem.

In an attempt to equalize the service of the several classes of stations the Federal Communications Commission has provided that low band VHF stations be restricted to a radiated power of 100 kilowatts while high band VHF stations are permitted 316 kilowatts and all UHF stations are permitted 1,000 kilowatts. Equipment is available to permit stations to achieve full power on all VHF channels, but the present stage of equipment development now limits the maximum power possible at UHF to approximately 250 kilowatts.

In order to show the effects of several of the factors discussed above, I have prepared a series of bar graphs which depict the service area of television stations in the various bands. These are shown in Figure 1 attached.

Senator POTTER. Both your qualifications and the graph which you referred to will be made a part of the record at this point.

(Qualifications of Mr. Cullum and graph of relative service area of television facilities are as follows :

APPENDIX 1

QUALIFICATIONS OF A. EARL CULLUM, JR.

1. He is a consulting engineer with offices located in Dallas, Tex.
2. He graduated from the Massachusetts Institute of Technology in 1931 with a Bachelor of Science degree in communication engineering.
3. Since 1936 he has maintained an office as a consulting engineer.
4. During World War II, he was employed by the Office of Scientific Research and Development. Under that employment—
 - (a) He was Associate Director of Radio Research Laboratory at Harvard University, Cambridge, Mass.
 - (b) He was expert consultant to the Secretary of War on electronic matters.
 - (c) He was expert consultant to the United States Strategic and Tactical Air Forces on electronic matters.
5. Since World War II, he has been employed as expert consultant to the Joint Research and Development Board. Under that employment—
 - (a) During the last of 1945, he was the first executive secretary of electronics committee of the Joint Research and Development Board.
 - (b) From 1946 through 1948, he was consultant to the electronics committee of Research and Development Board.
 - (c) From 1946 through 1947, he was chairman of the countermeasures panel of the Electronics Committee.
 - (d) During 1948, he was a member of the countermeasurements panel of the electronics committee.
6. He is a fellow of the Institute of Radio Engineers.
7. He has been awarded the Presidential Certificate of Merit.
8. He appears regularly before the Federal Communications Commission as an expert witness on allocation matters.

RELATIVE SERVICE AREA OF TELEVISION FACILITIES

1. WITH CONSIDERATION GIVEN TO PRESENT RECEIVER SENSITIVITIES

CHANNEL 2, 100 KW, 1000 FT

CHANNEL 13, 316 KW, 1000 FT

CHANNEL 14, 1000 KW, 1000 FT

CHANNEL 83, 1000 KW, 1000 FT

2. WITH CONSIDERATION GIVEN TO PRESENT MAXIMUM UHF POWER

CHANNEL 14, 250 KW, 1000 FT

CHANNEL 83, 250 KW, 1000 FT

3. WITH CONSIDERATION GIVEN TO INCREASED UHF PROPAGATION LOSSES

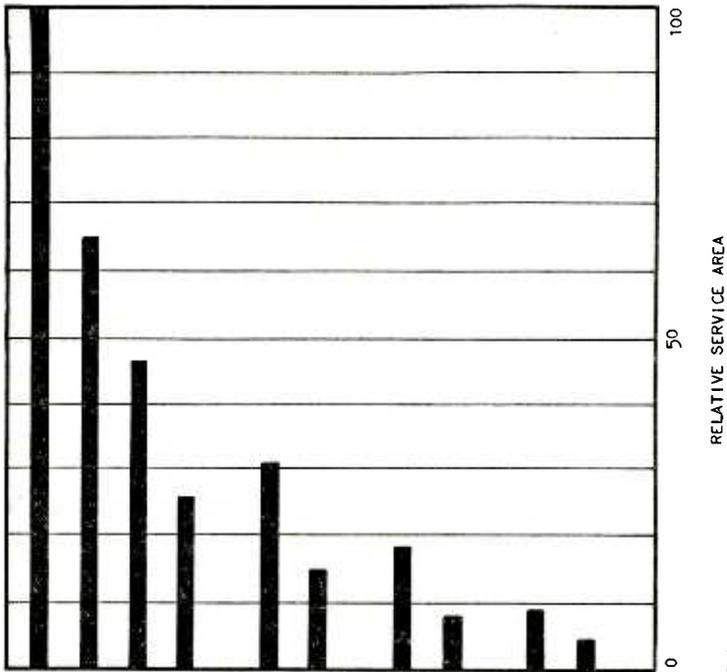
CHANNEL 14, 250 KW, 1000 FT

CHANNEL 83, 250 KW, 1000 FT

4. WITH CONSIDERATION GIVEN TO MORE TYPICAL UHF ANTENNA HEIGHT

CHANNEL 14, 250 KW, 500 FT

CHANNEL 83, 250 KW, 500 FT



RELATIVE SERVICE AREA

FIGURE 1

Mr. CULLUM. They are summarized in the following table in which consideration has been given to present-day receiver sensitivities:

Channel	Power (kilowatts)	Height (feet)	Comments	Relative service area (percent)
2	100	1,000	VHF	100
13	316	1,000	VHF	65
14	1,000	1,000	UHF	47
83	1,000	1,000	UHF	26

Senator POTTER. In other words, we cannot get the 1,000 kilowatts on channels 14 or 83 and so we have to have 250 kilowatts?

Mr. CULLUM. Yes, sir.

Senator POTTER. Would that reach 100 percent, 60 or 70 miles?

Mr. CULLUM. Yes, sir, about 70 miles.

Senator POTTER. And channel 83 would be what?

Mr. CULLUM. Fifteen percent of the area in square miles. That doesn't mean 15 percent of the radius. Forty percent of the radius would be 16 percent.

If consideration is given to the present power possible at UHF, the above table may be extended as follows:

Channel	Power (kilowatts)	Height (feet)	Comments	Relative service area (percent)
14	250	1,000	UHF	31
83	250	1,000	UHF	15

If consideration is also given to additional propagation losses at UHF, the table may be extended as follows:

Channel	Power (kilowatts)	Height (feet)	Comments	Relative service area (percent)
14	250	1,000	UHF	8

If further consideration is given to the fact that few UHF stations use heights of 1,000 feet, and 500 feet is used, the table may be extended further:

Channel	Power (kilowatts)	Height (feet)	Comments	Relative service area (percent)
14	250	500	UHF	9
83	250	500	UHF	4

This latter table is more typical of the present UHF stations.

This, as I mentioned, is summarized and the figure 1 in the bar graph takes the same data which I have discussed and puts it in a relative form. It shows the VHF and the UHF, just because of their technical limitations, that nobody can do anything about it, whether it is Congress or the Commission, you just have that problem. It

is a law of nature. There are a few UHF stations that do have higher heights and do attempt to do a more extended area, but this is the general type of UHF station we now have using 500 feet or higher and powers from 50 to 250 kilowatts.

A comparison of the above figures clearly shows that the service area now possible with UHF stations is vastly inferior to the Service area possible with VHF stations. When consideration is given to the UHF service possible with maximum power, with optimum receiver sensitivities and with optimum terrain the service area possible with UHF stations is still inferior to the service area possible from a VHF station. These are engineering facts and are at the heart of the problem of the UHF telecasters. These engineering facts make ridiculous the proposal advanced by the UHF Television Association that all telecasting be confined to the ultra-high frequencies.

The only means of providing television service to vast rural areas is by use of VHF unless there is virtually complete subsidy of a vast number of stations in rural communities. In addition, in rugged terrain, such as the area about Pittsburgh, Pa., VHF service is essential to provide adequate service to the metropolitan area.

Adding to the problem of the UHF telecasters is the fact that not all people within their service area will have sets adjusted to receive UHF signal. When it is considered that there are in excess of 20 million receivers which are incapable of receiving UHF today, and that it would cost perhaps \$50 each to convert, it can be seen that the public is being asked to undergo a potential outlay of \$1 billion for the privilege of receiving UHF television. The UHF Television Association effectively proposes to tax the public by this amount so that some uneconomic operations may have a better chance of survival.

Senator HUNT. Mr. Chairman, may I ask the witness a question?
Senator POTTER. Yes.

Senator HUNT. What additional cost do you think would be necessary for a manufacturer to incur in a set if he manufactures it properly to receive a very high outlet like this.

Mr. CULLUM. It has been estimated from \$15 to \$50, depending on how he does it. To do it well, to get the sets to perform properly, it may cost more than \$50. One is the quick and dirty way which allows you to put a number on your set, but it still does not work very well. Right now it is technically impossible to build a good UHF receiver, and since they don't know how to build it they don't know how good it will be or how much it will cost.

We know how to build a good radar receiver. but they cost not \$50 but hundreds and thousands of dollars, so there is an economic problem as to whether you want a set with numbers on the front of it or whether you want a set that works.

There is another part of the problem here and that is that those are all right for metropolitan areas. There is no doubt about a UHF station providing service to a metropolitan area, but in the rural areas you will force the farmers to buy UHF receivers and cannot put a service there. The vast part of this country is still made up of a lot of square miles.

Senator POTTER. We had a set manufacturer, Mr. Tazian, who testified that he has an all-channel tuner that he can produce for about \$7. Are you familiar with that?

Mr. CULLUM. No, I am not. I know he is a good manufacturer and I think he would be the first to say that he cannot build for \$7 a receiver that has as low a noise figure for UHF as VHF. He can build a receiver that will work well in metropolitan areas, but my point is that we have got rural areas to develop and he would probably build it out in the metropolitan area where a mediocre UHF set will give good results, but I am quite sure he would not propose that particular unit for areas of 70 miles from UHF stations. It just would not provide the service.

The problem of reduced coverage with UHF stations would be alleviated if UHF stations could be built and could operate with less expense than a VHF station. The truth of the matter is, however, that only the cost of UHF transmitting plant equipment is less expensive at the present time, and this is only because full power transmitters are not available. For stations capable of providing the same type of program service there would be no difference in the cost of studio buildings and equipment between a UHF and a VHF station.

When all factors are considered the initial cost of a UHF station is approximately the same as the initial cost of a VHF station. Generally speaking, then, the investment per viewer with a UHF station is greater than the investment per viewer with a VHF station.

Experience indicates that the investment per viewer is not the major criterion which will determine the success or failure of a television station. A more important factor is the cost of operation. If we assume that either a UHF station or a VHF station at the same location would provide the same type and quality of program service then the cost of operating the station will not differ one from the other.

Since a UHF station will generally serve appreciably fewer persons and since it costs the same amount to operate, the operating cost per viewer must be higher than for a VHF station. Where there is demand for this type of service, or additional service, and where the unit cost is not excessive, so that the advertiser, and ultimately the public, is willing to pay the price then, in those locations, UHF stations will be successful.

Any attempt to force all telecasting stations to use UHF can only result in an increased cost for the use of the medium or in a serious reduction in its use. In either case it is the public that will suffer.

It is generally conceded that the 12 VHF channels by themselves cannot provide a truly nationwide television service to all of the people of the United States.

It is not generally realized that 70 UHF stations cannot provide a truly nationwide television service to all the people of the United States. In other words, with the limited service area of which I have just spoken, if you put in all of them and redistribute, start it over, you still can not provide by UHF alone a nationwide television service as we now see it. There have got to be some changes and I do not believe we will have them.

Senator POTTER. You have to use both bands.

Mr. CULLUM. And even with both bands, no. Take this channel 2 station here and it is going to take, if channel 83 is operating, even with its 1,000 kilowatts and 1,000 feet which it now cannot do technically, but we anticipate can be done in some years, it will take 4 of this type of station to cover what 1 VHF will cover. The country

was not built realizing that television was going to be put in that form.

One of the consulting engineers here in Washington said if we want a truly nationwide service we should build the stations and then build the towns around the stations. That is just how impractical some of the proposals of the UHF broadcasters are.

It was also recognized that, in order to survive, individual VHF stations would have to have relatively extensive service. In order to achieve this it was necessary that stations on the same channel be separated by a considerable distance so that they would not mutually destroy an excessive amount of each other's service area. Also stations on adjacent channels require a lesser separation for the same reason.

It is because of these necessary separations between stations and the fact that cities do not conveniently occur with exactly the required minimum separation that the VHF stations are unable to cover the entire country. It is for this reason also that certain cities cannot have assigned to them more than a limited number of VHF stations. It was to provide additional television outlets in certain cities and to provide local television outlets in some areas where it was impracticable to assign VHF channels that it was necessary to expand the television broadcasting industry into the UHF.

After the conclusion of hearings which lasted from 1948 to 1951, during which there was a freeze on new construction, an allocation plan was adopted, which is basically the present plan, and applications for construction permits to build new television broadcast stations were accepted by the Federal Communications Commission. Since in each city there were only a limited number of television allocations available and there was great demand for many of the allocations, it was realized that it would be necessary to hold hearings to determine which among several applicants for any one facility should be granted the construction permit.

The freeze was lifted over the entire country at one time, so that it was also realized that the Commission would be faced with the requirement of holding a great number of hearing for communities all over the United States.

It was obviously a physical impossibility to decide all of the hearings at one time. In an attempt to make an equitable procedure, the Federal Communications Commission established a set of priorities to determine the order of hearings.

Now, more than 2 years after the lifting of the freeze, the process of holding hearings to determine which among competing applicants should be granted a construction permit is still going on. In fact, in certain major cities hearings have not yet begun.

Obviously the competition was most severe for the more desirable channels. This resulted in a situation where there were multiple applicants for VHF channels in cities and in many cases there were only single or even no applicants for UHF channels in the same cities. It is just as obvious that most, if not all, applicants for VHF channels looked at the UHF channels available and wondered whether or not it would be wise to drop the application for the VHF facility and apply for a UHF facility, in the hope of getting a long head start on the VHF competition. In every case where a client of mine asked me to consider and give my opinion on the advisability of making such a change in order to be able to get on the air earlier with a UHF

facility I advised very strongly against it where there was or would be adequate VHF service.

Generally, other competent counsel was also sought and in every case that I know of the recommendation made was the same as mine. My advise was based on a studied opinion that, in a competitive market, it was essential that the greatest possible service be rendered by a television station and that it was very doubtful that a station without extended service would be able to compete economically with superior services. Experience now indicates my recommendations were correct.

Under our system of broadcasting, I believe that ultimately the cost of operation of a television station and the return on the investment must come from the public in the form of acceptance of advertised products. The advertising cost, which includes the cost of the television facility, is beneficial if it creates a sufficient increase in the market so that other savings exceed the advertising cost. This requires a wide-base relatively low-cost advertising medium with good public acceptance.

Wherever the unit costs are too high, or the coverage is inadequate, television is not an economical medium whether it is VHF or UHF. That this is true is witnessed by the number of VHF stations that have suspended operations, or have decided against commencing operations. It is also borne out in the profit-and-loss statements of stations in large metropolitan areas, such as New York and Los Angeles. There, there are so many competing services that some stations do not have a sufficiently wide audience appeal. Some 50 percent of the stations in those 2 cities are actually losing money.

On the basis of the engineering facts, wide-area coverage by single stations is possible only with VHF. In certain areas where the terrain is relatively smooth, UHF stations can serve the principal city approximately as well as VHF stations. Beyond a rather limited radius, however, UHF service has difficulty in competing with VHF, which can provide service to much greater radii. The populations residing at distances of 50 to 100 miles from metropolitan areas having television services can look only to two main sources for television service. Either they must depend upon the service from VHF outlets in the metropolitan areas, the only wide-range service available, or they may develop local outlets. It was for this latter purpose in part that it was necessary to add allocations for UHF channels. Where there is demand, economic justification, and suitable terrain, local UHF outlets will provide a satisfactory service.

In the rural areas, however, without sufficiently large population centers the only hope of receiving television service comes from an augmented VHF service. Furthermore, in metropolitan areas having rugged terrain large segments of the population can only receive satisfactory television service through the use of VHF.

At the present time there is a certain limit to the number of stations throughout the country. This is not a matter of regulation—in fact, most allocations are not used—but a matter of economic fact. There are factors which over a period of years will tend to increase the number of services possible. Technological improvements are possible which will permit increased service by UHF stations.

These factors include higher power transmitters, more sensitive receivers, better antenna systems. Whether or not the potential im-

improvements are realized depends upon the demand for the improvement and the willingness of the public to pay the added cost for sets and service. In any event, however, we cannot now foresee that UHF television stations will be able to serve by any means as wide an area as a VHF station at the same location.

As the industry grows experience and study will result in reduction in the cost of providing a television program service for both VHF and UHF. Technological factors are also at work here, which over the years will have their effect.

The use of magnetic tape instead of film offers one possible means. New-type studio equipment designed with emphasis on ease of operation and maintenance and more reliable equipment all offer the hope of reduced operating costs. The major contribution, however, will probably be made by the ingenuity of station management and program personnel in devising simple yet effective program sources.

A combination of the above factors should lead to a television service which will gradually increase the total number of stations over the foreseeable future.

Certain proposals have been made to this committee by members of the UHF Television Association. These proposals call for a variety of actions from a new freeze on the granting of new television stations to the forced elimination of the VHF television service and the use of UHF alone.

The UHF Television Association claims to be a group of pioneers. The truth of the matter is that many UHF telecasters who are in direct competition with VHF stations are not pioneers but instead gamblers. The real pioneers of the television industry are the pre-freeze VHF stations which started television when no one knew if it would be economically feasible and also those UHF and UHF telecasters who now are attempting to provide service to rural communities of limited size.

The UHF telecasters who are now in competition with VHF, or are faced with competition with VHF, have not pioneered, but instead have merely gambled that the expansion of VHF television would encounter serious delays. Their arguments for the elimination of VHF television are purportedly based on a desire to develop a nationwide service. In view of the limited service area of UHF stations, this can only be achieved by a great expansion in the number of stations in many small rural communities. In this connection it is interesting to note the affiliation of the directors of the UHF Television Association.

Mr. Poller, of WCAN-TV, Milwaukee, is now in competition with 1 VHF station of long standing and faced with competition from 2 additional UHF stations. Is his interest in the rural viewer or in his own competitive situation?

Mr. Tenenbaum of WTVI, Belleville, Ill., claiming to be a St. Louis station, now is in competition with 1 prefreeze VHF and 1 UHF station and is faced with competition from 2 additional VHF stations.

Is his interest in the rural viewer or in his own competitive situation?

Mr. Garrison of KACY, Festus, Mo., also claiming to be a St. Louis station, is now in competition with 1 prefreeze VHF station

and 1 UHF station, and is now faced with competition from 2 additional VHF stations.

Is his interest in the rural viewer or in his own competitive situation?

Mr. Berk of WAKR, Akron, Ohio, only 30 miles from Cleveland, Ohio, where there are 3 prefreeze VHF stations is faced with competition from them.

Is his interest in the rural viewer or in his own competitive situation?

Mr. Loewi of WITV, Fort Lauderdale, Fla., only 25 miles from Miami, and only 15 miles from the "farm" where you place the towers for the Miami stations, claiming to be a Fort Lauderdale-Miami station, is now in competition with 1 prefreeze VHF station and 1 UHF station, and facing competition from 2 additional VHF stations. Is his interest in the rural viewer or in his own competitive situation?

Mr. McKinnon of WGVL, Greenville, S. C., now in competition with one VHF station, is faced with competition from a VHF station in nearby Spartanburg.

Is his interest in the rural viewer or in his own competitive situation?

Very frankly, as I have looked at some of the testimony and exhibits and heard some of the testimony, it is unclear to me as to whether some of these UHF petitioners want another VHF facility themselves or want to abolish UHF. Apparently they have anticipated that they are going to be in trouble. But they have anticipated that they will be in tougher trouble. If they think they have trouble, they are just getting rid of the trouble. They want to get this thing scrambled up some way to their own advantage and not let in any of these communities and Milwaukee, for instance, which was one of the last on the Commission's priority system, and it will be some time yet before we get all the VHF stations and the same thing occurs in Miami, Pittsburgh, and Boston. All of those places will have considerably more service in the cities and considerably less in the rural area surrounding the cities than they now have. This is a particularly untimely thing because they have not given the VHF fellow time to provide the service that the Commission anticipates will be provided in all these areas.

Senator POTTER. Do you think that some of the men who went into the UHF and received grants for UHF channels relied upon the Commission's report, assuming that they would be competitive and be equalized?

Mr. CULLUM. I do not think that I have said that. I do not think the Commission did.

Senator POTTER. I am wondering when they allowed the UHF, whether they assumed that they will secure the 1,000 kilowatt transmitters and the VHF transmitters were limited to 100 kilowatts on the lower band and 316 on the other end. I am wondering if they felt that would put them in a competitive position and unfortunately they were not able to get the power necessary.

I would like to ask this question, which goes back to the earlier part of your presentation: What action will be necessary to put them in a competitive position from an engineering standpoint? We have the recommendation, the present Commission's ruling where they can

have the power of 1,000 kilowatts and towers of 1,000 feet. Is that adequate to put them in a competitive position from an engineering standpoint?

Mr. CULLUM. In Milwaukee I had a client who employed me to study that very problem. In Milwaukee we determined what transmitting equipment was available and going to be available. We made engineering studies of service available and also looked at the VHF situation, and it became obvious to us and it was my recommendation that my client not apply for UHF in Milwaukee. I said 3 or 4 years ago that he would be in economic difficulty if he did.

I also had a client in St. Louis and exactly the same studies were made and we came out with essentially the same recommendations.

I had a client in Pittsburgh who asked the same question and we made the same studies and made the same recommendations.

I had a client in Boston who asked the same question and we made the same studies and made the same recommendation.

I had a client in Miami who asked the same question and we made the same studies and made the same recommendations.

So I don't know how these other people operate, but I do not think they found it in the Commission's report. They may have read between the lines or some Wall Street Journal report and came to the conclusion that they could compete with the VHF broadcasters, but somebody made a big mistake. I don't know whether they employed counsel or maybe they did not. Maybe they did not make the studies, but it is beyond me as to why the Congress or the Commission should get upset because somebody did not make some studies and find out these facts in advance and not make the mistakes.

Senator POTTER. Is it your testimony that UHF cannot compete in the metropolitan market?

Mr. CULLUM. It can compete in the metropolitan area, but it cannot compete in the rural area. It will have difficulty in competing in certain metropolitan areas where you have rough terrain like around Pittsburgh, Pa.

In Miami, Fla., it ought to be able to compete quite well for the metropolitan area if you are willing to say I will not worry about a radius of 75 miles or more.

Senator POTTER. I understood that you advised your clients in these metropolitan areas not to apply for a UHF grant.

Mr. CULLUM. That is right.

Senator POTTER. The previous question I asked was whether from an engineering standpoint, what would be needed from an engineering standpoint for UHF to be competitive with VHF and would more power be the answer?

Mr. CULLUM. If you could have extreme powers and extreme heights, yes. But we are talking of more than 1,000 kilowatts and more than 1,000 feet. In other words, the economics get to be very difficult to cope with. There are areas though—and I do not want to leave the impression that I am against UHF—there are areas where a man cannot have a VHF service. Reading, Pa., is one.

I have a client who started operating there with the largest operation in the country; he knew his problems and still knows his problems. He is not here asking for help. He is home working on his problems. He has got 250 kilowatts of power and about 1,700 feet, trying to cover

the communities in his area, plus the maximum rural service. He feels he must do that or he cannot make a success of it.

I have a client in Youngstown, Pa., who is going to 250 kilowatts of power.

Senator POTTER. Perhaps I misunderstood your statement. You stated you advised against your client applying for UHF in some of these metropolitan areas and I had assumed that UHF filled a gap in the rural areas. Is that correct?

Mr. CULLUM. Yes, sir, if you cannot get the VHF service. Going back to Milwaukee, we anticipated that there would be three VHF facilities in Milwaukee and we did not see how our client would have much of a station if he had the fourth station and that were a UHF station. That was the way it all boiled down. We felt that three VHF stations would provide service to the city and to the extensive rural area around there.

The fourth one, if it were UHF, would provide service to the city but not to the rural area.

The same thing applied to St. Louis and to other cities.

When you go to Reading, Pa., there is no way to put VHF facility in there and there may be a way but I don't know it. We told the client of the studies we made and saw no way to do it, and if he wanted to render television service in there he would have to put in a UHF station. He did put in a UHF facility and he is having his troubles because of these other problems of getting the UHF receivers on which he is working. It is a case of working at it and not crying about it.

The UHF Television Association has recommended certain "remedial action." I would like to consider these item by item.

(A) A hiatus is requested for a minimum of 90 to 180 days. This is obviously a stall and a hope that a new freeze will be instigated lasting indefinitely and eliminating competition to certain UHF telecasters. Such a new freeze would be a gross injustice to the people of many of our major cities such as Boston, Pittsburgh, St. Louis, Milwaukee, and others where there is today either inadequate television service or where an adequate number of services is only available if the public invests additional dollars in their television sets. It is also an injustice to the applicants in cities such as the above who are now involved in hearings to determine which of them will receive permission to build additional VHF stations. These applicants would be penalized for taking a long and accurate look in the potentialities of UHF television in competition with an adequate number of VHF services. This request of the UHF Television Association is obviously for the benefit of a limited few and is not for the benefit of the public.

(B) A transfer from VHF to UHF is requested. Such a proposal would not provide additional service but would provide less service. It is my firm belief that such a transfer can only result in major areas of the country not receiving adequate television service. Furthermore, in those portions of the country where adequate service would be available the public would be taxed more than \$1 billion for no better service and in many cases poorer service than they are now receiving. This request of the UHF Television Association is obviously for the benefit of a limited few and is not for the benefit of the public.

(C) As a "first step" the elimination of intermixture of channels has been requested. In view of the fact that intermixture does not exist, any change to avoid intermixture would result in making many VHF only receivers obsolete, or would require greater additional outlay by the public. The result would not be improved service and in many cases would result in inferior service. In fact, although it might be possible to eliminate intermixture within cities, there would always be intermixture in the areas between cities. This request of the UHF Television Association is obviously for the benefit of a limited few and is not for the benefit of the public.

(D) Mandatory regulation of networks and other program sources is requested. I cannot help but believe that in the long run the network problem is one of economics. If a network of UHF stations could produce the same viewing audience for the same cost, its existence would depend upon its ability to perform a service. In general a group of UHF stations cannot reach the same audience for the same cost. Any regulation of networks which requires that they affiliate with inefficient UHF stations can only result in additional costs which ultimately must be borne by the public. This request of the UHF Television Association is obviously for the benefit of a limited few and is not for the benefit of the public.

The CHAIRMAN. I don't quite care for the fact that you placed Youngstown in Pennsylvania.

Mr. CULLUM. I am sorry, Youngstown, Ohio.

The CHAIRMAN. I might say for the record that that bill was not filed at the request of the UHF stations or any other segment of the industry. It was filed as a matter of principle.

Mr. CULLUM. Yes, sir.

(E) Regulations and tax preference to encourage all channel receiver production are urged. This is not an engineering matter so I have no expert opinion on this proposal.

(F) Modification of present income-tax laws is requested. This is not an engineering matter so I have no expert opinion on this proposal.

(G) A Federal contract for development and research in UHF transmission and receiving tubes is requested. This research would constitute merely another tax on the American public. It will be made by private enterprise if there is demand. If there is not demand, it would be an unnecessary expense.

(H) A request is made for financial assistance. This is not an engineering matter so I have no expert opinion on this proposal.

The present rules governing television broadcast stations have been in effect for over 2 years. There is no doubt some readjustment should be made to provide additional television service. Any readjustment should be tested, not by the desires of a limited group of telecasters, but by a careful appraisal of the public service which would result.

In general it is my belief that the present allocation plan has provided a reasonable starting point. I do object to the allocation philosophy of the Federal Communications Commission which has a tendency to be fixed and inflexible and to make administrative convenience paramount to the public interest. A flexible policy, based primarily on consideration of public interest, has been followed in the field of standard broadcasting and as a result a truly nationwide service is approximated.

If the Federal Communications Commission would retreat from its position of arbitrary requirements and instead would give weight to the same type of consideration as has been in standard broadcasting, additional service could be and would be provided. No new "freeze" or "hiatus" would be required.

Senator POTTER. Mr. Cullum, there has been testimony here that the problem has been complicated by the jacking up of the power and the extending of the antennas and some of these VHF stations blanketing out areas in which UHF stations operate.

What are your views on that?

Mr. CULLUM. Well, that is the only way that we are providing the rural service. The UHF people will not provide that rural service. They have no proposal to provide the rural service.

If you take any large metropolitan area, and that is the only place where you can afford to use the tall towers and the high power, you can afford to do it there because of your large metropolitan area to support it and as a by-product of your service you provide an extensive rural area for the higher power and the higher tower.

You can go out and if a man goes out some 30, 40, 50, 60 miles away from the metropolitan area and if he can come in with a UHF facility and provide a better program service and the public prefers it over the large station, then he is going to be a success.

Senator POTTER. We had testimony here I believe yesterday showing the State of New Jersey where it was practically blanketed by the high power stations from New York, Philadelphia and Baltimore.

Mr. CULLUM. Right.

Senator POTTER. Do you think that is a healthy condition?

Mr. CULLUM. No, and that is one of the very things that I did not spell out here, dealing with the flexibility. In New York we have seven VHF stations. There is no need for that many. There should be flexibility whereby things could be moved out to New Jersey or Connecticut, not 7 but 1, 2 or possibly 3. To do so the Commission procedure now requires that a New York fellow losing money go through a process if he wants to put it in New Jersey of surrendering his license. He has to take his facility in which he has invested a lot of dollars, turn in his license and he is out of business. He can propose that the facility be taken from New York to Podunk and then there is argument as to whether that is the place for it to be placed. After the facility has been closed down he has no preference at all. It was all right at the beginning. It has served its purpose to be frozen in that nature, and rigid in that form for the last couple of years.

You have problems in California too. You have got seven stations in Los Angeles and it creates the same kind of problem. Any place where you have 7 stations in 1 community you create a problem all the way around that community. That is the reason New Jersey is in trouble.

Senator POTTER. I believe we had a man here from Atlantic City during the first phase of our hearings and he had a UHF station, I believe, and he was blanketed out by Philadelphia.

Now, what about the argument that has been used that you locate a station for example in Atlantic City—and I don't know about the Philadelphia stations, whether they are too much interested in the local problem of the community of Atlantic City—and I would assume

they are interested in the local problems of Philadelphia—what about the argument that is used that the local station going out of business, the UHF station in the smaller community is blanketed out by the VHF stations and that the community loses by the lack of having a local station?

Mr. CULLUM. That is always a problem, but around Philadelphia there are probably 100 other cities that do not have local expression. Philadelphia is possibly 1 of 100 that had that problem. It gets around to what does the public want. The public wants network service. They are not too interested in the Atlantic City service. They apparently want network service. They are getting some degree of network service from Philadelphia. They can get better network service if we have even bigger VHF stations in Philadelphia.

Senator POTTER. If for example at Atlantic City you could keep a network, then you feel that it would have been successful?

Mr. CULLUM. I think it would have been marginal even then.

Senator POTTER. Senator Bricker, do you have any questions?

The CHAIRMAN. No.

Senator POTTER. Senator Bowring, do you have any questions?

Senator BOWRING. No questions.

Senator POTTER. Thank you, Mr. Cullum.

Mr. CULLUM. Thank you, Mr. Chairman.

Senator POTTER. We will now hear from Mr. Franklin C. Salisbury.

STATEMENT OF FRANKLIN C. SALISBURY, WASHINGTON, D. C.

Mr. SALISBURY. Senator Potter, members of the committee, I first want to thank you very much for this opportunity to appear before you.

Senator POTTER. We are happy to have you here.

Mr. SALISBURY. At the request of certain of the officers and directors of television broadcasting station KSTM-TV, operating on UHF channel 36 in St. Louis, Mo., I have been asked to draw on their experience and my own to assist this Senate subcommittee in their efforts to prepare legislation which will provide the United States with a system of television broadcasting making available the widest opportunities for both broadcasters and viewers.

Television station KSTM-TV is, I believe, the only television station which is presently operating with UHF equipment and simultaneously participating in a hearing before the Federal Communications Commission for authority to telecast using VHF equipment. We are thus in the unique position of having an opportunity to serve the people in the St. Louis area and to evaluate from actual experience which system of television broadcasting will best serve the community. If this committee shares with us the respect which we have for actual experience, then we believe our advice will be of assistance.

My own experience in the field of radio has been both actual and theoretical. In 1939 and 1940, I was administrative assistant to Commissioner Thad H. Brown, Republican member of the Federal Communications Commission from Ohio. For a period thereafter I was on the legal staff of the Commission. After approximately 6 years with various legal staffs of the United States Army, I returned to the field of radio in the practice of law. I am a member of the Communications bar.

From the more practical side, I am an officer, director and stockholder in AM radio station KSTL in St. Louis, Mo., and similarly in radio station WBIS, Bristol, Conn. In television, I am counsel for KSTM-TV of which I am also stockholder.

Our experience—that of my associates in KSTM-TV and myself—convincing us that it is impractical to try to operate a television station in the best public interest with two different incompatible types of transmission in the same area competing for the same listeners. If Congress is interested in avoiding monopoly in the television broadcast field it should instruct the Communications Commission to eliminate the intermixture of UHF and VHF frequencies in the same telecast market area.

We earnestly recommend to this subcommittee that section 307-B of the Communications Act of 1934 be amended by the addition of the following language or similar wording:

In considering applications for television construction permits, licenses, modifications and renewals thereof, the Commission shall eliminate as promptly as possible intermixture of UHF and VHF channels in the same market area. In order to permit an orderly shift from intermixed telecasting, existing VHF stations in areas where it is administratively determined that the best service can be obtained by all UHF service, shall be reassigned UHF channels. One VHF outlet in each such area may be continued, but for a period of no longer than five years. Where the area is determined to be more suitable for all VHF service, the UHF stations shall be reassigned VHF channels. One UHF outlet in each such area may be continued, but for a period of no longer than five years. Where an insufficient number of channels are available to reassign existing stations, competitive hearings shall be had to determine which existing station shall be preferred for the available channels as the public interest, convenience, and necessity may demand.

Senator POTTER. What recommendation did you have for people who have invested in certain types of receivers? You may take a UHF area, for instance, and the people have invested in VHF receivers, or the other way around.

Mr. SALISBURY. I have set forth in this particular proposed amendment that one VHF station would be kept for 5 years, which means that in the St. Louis area they have only 1 VHF station now and they will not be adversely affected now. In 5 years I believe that the new sets coming out will be so good that almost everybody will have replaced their sets anyway. I see the problem and I do not want to see a person who has a set now adversely affected so that he cannot use that set.

The attention of this committee is respectfully directed to the facts of television broadcasting as illustrated by the situation in St. Louis, Mo., which is presently an intermixed market. Seven channels are presently assigned to St. Louis: VHF channels 4, 5, 9, and 11, with channel 9 reserved for noncommercial educational use, and UHF channels 30, 36, and 42. The Pulitzer Publishing Co. operates pre-freeze station KSD-TV on channel 5 in St. Louis.

The CHAIRMAN. What is the population of St. Louis?

Mr. SALISBURY. I would say about 1,200,000. I am from Detroit and Cleveland myself.

Signal Hill Telecasting Corp. operates UHF station WTVI on channel 54, in Belleville, Ill., within the St. Louis metropolitan area. Broadcast House, Inc., operates UHF station KSTM-TV on channel 36. The Ozark Television Corp. of St. Louis until recently operated station KACY on channel 14. KACY was the first victim of the

present allocation system in the St. Louis area. Construction permits have also been issued for UHF stations KFUE-TV on channel 30 and for UHF station WIL-TV on channel 42 in St. Louis.

With respect to VHF channel 4, the Federal Communications Commission on April 21, 1954, granted the application of KWK, Inc., for a construction permit to operate a VHF telecasting station in St. Louis, Mo. The status therefore of present and potential telecast service for St. Louis, can be summed up by the statement that there is 1 VHF station with approximately 600,000 sets in the area capable of receiving its signal and 2 UHF stations on the air with approximately 200,000 of the same sets equipped to listen to UHF signals. Of these presently broadcasting stations, KSD-TV brings to the people of St. Louis NBC and some CBS programs. WTVI brings Du Mont and some CBS programs, while KSTM-TV brings ABC network programs.

I should have continued on to state that channel 4 is about to go on the air, which means that one of the existing UHF stations will lose its network. As soon as court of appeals denied the stay in that particular VHF channel controversy we were notified by ABC that we would lose our network. They have a 6-month cancellation period.

Senator POTTER. Is that a common clause put in all the contracts, a 6-month cancellation?

Mr. SALISBURY. I understand it is.

Senator POTTER. In other words, a 2-year contract doesn't mean much if a new VHF station comes in? They can cancel it in 6 months?

Mr. SALISBURY. I think that is true. There may be a difference between an affiliate like ourselves and a basic station.

It was originally conceived by the Federal Communications Commission that the widest system of telecasting would result from the use of both VHF and UHF assignments, side by side, in any particular community; that UHF stations and VHF stations could compete for listeners in the same community on a favorable basis. We do not criticize the Commission for reaching this decision at the time, since it was at best an "educated" guess.

It is very obvious, however, from the facts which have been developed subsequently and which are eloquently spread on this record, that it is impossible to have a telecasting system which is based on two incompatible engineering systems of telecasting operating in the same community. One or the other will be driven out. The result is an inevitable diminution of the amount of service which the public can receive in any given area. The result is an inevitable monopoly which will irreparably damage this most important means of mass communication so newly available.

Cripple television, if you will, but at least be forewarned.

It is beyond credulity to believe that the FCC, if presented with the intermixture problem for the first time today, would have any hesitance in prohibiting this incompatible anomaly. However, the Federal Communications Commission has an understandable reluctance to change its mind; a natural, human reaction.

We therefore address ourselves to Congress, which has never committed itself one way or the other on the merits of "intermixture" and suggest that Congress has the responsibility to instruct the Commission by an appropriate amendment of the Communications Act.

My client, KSTM-TV, petitioned the Commission on October 15, 1953, that the table of television assignments contained in section 3.606 of the rules be amended to eliminate intermixture. It had the services of George P. Adair, consulting engineer in Washington, D. C., who studied the allocations available for St. Louis, and determined that UHF channels 64, 70, 76, and 82 are available for St. Louis in full compliance with the standards of good engineering practice.

I might add that is in addition to the other UHF channels that are presently allocated.

Obviously, therefore, there is no lack of channels available to St. Louis in the UHF band. On the other hand, there is an extremely limited number of channels available for commercial use in the VHF band in St. Louis. There are only 3 VHF commercial channels which is not even enough to provide service from the 4 national networks. There are at least 7, and perhaps 9 or 10 available channels, if UHF is made the service for the St. Louis area.

In addition, in evaluating these availabilities, there is really no substantial difference between a good service on UHF and a good service on VHF. From our actual experience it matters not what type of transmitting equipment—UHF or VHF—that one has in the transmitter house, for one can serve the public equally well with either. This observation is not prompted by theory but by actual operation.

There is nothing wrong with the quality of the UHF signals presently available to the people of St. Louis.

The CHAIRMAN. Couldn't this have been anticipated by the Commission? Was there any testimony with respect to the problems at the time the order was issued?

Mr. SALISBURY. I understand at that hearing there was a considerable division of opinion and that experts testified on both sides of that problem with almost equal weight. I understand that Du Mont very expertly asked the Commission to avoid intermixture, but the Commission had no actual experience so they went for intermixture. We cannot criticize them now.

The CHAIRMAN. I know, of course, that hindsight is better than foresight, but it seems to me that an engineering problem of that kind could have been anticipated.

Mr. SALISBURY. Actually, it is an economic problem as I will show in a moment.

The CHAIRMAN. Is that because of the receivers?

Mr. SALISBURY. Because of the receivers; yes, sir.

There immediately occurs to mind the question of why VHF transmitting equipment and UHF television equipment, if it is more or less the same, cannot both be used by telecasting stations in the same area. The answer requires the mind to shift from a compulsive interest in the engineering characteristics of the transmitting equipment to a view of the economics of telecasting.

Such a shift of emphasis is difficult for persons whose experience and responsibility has not been directed to the total picture involved in the presentation of a telecasting program to an audience. The Federal Communications Commission is unable to think in terms of economics but only in theoretical engineering possibilities, and is thus like a horse with blinders on.

The economics of the UHF-VHF controversy are as simple as they are disastrous. Put yourself in the position of an advertiser who

has a choice between a telecasting station with good signal which can reach 600,000 sets and a station with a comparatively good signal which can reach 600,000 sets and a station with a comparatively good signal which can reach only 200,000. There is no doubt but that your support would be given to the station which could reach the most persons. Since it costs as much to reach 200,000 as it does 600,000 persons, the operator with the limited coverage still must charge almost as much for his services as that of the more complete service.

Hence, it has proved impossible to have bargain-basement type of operations in television. The results have been and are inevitably that the medium which does not reach the mass of sets must go out of business. The proof of this is that almost every week a UHF station will go out of business until there are no more trying to compete in this unequal struggle.

If, therefore, it is the wish of Congress that there be a limited number of television stations with consequent monopoly in the most influential means of communication the world has ever known, Congress need do nothing but leave the Communications Commission free to pursue its present ill-conceived allocation system. The Communications Commission has eloquently revealed that it has no intention of giving up its fantasy that intermixture is a practical method of providing television service. This is revealed by its Memorandum Opinion and Order, adopted December 18, 1953, in response to the petition of Broadcast House, Inc., to eliminate intermixture in the St. Louis area. The Commission stated:

9. By its request that VHF channels 4 and 11 be replaced by UHF channels in St. Louis, petitioner is seeking, insofar as possible, to eliminate the intermixture of VHF and UHF assignments in St. Louis. The Commission explained in the sixth report issued in our recent television proceedings in Docket 8736 et al. why we considered an assignment plan based on intermixture of VHF and UHF channels both necessary and desirable.

The Commission recognized that while UHF broadcasters in areas where VHF stations existed would be faced with economic problems, the public interest required that in formulating an assignment plan which was to be the basis of the overall development of television for many years to come, a long-range view must be taken. The Commission stated its view in the sixth report—and we are still of this view—that UHF stations will eventually compete on a favorable basis with VHF stations.

If our nationwide assignment plan is to prove effective, UHF stations must constitute an integral part of a single, nationwide television service. If intermixture were avoided as suggested by petitioner, it would be necessary to limit the number of assignments in certain cities even though a need for such additional frequencies in the communities existed.

A more extensive television service can be made available where some VHF assignments are made in as many communities as possible than where only VHF assignments are made in some communities and only UHF in others. The Commission, moreover, made clear in the sixth report that it believes that wherever possible VHF assignments should be employed in large cities to take advantage of the wide-area coverage afforded by such channels.

Deleting channels 4 and 11 from St. Louis, therefore, would constitute a waste of the valuable spectrum. We do not believe that the Commission's principles of television assignment should be departed from merely because of some temporary adverse effect on private interests.

The error in the Commission's thinking is obvious to anyone familiar with actual operating conditions. If VHF and UHF could be received on the same sets, the Commission's policy would be well founded. Obviously in such a case a greater service could be provided by assigning as many UHF's and as many VHF's in the same com-

munity as possible. But since it is a fact that the UHF signal cannot be received at all, unless the set is converted, the VHF operation which can always be received without conversion, will drive out of business the UHF. Thus the need for additional frequencies will continue.

Even though a large number of incompatible frequencies are assigned to the community, as suggested by the Commission, the need for "additional" frequencies will not be met.

I might interject here that it is amusing that here in Washington we have two UHF channels assigned. Of all the places in the world where it is important and desirable to have as many television stations to take advantage of the great sources of programing, for example the Senate, we have two of them going begging. One of them has been applied for but I understand they would not ask for it if it was the last thing on earth and I also understand the other one, anybody in the room can have. You talk about adding additional frequencies. It is a desirable statement of policy but those additional frequencies must be realistic.

The Commission's policy of permitting intermixture of UHF and VHF in the same area is based on a study of the engineering factors involved. As such it is theoretically accurate. Unfortunately, engineering is only one of the elements of the problem and not even the most important.

I suppose automobile companies could manufacture small cars half the size of our ordinary vehicles with no trouble from an engineering point of view, but you will agree that this could not be done so as to sell the cars at half the price. The economic cost does not coincide with the engineering principles involved.

Should the Interstate Commerce Commission decide that in order to improve the railroad service, the gauge of the tracks should be cut in half in order to provide twice as much service on the same roadbed? Theoretically, I suppose you could get twice as many trains to operate on the same roadbed, if the tracks were half as far apart. You could probably keep the existing trains running on the normal size portion of this proposed system. However, I am equally sure that there would be no increase in service by this opportunity to open a new half-size railroad service, since the rolling stock is limited to the standard gauge.

The differences of opinion which exist in the present controversy rest not in the objective to be reached but in the method of carrying on toward the objective, namely, to provide the widest possible television service to any particular area, the sum of which will provide the most complete television service for the whole nation. We have personally discussed this problem with many members of the Commission's staff and find that a majority of the Commission's own personnel believe that intermixture is impracticable.

However, there is a universal negativism which implies that although a mistake has been made nothing can be done about it. To the contrary, we are optimistic that this committee which has the responsibility and has no psychological barrier to consider the problem can by a short and simple amendment to the Communications Act resolve this part of the total problem.

We will repeat to this committee the arguments which we advanced to the Commission, but we hope that here, where there is no pride of authorship in the mistaken program, a new policy may be written

into the law. We confine our remarks to the St. Louis area. That is the one with which we are most intimately acquainted. We have no reason to believe that the pattern is not duplicated in other communities similarly situated.

The proposed elimination of the VHF allocations in St. Louis and the addition of a number of UHF channels would permit all of the present serious applicants to obtain television facilities to serve St. Louis. These stations can compete with one another without economic advantage. If the present allocation of three commercial VHF stations is continued in St. Louis, the two presently allocated UHF stations will never go on the air, the UHF station KACY which has been driven off the air will not return, and the existing operating UHF stations will not survive.

Those are the two that are allocated that have not gone on the air.

In recognition of this fact, the two operating UHF stations have applied to the Commission to shift from UHF to VHF service. The very announcement of the possibility of channel 4 being occupied by the present construction permit holder in the near future was sufficient for UHF station KSTM-TV to lose its affiliation agreement with the ABC national network. I brought that up earlier. We have not actually lost it, but we have been notified that they reserve the right to change over as soon as the new VHF station gets on the air.

In addition, advertisers are withdrawing the support in anticipation of the arrival of the new VHF station. These same advertisers would support any television station which was not competitively handicapped by an incompatible transmitting system. The addition of every VHF station in an intermixed market is enough to kill three UHF stations. Intermixture means monopoly. Monopoly is bad government in a democracy.

The CHAIRMAN. Is there any difficulty in transferring from the established UHF transmitting stations to a VHF transmission?

Mr. SALISBURY. Do you mean from an engineering point of view, legal or financial?

The CHAIRMAN. Engineering.

Mr. SALISBURY. No difficulty. It is not the least expensive thing you have to do. You just have to change some of your equipment. We propose to do that.

The CHAIRMAN. But the same basic facilities could be used?

Mr. SALISBURY. Yes; you have to make changes in your transmitter and some changes on your tower, but we do not consider it insuperable. It will be the least of our problems.

The CHAIRMAN. It will not be anything like the original cost?

Mr. SALISBURY. Oh, no.

Since the publication of its sixth report which gave birth to the two-headed body, called intermixture, a great deal of additional experience and factual data has become available. In fact, at the time of the determination of its policies in connection with the assignment of UHF and VHF frequencies no actual experience was then available to the Commission. We do not contend that the Commission did not, with the information available at the time, formulate otherwise adequate principles of allocation and provide a temporary solution for the requirement of immediate assignments.

The Commission thus in the pioneering period provided the people of the United States with a tremendous increase in available television

service. However, benefiting from the now available experience, the Congress can further its expressed purpose of fostering a competitive nationwide television system by instructing the Commission to revise its table of assignments to conform to the newly available facts. It can stay the granting of additional VHF construction permits to St. Louis. Because of the large number of VHF receivers, there will be little incentive for the average television viewer to convert his receiver to view UHF channels when there may be several VHF channels available to him.

If the Commission grants construction permits to additional VHF stations in St. Louis, or other areas in the United States similarly situated, it will give these stations such a competitive financial advantage that it will deprive the people of St. Louis and the other areas of the widest potential choice of television programming. This pitfall can be avoided as the industry is still in its infancy. The problem is quite similar to that in the early days of the railroad industry when tracks of several gages were available, a problem which was solved on our continent by the adoption of a uniform track width. This problem still plagues the continent of Europe and militates against the best railroad service to their public.

We are in effect suggesting that in the community of St. Louis, and all other communities similarly situated, the Commission provided a standard "track" upon which all television stations can operate without competitive or other disadvantage.

We must keep also in mind the need of the present 600,000 televiewers in St. Louis that their present receiving sets be not made obsolete before they would wear out in the natural course of events. With that in mind, we believe that the presently operating station—which happens to be KSD-TV—be permitted to continue to operate for a period of 5 years by which time in the normal course of events the telesets in the community will have been replaced by their owners. Obviously, the replacement sets will be capable of obtaining UHF signals and most likely will be equipped for color also.

At the end of the 5-year period, KSD can then shift over to a UHF channel which can be reserved for it. This same plan can be carried out in any community where it is determined that the best allocation would be to permit all VHF operation. In that case, existing UHF stations can be transferred to VHF frequencies, if available, keeping one station on the air to service UHF viewers.

To sum up, it is believed that Congress can provide at this early stage in the industry for a broad competitive television system covering the entire Nation by amending the Communications Act to require the gradual elimination of the use of incompatible television channels in the same community. Both UHF and VHF can be widely used except when their incompatibility destroys their effectiveness.

Elsewhere economic problems will not reflect the engineering differences between UHF and VHF and all stations will stand or fall in proportion to their acceptance by the public service. The proper competitive system is where each television station competes for its audience on the basis of its service to the public and not on the basis of an unnecessary engineering advantage. The amendment suggested will accomplish the public purpose.

Senator POTTER. Do you have any questions, Senator Bricker?

The CHAIRMAN. No further questions.

Senator POTTER. Senator Bowring.

Senator BOWRING. No questions.

Senator POTTER. Thank you very much, Mr. Salisbury.

Mr. SALISBURY. Thank you, sir.

Senator POTTER. The committee will stand in recess until 2 o'clock this afternoon.

(Whereupon, at 12:17 p. m., the subcommittee recessed until 2 p. m., of the same day.)

AFTERNOON SESSION

(The hearing reconvened at 2 p. m., Senator Potter presiding.)

Senator POTTER. The subcommittee will come to order.

The first witness this afternoon is Mr. Wilmotte. Is Mr. Wilmotte here?

Mr. WILMOTTE. Yes.

Senator POTTER. Mr. Wilmotte, will you identify yourself for the record, and speak as loudly as is comfortable, so the people in the back of the room can hear.

Mr. WILMOTTE. If they don't hear me, maybe they will say so.

Senator POTTER. Yes.

If you don't hear at this time or with any other witness, just sound off, if you will, and I will appreciate it.

**STATEMENT OF RAYMOND M. WILMOTTE, CONSULTING ENGINEER,
WASHINGTON, D. C.**

Mr. WILMOTTE. My name is Raymond M. Wilmotte, residing at 1517 30th Street NW., Washington, D. C. I am a consulting engineer with offices in the Warner Building in Washington, D. C. I am a member of the Radio Propagation Advisory Committee of the Federal Communications Commission.

My testimony will be directed first to the basic reason for the UHF problem; second, to the engineering aspects of the UHF problem, and, third, to the problem of the governmental control of engineering.

1. The basic reason for existence of a UHF problem:

There are a great many reasons that can be listed for the present unhappy state of the UHF television band, but most of them are merely manifestations of the one basic fact that under the rules and standards of the Federal Communications Commission, the service from a UHF station is more costly and not as good as the service from a VHF station. The facts are simple and generally recognized. Very roughly we can compare the relationship between the lower ends of the VHF band and of the UHF band from the following list:

Ratio of power required at UHF over VHF

	<i>Decibels</i>
Minimum signal intensity including antenna pickup to overcome set noise -----	12-19
Loss of power due to curvature of earth (at about 40 miles) -----	3-6
Loss of power due to trees -----	3-6
Loss of power due to shadows from obstructions caused by buildings or hills in rolling country -----	5-15
Total -----	23-46

While there may be differences of opinion as to the exact values properly applicable to the factors listed above, I believe that a rea-

sonable figure for the power ratio required at the lower ends of the UHF and VHF band for equal service areas lies between 23 db. and 46 db.

Senator POTTER. What do you mean by db.?

Mr. WILMOTTE. I am explaining it.

Senator POTTER. Oh, I see.

Mr. WILMOTTE. That is between 200 and 40,000 to 1. In other words, a UHF station to give about the same service, over a big area, 40 to 50 miles, would require about 200 times or 40,000 times the VHF, depending on the conditions.

Those figures are very rough, but if we are seeking really good service, such as this country can well afford to provide, it is apparent that we are not discussing ratios of power of 5 or 10 times, but of hundreds and thousands of times.

The reason I said "good service"—if you decide you are going to leave out some gaps, the ratio would be less. If you decide you are trying to eliminate as many gaps as possible, then the ratio becomes high.

So, to some extent, this ratio depends on the United States consideration of what is the standard of good service.

In terms of square miles of coverage, the difference is far less important, for a small change in power has relatively little effect on the area served as calculated by FCC standards.

It is not surprising, therefore, that except in very special circumstances, the UHF stations would not attract the best programs in competition with VHF stations. What is surprising is that anyone should be surprised that they do not.

The early start of VHF, ahead of UHF, is an additional handicap, one that had been expected and may warrant at this time other than engineering techniques, to counteract its effects. But unless the discrepancy in service between VHF and UHF is overcome at an engineering level, UHF will not generally be able to attract the good programs in competition with VHF.

2. Methods of serving an area:

There are broadly two ways of providing service to an area:

1. Transmit the program from a single station.
2. Transmit the program from several stations.

The first system is the simplest in concept, the simplest to administer, and the only one permitted by the FCC. The second is more complex, and is subject to many variations; the success of the system is more dependent on the ability of the engineer than on the rules of the FCC.

There are three ways of transmitting programs from several stations. They are:

1. Booster operation;
2. satellite operation;
- and polycasting.

It is the last one I wish to talk to principally.

In the first two types, specific effort is made to have the signals from the several stations fill in the gaps that the main station fails to serve properly. In polycasting, the service from the several stations is deliberately made to overlap. It is believed that considerable gain is obtainable by this technique, for it fills in both the obvious and big gaps as well as the little ones.

The reason for the gain possible by this system—that is, polycasting—is due to the fact that the signal at one point on the roof

of a house may give a good quality picture and at another point, only a few feet away, the quality of the picture may be so bad as not to be worth looking at.

If signals for a program come from several stations, however, it will be automatic and natural to install the antenna on the house so that it will pick out the strongest of the signals. If there are quite a few stations with the same program trying to serve an area, there will be very few points in that area where every one of the signals is weak, so that the strength of the signal actually used is much greater than if the signal were coming from one station only.

Statistical calculations have been made and presented to the FCC in 1949 at the hearings that were held during the freeze, and have been made part of this record, I understand. A summary of these calculations were also published in the proceedings of the Institute of Radio Engineers, in July 1951.

The results of these calculations are surprising. While they were made some time ago, I have no reason to modify them appreciably now. I believe the order of their magnitude is correct.

The calculations were based on an arbitrary theoretical arrangement of four small stations at the corners of a square, all serving the area within the square and a substantial area beyond it. It was found that the effect of ghosts would deteriorate the service too much, if only one channel were used. The arrangement was, therefore, to have the stations on a diagonal on one frequency and those on the other on another frequency, requiring two channels.

On this basis, and allowing for the loss of service due to ghosts, it was calculated that:

(a) Four stations each radiating a maximum of 2 kilowatts of power at a height of 300 feet above mean terrain, for a total of 8 kilowatts, would serve the same area as a single station of about 1,000 kilowatts radiated power at the same height. This would be true both for a relatively small area such as a city and its environs or for a large rural area, although the spacing between the stations would be different in the two cases.

Quite a few channels of this nature were given in the calculations. One of them I will refer to here, as referred to in (b):

Twelve similar stations suitably located, or a total of 24 kilowatts radiated, would serve the same area as a single station having a power of 200 million kilowatts.

In addition, this system produces less interference to other stations because the power is small, and the fading at the edge of the service area is less than with a single station.

It seems, therefore, that it is possible at UHF to serve a large area, larger than at VHF, and to serve such an area well and economically.

Polycasting can also be designed with a main fairly powerful station combined with one or more low-powered stations. It can be designed to serve a circular area or an oblong area. It can to a great extent be designed to fit the social and economic shape of the area to be served.

Senator POTTER. Maybe you will explain a little later on, but I still don't know what polycasting is.

Mr. WILMOTTE. Polycasting consists of using several small stations instead of one large one to serve one area.

Senator POTTER. All on the same channel?

Mr. WILMOTTE. Requiring two channels.

Senator POTTER. Requiring two channels?

Mr. WILMOTTE. Requiring two channels. I will go into that a little later on—requiring two channels to achieve what seems to be an economic and good service.

Senator POTTER. Is that being done any place in the country today?

Mr. WILMOTTE. It is not. It is not permitted to be done.

Senator POTTER. It is not permitted by the Commission?

Mr. WILMOTTE. That is correct.

Polycasting appears able to serve large, sparsely populated areas well. The several stations in such a case would be located in small centers of population so selected that the rural area between them would be well served; and, very important, the cost will be quite low.

Two kilowatts' radiation in power requires practically no sizable installation. You can plug it into the wall and have a gain antenna, and you can achieve that for relatively few thousands of dollars. You would still have, of course, at the main station your studios and the expensive equipment that goes with a studio operation.

In the presentation that I made to the Commission in 1949, I made an approximate arrangement of stations in two parts of the country, one in the Middle West, around Kansas City, and another one in the East, around New York and Philadelphia, and it is possible, according to my calculations, to give a large number of services all over the country, and each one of them—that is the point—each one of them would give the operator of the stations a very large population to serve, with the result that he ought to be able to receive adequate income to provide good programs—and by large population, I mean even in rural areas in Kansas, without big cities in the populations of a hundred, two hundred, and three hundred thousand, would be covered with relatively little cost.

Senator POTTER. How far apart should these stations be?

Mr. WILMOTTE. It will depend on the circumstances. The arrangements that I laid out—some were 10 miles apart; some were 5 miles apart; some were 40 miles apart.

Senator POTTER. What was the Commission's reason for not permitting polycasting?

Mr. WILMOTTE. The Commission, actually in its decision, at the freeze, said polycasting—I should quote it exactly, but it is in the report—should be experimented with and tried out before they could do anything with it; but, as it was, the engineers of the Commission seemed to be interested in it, but had a problem of how to allocate two channels throughout the country, which is much more difficult to handle than when you have just one channel to one person.

I think one of the main problems—and I will take that up later—is the problem of the extent to which the Commission must decide what is good engineering and what is bad engineering, to what extent they have to decide whether a system is possible or isn't possible, whether Washington is a good place to make that decision, or whether industry should make that decision by the normal method that industry uses in appropriating and applying new techniques.

Senator POTTER. The two channels should be side by side, like—

Mr. WILMOTTE. Not necessarily; preferably not, but again that could be arranged.

In the layout I presented to the Commission, there was one channel in between them, so that there would be little difficulty in separating them. I have the figures—I think I can give them to you later, if you would like them, but they are in the record, as to the number of programs that could be made when using the UHF band, say, from 600 to 750 megacycles, something of that order.

I am not saying that this system is the best for all locations under all circumstances, and that no better system will ever be devised; but I do say that polycasting shows sufficient promise that television broadcast operators should be permitted to make use of the system, if they so desire.

I will go further and state that any system which makes proper engineering use of several stations will give much superior service to that provided by a single station—that is, on the basis that the systems produce no more than a certain degree of interference to other service areas.

In my opinion, polycasting is likely to prove superior to the other two multistation systems—possibly not in every case, but in the majority of cases.

3. Government control of engineering: I would like to say first I think that is possibly the key problem that is facing the industry.

A key point in the above statement is the limitation that “proper engineering” must be used. That leads to my next point, the problem of governmental control of engineering. In this lies, I believe, one of the major causes of recurrent troubles. Flexibility is necessary for the evolution of engineering, for improvement of service. Flexible systems are also more difficult for the Government to administer.

What is the solution? Should we let engineering free to find better ways of providing better service, or should we restrict it, tell it exactly what to do, right down to what tubes to use, what size meters, even what clocks to use sometimes, and thereby make the administration detailed but simple?

In the past there has been but one answer to that question—make the administration simple and restrict the engineering.

The result is that any change in engineering techniques takes years and is very costly. There must be some rules and some restrictions, for the FCC in giving a license should see to it that with the license goes a responsibility of providing service to the public in the designated area and of producing not more than a specified interference in other areas. But surely it is in the public interest first to keep such rules to a minimum, and, second, to insure that such rules do not conflict or contradict in any respect laws of nature.

There is from time to time a very strong temptation to recognize only those physical facts that fit with desired policy or make the administration simpler. Whenever the full and all physical facts have not been recognized, the service to the public has eventually suffered.

We have examples of that in the regular broadcast end. In my opinion, if the FCC had not restricted engineering unduly, there would have been tried already many and varied types of multiple-station operation, boosters, satellites, and polycasting.

It may be said that the FCC permits and even encourages experiments on new systems. While that is true on the surface, the practical facts do not fully support this view. The actual situation is per-

haps best described by a conversation I had a few years ago with one of the top administrative engineers in this industry.

I was endeavoring to interest him in spending some funds in a study of what could be achieved with multiple-station operation. He asked me how much I thought it would cost and how long it would take. I said about \$100,000 and 18 months. He replied something to the effect: "To which you should not forget to add \$300,000 for presenting it to the Commission, and an additional 2 to 3 years for obtaining a decision."

The FCC cannot help this situation under its present operation. With its limited experimental facilities, its tremendous burden of detailed administrative controls, and its decision that it must say "Yes" or "No" to practically every engineering design, big and small, any change in rule is inevitably cumbersome and costly in dollars and time. Unfortunately, the economic process does not wait, and only the economically large can be expected to carry the burden successfully.

I believe that many of these problems could be solved and many would not even occur if the FCC released its excess burden in engineering controls. The FCC could and should change its point of view and free the operators as far as practicable to serve their areas in any manner they wish.

The FCC controls should be directed not to the equipment or system design that he uses, but to the public service that he performs. The FCC should then check that:

(a) Within the area assigned to him the operator provides an adequate service in accordance with the service standards established by the FCC and proved by accepted calculations or measurements.

(b) Without his assigned area, he does not cause more than a specified degree of interference, also proved by accepted calculations.

It is possible to establish such standards, such techniques of calculations and measurements. Such a procedure would free the operator and would reduce the engineering responsibility of the FCC to establishing the standards, the method of calculations and measurements, and to conform as accurately as possible with the requirements of service and the laws of physics, and to seeing that each operator carries out his license agreement to give service.

The more the FCC lays down in detail everything that the engineer must do in the design of the station, the more is the FCC responsible to the country for any problem that comes up, of poor service, poor economic conditions.

I don't see any reason why the Government should get into that problem at all. There is no reason. What the Government should do—they have a license; they have frequencies; they grant a license to use a frequency. The man who gets that and has the privilege of having that is responsible to the country to give good service, and the Commission should limit itself and its activity to see that he does so, not how he does so.

Right now the Commission doesn't see that he gives a good service. The Commission sees to it that he does it the way the Commission tells him to.

4. Conclusion: Basically, when the FCC grants a license it gives the operator something basic, a frequency channel. With it, he is told to

serve an area. But the license today gives also location, kilowatts, tower heights, et cetera. These last are not the property of the Government to give away, but the channel is.

It is very simple for the Government to make the UHF band attractive. It owns only one thing and that is the frequency. With a UHF license instead of 1 channel, it can give 2. With two channels the FCC will require and will obtain a better service within the area and reduced interference outside of it.

Effectively less than twice the spectrum area will be used up, for the stations on the same frequency can be put closer together, so that they can have more stations on a single frequency. Moreover, there are plenty of channels available in the UHF band for this type of operation, and I think my presentation to the Commission effectively proves that.

I, therefore, request the committee to consider the following:

(a) Providing freedom for the engineer, by limiting, as far as possible, the engineering controls of the FCC directly to service and interference, with a minimum of control on equipment and system design.

(b) Specifically permit an operator to operate more than one transmitter in his area.

(c) Grant two channels wherever possible and particularly in sparsely populated areas to operators of UHF stations.

The Government should have more trust in the American engineer. To bind and restrict him delays progress and leads to such problems as this committee is endeavoring to solve today. Tell him what it is desired that he should provide and in due course he will probably come up with something which, if not exactly what is asked, is very close to it or may even be better.

The concept of engineering by Government control is certainly not our ideal; it is probably the ideal concept in those other parts of the world with which we are not very much in sympathy.

I believe that the UHF problem will be solved in the long run only by permitting the UHF operator to compete in service with VHF. Other solutions may be temporarily needed, but they can only be temporary palliatives; and, above all, the solution of the problem must bring benefit to the public and not be obtained by some limiting legislation which prevents the public obtaining full use of our engineering abilities.

Senator POTTER. I still don't understand polycasting.

Mr. WILMOTTE. Sir, may I put it this way: You understand the present system. You have one station, and you transmit as much power as you are permitted to transmit from that station, at as high a level as possible.

Instead of that, you can take a number of small stations. You have one station associated with your studio, and you have a number of small stations at a distance from it. You pick up at these small stations the program from your main studio, from this central station. From each of these stations, you then reradiate that program from all directions and, instead of having a station in the center of this area, supposing it were this table you had to serve, you would then put, say, 4 stations—1 around halfway on the diagonal from the center, another 1 halfway on the diagonal from another center, and another 1—and you would have 4 stations at the corner of a square, or some

area which is desired, which is suitable, some location which is suitable for the area to be served.

It is flexible, in that the locations would have to be adjusted to the area, to the centers of population and so forth.

When you do that, this is what happens: Supposing you were taking a point near the center of these four stations; you had a house there, and you wanted to receive a program. You would automatically set your antenna in the direction of the station which had the strongest signal. From that, from pure theoretical calculations, you would say the chances of the signal from all the stations are about equal; but, as a matter of fact, if you do that, you will find not that they are equal, but at this one point the signals from all the stations are very different because the signal from one station varies from point to point.

A few feet away you get quite a different strength of signal. Now, if at every point you pick out the strongest signal, you can see that there will be very few locations where all four signals will be weak. It will be a strange coincidence. It will happen, but it will happen only relatively few times instead of relatively frequently.

So, when you are looking for a good location for 90 percent of the locations you want to serve, 90 percent of the locations you get a tremendous gain, not because of the fact you have more power, but you get a tremendous gain because of a selection of what signal to put out.

Senator POTTER. Why would you need two channels?

Mr. WILMOTTE. The need for two channels is for this reason: since you have several signals coming in at one point, you have a greater danger of ghosts.

You know what ghosts are, sir. You have an interference in ghosts.

Senator POTTER. I have been living with them too much.

Mr. WILMOTTE. I would appreciate that if I had attended the hearings as much as you have. This is my first appearance at these hearings.

You have a greater danger of ghosts, because you have ghosts coming from several directions—or signals coming from several directions.

Senator POTTER. No pixies?

Mr. WILMOTTE. I will have to be very careful of my wording from now on.

You have signals coming from various directions. So, you have an increased chance of ghosts. If you calculate statistically what are the chances of ghosts and reject the locations where the ghosts are too bad, then you find you deteriorate the signal when you have four stations all on the same frequency.

Senator POTTER. Then two of your stations would be on one frequency and two on the other?

Mr. WILMOTTE. So, if you have two channels that loss is changed into a very important gain. In fact, the gain, in one case that I calculated—well, several cases that I calculated—can be as much as a 100 to 1 in power. In other words, if you have these four 2-kilowatt stations, the effect here, if you pick out the strongest signal, would be the same as if you were receiving 200 kilowatts from one of the locations.

It is a gain which costs nothing, with no more kilowatts on the air, but effectively the receiver gets the same thing as though he had 200 kilowatts instead of 2 kilowatts to receive.

I think the statistics are reasonably correct. I believe they have been checked. I have been told they have been checked, and there may be questions as to the assumptions made, but I think the order is right.

Most of these things—

Senator POTTER. These small stations pick up the signal from the control station?

Mr. WILMOTTE. That is right, or some method of transmitting the program by radio relay, or some method like that.

Senator POTTER. How does that differ from booster stations?

Mr. WILMOTTE. Well, booster stations endeavor to serve the areas which are not served by the main station. You have a strong main station, and then you have a little town somewhere 30 miles away, which is under a hill, or there is a hollow somewhere, there is a river in the way, or there are lots of trees in the way, and the people are not getting the service there.

So, you set up a little station there to serve that little town, and as much as possible you try not to send a signal into the main service area. You fill in a hole in the service.

Now, when you do that, in my opinion, according to my mathematics, you have lost a great deal, because you have lost this chance of picking out the big, strong signal; you are just feeding in a little service here and there.

You can do that. You can fill that up everywhere. You may have a little town you want to fill in, but you are not going to put a little station merely because a farmhouse doesn't receive a signal satisfactorily.

That booster wouldn't solve that. Polycasting would tend to solve that. I don't say it will solve it in every case, but I think it will tend to solve it, and is designed to try to solve it.

In some ways that is why it is probably particularly important for large rural areas, where it is not economical to set up a lot of little stations with the booster type.

It is important to serve these areas, if we really want to serve the United States, and I don't know of any other way—probably some other ways will be developed, but today I don't know any other way of doing that except the system proposed by Westinghouse of stratosphere, having an airplane send the signals down.

If we are going to stick down to earth, as far as I know, polycasting is about the only way of doing it.

Senator POTTER. This has been very interesting.

Senator BOWRING. Mr. Chairman.

Senator POTTER. Yes.

Senator BOWRING. I would like to ask you to look at the map and the white areas, which I am particularly interested in. I have been sitting here for several sessions of this committee wondering what we are going to do out there.

For your information, Mr. Wilmotte, I am from Nebraska, and from the northwest part of Nebraska. I have looked at yellow spots, red spots, and blue spots, and unfortunately, I don't find any spots

in my area, and I am wondering how we are ever going to get television out there.

I wonder if someone has an answer to that. Now, we have a station at Denver, Colo., and a station at Omaha. Where I am located, I am about 350 miles from either one of those. If one is put in at Rapid City, S. Dak., it will be about 200 miles from that.

Now, will polycasting serve my need there? What have you to suggest that would take care of that area? I didn't hear all of your testimony. Unfortunately, I was delayed in coming in and then interrupted after I came in.

I am beginning to wonder if there is an answer to our problem. Unfortunately, we can't take that part of the United States and lay it outside of New York City. It would look like we might get some programs if we could.

Mr. WILMOTTE. This is a sort of horrible thing to give to you, but may I give it to you just the same?

Senator BOWRING. Yes.

Mr. WILMOTTE. This is a layout that I worked out for the area. It is in the record, as a matter of fact, I believe, isn't it?

Mr. ZAPPLE. Yes.

Mr. WILMOTTE. It is in the record, but here it is.

All these circles, all these lines, represent an area served by polycasting layout.

Senator BOWRING. Is this economically feasible?

Mr. WILMOTTE. Well, this is the approximate population served by one polycasting system, the rural service, and in Illinois the population would be a hundred thousand; Iowa, 200,000; Kansas, 105,000; Missouri, 150,000, and Nebraska, 66,000.

If it is economical for an operator, taking Nebraska, to serve 66,000 person, then polycasting is economical. Polycasting is a lot cheaper to set up than some of the stations that are built to serve towns even today of less than a hundred thousand. So, I presume it could be economical.

It is not my business to run a broadcast station. It is my business to know something about the engineering of it. However, it does seem to me to be economical on the basis of these figures, and I will be glad to leave this with you.

Senator BOWRING. Thank you.

Mr. WILMOTTE. If you wish to have it.

Senator BOWRING. Yes.

Mr. WILMOTTE. These are the number of channels—table 3.

I am referring, by the way, to the paper in the Institute of Radio Engineers, July 1951. Table 3 gives the number of channels required in these various areas, and table 4 gives the estimated population covered by each polycasting system.

Senator BOWRING. Thank you.

Mr. WILMOTTE. Here is the area around New York. That was the two typical areas—one sparsely populated, and one overly populated.

Senator POTTER. There has been no pilot study made of this?

Mr. WILMOTTE. No, there has not been.

I gave you the reason, I believe, in my story.

Senator POTTER. Yes.

Mr. WILMOTTE. That it is an expensive process—not to do so much with a pilot study, once you have done it, but getting anything done with it.

Senator POTTER. It has been an interesting discussion.

The next witness will be Mr. Tenenbaum, of Station WTVI, St. Louis.

Mr. WILMOTTE. Thank you very much.

Senator POTTER. Thank you.

STATEMENT OF HARRY TENENBAUM, SECRETARY, TELEVISION STATION WTVI, BELLEVILLE, ILL.

Senator POTTER. It is good to see you again.

Mr. TENENBAUM. Thank you.

Senator POTTER. You may proceed, Mr. Tenenbaum.

Mr. TENENBAUM. My name is Harry Tenenbaum, and I am secretary of Television Station WTVI, Belleville, Ill., serving the greater St. Louis area, the ninth market in the United States.

I think testimony was given yesterday that one VHF station, Senator Potter, served either 7 or 11 States, and I have no apologies to make to Mr. Conn for serving an area 6 miles from our tower. I am treasurer of Ultra High Frequency TV Association, and member of the Ultra High Frequency Coordinating Committee.

My area, St. Louis, is the largest UHF market excluding Pittsburgh.

A few weeks ago an operator of a North Carolina UHF station, who numbers among his stockholders several wealthy associates, came to me and asked what difficulties we were having in operating a UHF station in the St. Louis market. We had quite a lengthy conversation. At the conclusion this very fine southern gentleman turned to me and said, "Mr. Tenenbaum, I know how we're gonna cure our U troubles; we're going to buy us a V."

One could well believe that this is the solution of UHF if judged by several articles which have appeared since our last hearing to the effect that these hearings are only being held because a few UHF operators, who never should have been in television, are losing a lot of money and are coming to Washington asking for help.

Too much of our money and sweat has gone into our almost super-human efforts in developing the upper spectrum for us to willingly accept the designation "sucker." We prefer to be known as pioneers who were courageous enough to accept in good faith the proposition as laid out to us by the FCC, one of the most important bodies in government. After deliberations lasting for 3½ years, they offered us an opportunity to participate in the development of television, and we put into practice what they gave us as their honest conclusion.

We are not here with our hand out. Very simply, we give to you a record of what we have done, and ask the question: Is ultra high frequency necessary for a highly competitive nonmonopolistic systems?

If not, we ask only that you tell us so.

If it is necessary, we ask that we be given the opportunity to exist under conditions that are fair and equitable.

At the outset I want this committee to know that WTVI has no intention of going out of business. If it takes 50 times the effort that our competitors operating in the VHF band require to make our station an outstanding one, we are willing to make this effort. However, what we fear is that the development of the spectrum as a whole can die and, although no fault of our own, we can be destroyed with it.

Several weeks ago the committee heard testimony of many operators who stated that they were suffering large losses, and also that if UHF would become in television what FM was in radio the public would have lost in a very short time considerably more than one-half billion dollars.

Is this the issue that brings this important body of the Senate into session?

If the problem before you could be solved by the economic death of a hundred or so UHF operators and the acceptance by the public of its present loss, it would in no way justify our taking the time which you Senators have so graciously given us.

You have had much testimony in your two hearings, and will probably have considerably more, to the effect that the UHF operators are before you only in self-interest; that we would seek to damage many for the benefit of a few; that we got into television expecting immediate rich financial rewards; that we desire to bring the whole industry down to our level with irreparable harm to the public and to our Nation. The substantiated testimony that I will give you is in direct refutation of these points.

I would like to assure this committee of one thing: I am not appearing before you today as a representative of a fraction, splinter, or special-interest group. Unless my cause and the cause of my community is part and parcel of a much broader national issue, it is not worthy of your interest or concern.

Mr. Chairman, I think the real reason we are here today is brought about by a fact, the unfortunate fact, that guided by the sixth report, approved by the FCC, we have been going down the road of television and now find that the plan which was conceived in theory and administered under political practicality has, in actual practice, proven to be a failure, a failure that will, if left uncorrected, destroy 85 percent of the television spectrum, and in so doing destroy forever any possibility of a truly competitive national television system.

We have come to a sign at the crossroads which tells us that we should stop, look and listen, a sign which clearly tells us that we have been on the wrong road and to continue would assure the failure of our mission to establish on a sound basis a national television system worthy of the American people.

The final allocation plan was conceived in theory and adopted by the Commission with an honest hope that such a plan would give to the people a truly national, competitive, nonmonopolistic television service.

Now, after experiencing actual operations under the plan, it becomes apparent that the hope and theory are not working out in practice.

It is my contention and firm conviction that certain practices that brought about a change in the processing structure and provided a climate for midnight mergers have accelerated the effect of the bad features of the sixth report. At any rate, to all intents and purposes, we know now without fear of contravention that intermixture in a

market like St. Louis is not working out as originally contemplated by the sixth report.

If UHF has proven to be a failure, despite the loss which has been incurred up to this time, the Commission should have the courage to say, "We have made a mistake; we can get a truly competitive system without UHF."

On the other hand, if a truly competitive system requires the use of the UHF spectrum, then I hold that a new plan, benefiting by actual operating experience, should be conceived. This, too, would require great courage, a courage which would recognize that a mistake had been made, a courage that would not let the public down even under pressures of the highest order.

Intermixture was a basic mistake. I do not hold with those who say VHF does not have a purpose and, therefore, move everything to UHF, but I do say that intermixture of the two has failed and that steps should be taken immediately to correct this.

I think Dr. Du Mont should be complimented upon the report given this committee at the last session. My impression of the Du Mont report is that it provided a crystal-clear picture of how necessary it is that we have a healthy climate for the UHF band. I think it is a report that should be read and reread.

Although I heartily agree with the factual portion of the Du Mont Network presentation, I cannot agree as to the effectiveness of any of its remedial conclusions.

We are traveling too fast in the wrong direction to be able to straighten ourselves out without first coming to a full stop.

At the last hearing we asked that an immediate freeze or chill be put into effect.

Every day, with new grants coming into intermixed markets, makes the task more difficult and I will show in detail the effect of this in ours, one of the major markets.

Station WTVI, channel 54, Belleville, Ill., serving the greater St. Louis area, the ninth major market in the United States, received its construction permit in November 1952, and went on the air August 10, 1953, as the first UHF station in this market competing with channel 5, the one VHF station that for 6 years had been the only television service in the market. At the time we went on the air only a few sets were equipped to receive a UHF signal as against 550,000 able to receive a VHF signal.

UHF station KSTM, channel 36, came on the air in the fall of 1953, and UHF station KACY, channel 14, came on the air in December of the same year.

The three UHF stations, together with the FCC approval of construction permits for channels 30 and 42, gave promise that St. Louis would become the capital of UHF. By January 1954, the three St. Louis area UHF stations were operating on the maximum power available, providing truly competitive television service to an area inhabited by over 2 million people.

In that connection, permit me to say that the present available power is adequate to do a thorough coverage job in the St. Louis area. We were not restricted because of a lack of transmitter power. Channels 4 and 11, both VHF, were in contest as provided for in the Federal Communication Act of 1934, and had not a change in the rules under which grants were made been put into effect by the FCC these

competing channels would not have come into this market for at least 2 years after the UHF stations went on the air.

The change of procedure to which I refer is the moving up in the hearings of those cities which already were receiving television service, and the shutting of the Commissioners' eyes to the circumstances under which mergers were made by payoffs in order to secure a quick grant.

WTVI has a base affiliation with the Du Mont network. We also have a per program agreement with the CBS network. We now carry approximately 50 percent Du Mont and 50 percent CBS network shows.

Channel 36 has an ABC affiliation with the same CBS per program agreement.

Channel 14 was dependent on film and local live talent.

We brought to the St. Louis public for the first time programs they had never seen. We carried major sports events and programs of public interest, such as the McCarthy hearings which are now carried exclusively on our station, having been dropped by the two major networks.

Senator POTTER. I don't know whether carrying the McCarthy hearings is in the interest of the public or not.

Mr. TENENBAUM. Well, it is amazing, Senator. Strangely enough, we get calls from women that have formed parties that want to see the hearings; and, while you might think it was because it might be sensational, I think you hear so many remarks that they at last get a chance to see their Government in action.

Senator POTTER. I hope they don't think that is typical.

Mr. TENENBAUM. Well, I say maybe that is good, too. If they saw them at the best, then maybe they would just pass it over.

Baseball interest is high. For the first time in over 50 years St. Louis is a one-major-league baseball city, the American League's franchise having been sold to Baltimore, and we carry on our station the 77 Cardinal away-from-home games which, in effect, means that when the Cardinals are away a UHF station becomes the home team.

I would like to point this out, Senator, Madam Senator: the sponsors of this program, Anheuser-Busch, spend about a quarter of a million dollars to put that on a UHF station over a period of 5 months. We have local acceptance.

Senator POTTER. I imagine by carrying the baseball games, you received a lot of conversions as well.

Mr. TENENBAUM. That is one of the principal reasons we wanted it. It has given us a tremendous stimulus.

With this stimulus, and aided by the fact that there were 2 other UHF stations operating, which meant that of the 4 stations on the air 3 were those with a UHF signal.

I would like to emphasize that for a minute, if I may: that the 3 out of 4 in St. Louis were UHF, and we were off to a big start.

From a standing start, we have converted approximately 250,000 sets as against the 600,000 which can now receive a VHF signal.

Citizens of St. Louis have spent in excess of \$25 million in order to receive UHF stations.

I would also like to point out, going back a little bit to the McCarthy hearings, Senator, whether or not our signal is satisfactory and whether or not a UHF station is accepted, whether people in the

community can learn to like a UHF station. The V there ran the McCarthy hearings at the same time we were running them, carrying the Du Mont network. We were showing the same show at the same time and, although they had 632,000 sets, which they claim to have, and we have 250,000 sets that can only receive our station, in a national rating they received a rating of 12 and we received a rating of 6. In other words, if our signal would have not been good, everybody could have just turned onto the other station; but it showed that people turned to look at our station. The signal was satisfactory.

WTVI stockholders have put cash to the extent of \$828,000 into the station and owe in equipment notes approximately \$250,000, which represents an investment of over \$1 million, and will have to put in additional capital in order to render further UHF service to a quarter of a million homes who have converted. Losses since inception are slightly under \$400,000. Somewhat less than half of these losses were incurred before the station went on the air, and the balance has been lost in operations.

Senator POTTER. How long have you been in operation?

Mr. TENENBAUM. We have been in operation since August 1953, but we had our permit in November and began to form our operation, began to spend money for promotions and get ready to do a first-class job in St. Louis.

Approximately \$85,000 was expended by the station in the promotion of UHF in this area. In this connection I would like to offer for the record, as exhibit A, a sample of the promotional activity initiated by my station.

It might give you an idea what conversions cost and so forth.

Senator POTTER. This is it?

Mr. TENENBAUM. That is it, sir.

In December, despite the fact that we were heavily in the red, we junked our 1-kilowatt transmitter and installed a 12-kilowatt transmitter, the highest power transmitter obtainable, at a cost of \$200,000.

After 9 months of operations our station, WTVI, reached the break-even point during the month of May 1954.

At this point I would like to comment on statements I have seen many times by those who are interested only in VHF operations, making comparison of the early operations of VHF to UHF and the losses incurred at that time. Such a comparison is odious, unfair and dishonest. True, in the early days of television, those who were bold enough to pioneer suffered losses in some ways comparable to those we are now incurring in the UHF band. There are basic differences though. In those days they were operating for the most part without competition on severely restricted schedules. As has been previously stated before this committee, the early VHF television pioneer was working from the bottom up. Each day he could see an improvement and today's losses could be overlooked because of the eventual assurance of a prosperous tomorrow. You could actually see a day-by-day improvement. Such is not the case with UHF.

In the beginning a large percentage of our revenue came from national advertisers. It is a strange paradox that as our audience became bigger and bigger our national business diminished.

Much has been said on this subject by those who have testified before, and I have no desire to be repetitious.

By hard work and at a cost of many hundreds of thousands of dollars, in a very short span of time we have converted 250,000 families, and are well on our way to making UHF a success in the second largest city in the United States that is an intermixed market.

For this accomplishment, we have been rewarded by almost complete drying up of our national advertising revenue and potential loss of network programming sources to our unfairly favored competitors.

It is bitter experience to see the national advertising agency time buyer ignore a UHF market in St. Louis of 250,000 sets and buy at an even higher rate a VHF market one-half the size of the St. Louis major market.

May I point out that the Commission's rules were firmly fixed for early-day VHF television, and when it became apparent that the early rules wouldn't work there was a freeze which, among other things, gave the early VHF operator complete protection against competition for a period of 3½ years. The present protection of the UHF operator in an intermixed market is limited to any 24-hour period, for that is the length of time in which a "collusive" agreement can further load the scales against the UHF operator's ability to survive.

When we first read of the announcement of these hearings, it was like coming to an oasis in a desert. Our hearts leaped at the thought that you Senators were aroused and were aware of the fact that all was not well.

We also recognized that the announcement of these hearings created an instant danger for us in the way of quickie mergers.

You, Senator Potter, I am sure will remember that I made a special trip to Washington to see you and some of the Commissioners. I told you at that time that I had heard rumors of a quick merger on channel 4 in our city, and I asked you to request that the Commission hold up any quickie grant until such time as these hearings were concluded.

In the St. Louis area, public interest did not require a quick grant. We were giving the public fine programs and major league baseball to boot. Our services were good enough so that the St. Louis Post-Dispatch, operator of V channel 5, were public-minded enough to sponsor the McCarthy hearings on our station, a UHF, in that their network had discontinued the telecasting of these hearings.

I think of necessity this committee must take cognizance of important evidence that has not as yet been entered into the record, namely, because of fear that this committee would recognize the chaotic state of the television industry and do something about it, applicants in two major cities have entered into quickie midnight mergers in an attempt to grab their construction permits prior to any remedial action brought about by the suggestions of this committee. These two major cities perhaps held the brightest promise for UHF in the United States. One was Milwaukee and the other St. Louis.

My reason for emphasizing that is that I am a firm believer that if you will make UHF strong all of these competitive situations and all the economics, if they think we are going to be strong and we are going to live, will solve a great many of our problems; but if they think we are dead, and with color coming in and with personnel of

that caliber at a premium, if they think UHF is going to die, regardless of any promises they make anybody, it will die with us.

We opposed the St. Louis merger. I do not desire to try the case before this committee, but in truthfulness I must say that in connection with the grant of channel 4 in St. Louis the competing applicants introduced something new in the realm of payoffs—stock options worth over \$2 million given to the applicants who withdrew. As I pointed out before, there is a good chance this alleged merger would not have taken place without the impetus of the announcement of these committee hearings.

The net result of the St. Louis get-together is to turn VHF television over to the morning and evening newspapers.

I contend that this is part of the present national pattern in which all television is gravitating to the control of the few.

In that connection, if I may point out this: that the St. Louis Post-Dispatch newspaper, evening newspaper, which several years ago bought out the Star-Times, which was also an evening newspaper, control the television station and control the best radio station—one of the best, I might say.

Now, with this new merger, this brings the morning newspaper as a major stockholder in a radio station, KWK, and as a participant under this stock option deal in another radio station, one of the largest there is, Station KXOK.

Now, the owner of this station, the Roberts family, has merged in with this new television radio and has sold or, rather, is contemplating selling the interest to his son.

Senator POTTER. That seems to be a national pattern, the ownership being pretty much centralized with the newspaper ownership, radio ownership and TV.

Mr. TENENBAUM. Right.

I think it represents—well, for one, I will tell you there is no finer family than the people that control those stations in this country today; yet, we don't have the assurance they are going to be here many years from now, and control can gravitate.

I think it is a danger.

Many remedies have been suggested to this committee. In contrast you will find those I advocate few in number and concise in application.

(1) There must be an immediate freeze: This committee has heard overwhelming evidence that there is something drastically wrong with the television industry in the United States. Commonsense dictates that there must be an immediate cessation in the granting of licenses until this is corrected. If it were possible to freeze television grants in this country for 3½ years when there were only 108 stations, certainly it can now be done when most of the Nation is receiving at least some kind of television service.

(2) Study: A considerable portion of the industry testimony before this committee has been to the effect that the basic cause of all of our troubles is the intermixing of VHF and UHF stations in the same viewing area. The aforementioned freeze will make it possible for the best minds in this country to devote the time necessary for a complete study of the present allocation system and its results. They will have as an advantage the use of the operating experience since the issuance of the sixth report as a laboratory.

The future of television is in your hands and I am confident that the end result of an immediate freeze and study will be to find a solution that will result in the proper use of all of the peoples television channels in a manner that will assure the greatest good for the greatest number now and in the years to come.

Thank you for the privilege of appearing before you, sir.

Senator POTTER. Thank you.

Do you favor the multiple ownership bill, which will allow some of the V operators to—

Mr. TENENBAUM. Yes, sir; I am for it, and I will tell you why.

Senator POTTER. You are for it?

Mr. TENENBAUM. I am for it, where they will come into a mixed market or come into a market, whether it is two or three or four stations, because it follows along with the fact that if the manufacturers of equipment know that it will make UHF stronger, it will give it a stability, then it will. I think, hasten the day to where a sensitive receiver will come onto the market, and I am for it.

I think that where you have competition you do not have monopoly.

Senator POTTER. Senator Bowring.

Senator BOWRING. No questions.

Senator POTTER. Thank you for your statement.

Mr. TENENBAUM. I have had a request to tell of specific instances of cancellation of programs by agencies.

Would you like to hear about that?

Senator POTTER. Yes.

Mr. TENENBAUM. I imagine one is this: We have been carrying a program that comes to us sponsored over the CBS station, the Jackie Gleason Show, and before even the second V comes on the market the first V, the one that is there now, the only one, went to the sponsors of this program and, while the show comes over live at 5 o'clock on a Saturday night, they are taking it off our station and putting it on a film and running it at 4 to 5 the following Saturday and removing the Cisco Kid and a few kid programs for this station.

That is one instance of it.

More important, I think, is this: We have to anticipate if this V grant is allowed—we are contesting this grant and protesting to the FCC this grant, and they are busy at home—while we are having these hearings, Senator, they are busy constructing their station.

They had, we feel, part of it constructed illegally before they got their grant, but they are trying to get a deadline of July the 1st in order to be on the air, because once they are on the air, then they feel maybe they can't be removed, regardless, although they are proceeding at their own risk.

In anticipation of losing our programs—and, as I said, we intend to stay in business until they bury us—

Senator POTTER. Do you think they will pick up CBS?

Mr. TENENBAUM. I do not know who they will get. There are a lot of rumors. We know they will get some affiliation.

If they are given the same agreement with CBS that we have, which is a per program agreement, then CBS is faced with the fact

that sponsors will come to them and say, "Here, we can get time on a V; we want to get off," and then we will lose our programs.

We hope it isn't true, but, nevertheless, it is a great possibility.

To try to find a way to stay in business, compete, because we have got a good start there in St. Louis—in Chicago there was a package of films which recently came on the market. There are a lot of films that are available, but mostly old runs, reruns; but there was a package of 30 films that came into the market, films, I believe, that were made from the year 1950, with name stars that would be attractive. Those films were offered to the V station at approximately \$1,500 a film, which anyone in the room will tell you that any U operator that will buy them has lots of courage.

Senator POTTER. I have heard a lot of good talks about these good films. I must watch my television at the wrong time. I either see films that are made in 1920 or foreign-made films.

Mr. TENENBAUM. Well, in St. Louis you will see them. We will have more of them as we lose our network.

These films were of the highest caliber available, and even though we are a U, and even though the price—and there is a great difference in price sometimes for these old films that you are referring to when they are run on a V and run on a U. If you have a third conversion, you may get them at a third of the price.

They offered them to us for \$45,000, which is \$1,500 a film, and we accepted them; and by the time we went back to get them they had offered them and had sold them to the new channel that is coming on.

So, it is a business that you never get a break in, and as a U operator it is a pretty tough deal; but we can live in St. Louis, all of us, all U's, and if a major network would buy one of those U's, I would tell you it would be the greatest boom to St. Louis, because we would get conversions.

We don't want to destroy competition. If they came in as a U, or any more deserving person got the channel—if it was a U channel, we would still live and we would develop U in St. Louis to the extreme that it can be developed, and we would ask for no quarter.

It is only the fact when you bring a V in quick you completely smother us, and all I have to do is put you in the same position, or most people. If you don't have to convert to get the major programs, then we have got to get you converted by putting the mayor of St. Louis on, which we have got coming on our station; we have got to buy these fine films; we have got to do something.

By bringing a V in quick, you smother us before we have a chance to live.

We are going to stay in business today, even though maybe we are going to be smothered; but we are going to give it a good college try.

Senator POTTER. Thank you.

The advertisements which you have attached to your statement will be made a part of the official files of the committee.

Mr. TENENBAUM. Thank you, Mr. Chairman.

Senator POTTER. Mr. Kersta.

STATEMENT OF NORAN E. KERSTA, VICE PRESIDENT, TRI-COUNTY BROADCASTING CO., TELEVISION STATION WFTL-TV, FORT LAUDERDALE, FLA.

Mr. KERSTA. I am Noran E. Kersta, vice president, general manager, and part owner of the Tri-County Broadcasting Co., operators of UHF station WFTL-TV, channel 23, and WFTL, an independent radio station operating on 1400 kilocycles with 250 watts. The stations are located in Fort Lauderdale, Fla.

Description of the market: Fort Lauderdale is situated between Miami and Palm Beach and is also in the approximate geographic and population center of the Gold Coast strip of Florida which extends from Miami to Palm Beach. The market is approximately 75 miles long and 5 to 7 miles wide. In this area there are between 900,000 and 1 million permanent residents.

Senator Potter, I would like to interject here that our rural area to the west consists of alligators and our rural area to the east consists of sailfish.

Senator POTTER. You don't think they are apt to convert?

Mr. KERSTA. No, but all the people living in that region.

Recent statistics indicate that Fort Lauderdale is the fastest growing city in the United States.

Lack of experience not the reason: Statements have been made that the lack of experience of UHF operators has been a major factor in their failure to compete against entrenched VHF stations.

During the course of these hearings I have heard a number of pioneer AM and TV broadcasters who are now UHF broadcasters tell of the plight in which they find themselves in trying to exist in an established VHF market. They are experienced broadcasters. They have been successful broadcasters. They have served their areas and the industry faithfully and well over many years.

I disagree with generalized statements that the lack of know-how is the factor causing the predicament in which UHF broadcasters find themselves.

Past experience: I have been associated in many phases of the broadcasting industry for 22 years. With the exception of wartime service, I have devoted my formal training and business activities to this industry. Practically the entire span of this experience has been specifically in television.

I was associated with the National Broadcasting Co. for 17 years. There I served in many capacities, including director of television for the National Broadcasting Co.

I was a director of the original Television Broadcasters Association which eventually merged with the NARTB.

Upon leaving NBC, I was vice president in charge of television and radio for a New York advertising agency that billed approximately \$20 million a year. Television and radio accounted for about one-half of this. I was also a member of the plans board of this agency.

Prior to my association with WFTL-TV in Fort Lauderdale, I conducted a television consulting service under the name of the Noran E. Kersta Co. This company served 20 clients in television, both in the United States and Canada. The service included all factors pertaining to station operation. It did not include consulting engineering or legal work.

Why we went into UHF: I list here some of the reasons why we proceeded with a UHF station. The market was studied thoroughly and the decision rested on certain facts and information which we were led to believe were valid:

1. First of all, there were no VHF channels assigned to Fort Lauderdale.

2. The principals of my company were inspired to bring to the people of our area the finest in television service and to offer a choice of programs. There had been but one service in the area for years.

3. Statements indicated that the FCC was aware that UHF required opportunity to compete successfully with the then-operating VHF stations and that official steps and procedures would be followed to carry this out. However, we all know the story of pressures to expedite the granting of VHF stations that distorted the original philosophy, along with the advent of dismissals and mergers of one kind or another.

4. Equipment manufacturers predicted rosy futures with higher-powered UHF transmitters. In our own case we chose to purchase RCA equipment. In negotiating with RCA sales representatives, the dates of possible delivery of higher-powered transmitting amplifiers was delayed time after time. Also, in the quest of getting specifics as to the equipment and its power capabilities, answers become fuzzy. RCA kept talking of a 10-kilowatt amplifier. However, General Electric competition apparently forced RCA to redesign and rerate, and the talk gradually drifted to an amplifier of 12½ kilowatts.

As the matter now stands, our last conversation resulted in the statement that if we put our order in immediately for a higher powered amplifier, we would be in line for delivery sometime in the fall.

In endeavoring to find out whether a still higher powered amplifier would be available, the information has indeed been very sketchy.

From statements made to this committee, from our own experience and based on FCC studies on power requirements to match VHF coverage, we know that an amplifier in the order of 12½ kilowatts is not the answer for us. For example, our VHF competition claims coverage over 15 counties. Hence, in this area of competition, our efforts have been thwarted.

5. At the time we started, we were well aware that the networks were competing for time segments on the then-operating stations. Network programs either were not carried at all, or were being carried in the low-audience periods. We felt that the networks and advertisers would welcome an opportunity to obtain time in periods where the maximum number of people could enjoy these programs. Time proved that other factors entered the field, and this expectation did not materialize.

Later on I will discuss some of these factors.

Difference between early VHF and UHF operations: We have heard that there is nothing unique about the inability of UHF operators to operate successfully because in the early days VHF operators also lost money. This is a gross generalization and skirts the facts.

Early VHF stations did not have the competition from other stations in their markets with 18 hours of programs a day and \$50,000 to \$100,000 program features.

What early VHF station had to compete with 10 hours a day of national feature programming supplied by 4 networks?

The state of the art today is such that the complement of broadcast equipment required to produce the type of service which the public expects far exceeds the capital expenditures ever dreamed of by the early VHF operators.

An interesting thing, Senator: I heard one of the stations in New York for their application for VHF when they started was \$10,000.

Most of the early VHF stations broadcast but a few hours in the evening until revenues justified extension of the broadcast day.

Network cable connections and the increasing availability of film packages and national advertising made programing and profitable operations easier. Also, the entire labor situation was different during the inception years of VHF television compared with what UHF operators are faced with today.

Senator, I might say in some large UHF operations they have more unions than some of the early VHF operators had employees.

In addition, the FCC regulations invoking the freeze provided these stations a 4-year period within which to run free of any threat of competition in any majority of markets.

The situation facing UHF operators today bears no resemblance to the financial requirements, competition, or beneficial Government regulations that existed for the early VHF operators.

Description of station and its operation: Our UHF installation has been recognized by many as being one of the most efficient and well equipped UHF stations in operation. Our first year of broadcasting has just ended. We have given our audience the best possible service through film, live production, and such network fare as we have been able to acquire. The acceptance which our station received from our audience has been most gratifying.

Senator POTTER. What about network?

Mr. KERSTA. We come to that, Senator.

We were the recipient of a recent TV Guide gold-medal award for programing in our district, which includes Miami and Palm Beach. We have received other awards and numerous letters which evidence our success in serving many area and national projects. Our efforts in educational TV have been singled out as outstanding in the country as to time segments provided, production assistance to our school system and general cooperation and promotion.

Quality of signal: I concur in the statements made at these hearings in regard to the good quality of UHF reception in the home. I have observed the progress of TV quality from its experimental laboratory stages through to its present standards. It is my observation, and I have had concurrence by experts in the field, that we have as fine a picture as the art has commercially delivered to date.

The UHF signal in our area is impervious to electrical noise, whether manmade or natural. We have not observed airplane interference nor interference from other stations. By comparison, the VHF signal in the area has been affected by many types of electrical disturbances.

I might say there, Senator, our area consists of single-story homes, where the antennas are close to the roads, and so on, and it seems to me, from my experience and observations, automobile ignitions are more serious where you have a whole series of one-story homes and where antennas are relatively low; and also—and I am not an expert at this, but I think—there are certain effects that occur on the power-

lines, a sort of corroding effect, due to the atmosphere, temperature, humidity, or something. Again, I don't want to pose as an expert, but there is something going on down there.

The air route, Amber Seven, passes directly over our market and VHF reception has been subjected to much airplane interference in that the Miami International Airport is one of the busiest airports in the world.

I think it is the second busiest, next to Chicago.

I submit here a series of photos taken in our area showing the interference which VHF channel 4, Miami, receives from Cuban stations. This interference occurs quite frequently, depending on atmospheric conditions.

It can be noted from the photos in exhibit A the type and seriousness of VHF cochannel and adjacent channel interference from this source. The exhibit shows such interference received in our area on VHF channels 2, 3, 4, 5, 6, 7, 9 and 11.

Of particular interest is the difficulty caused on Channel 4, the VHF station presently operating in our area. There are times when channel 4 is completely blanked out and the station is forced to make audio announcements in an effort to explain what causes the interference, at the same time asking the people not to call in to the station because it is beyond the station's control to rectify.

We come into our share of the blame because people think we are causing the trouble with our station, which, of course, is not the case.

I would like to refer you to these photographs, Senator. They are in sequence, from two through the numbers I mention, and if you turn to the second page there, in the top photo you will see the interference on channel 4. That was the picture, and, incidentally, that is as good as it was that night, of the Pabst fights, I think from St. Louis; and this was the Cuban interference—other pictures were taken on the same evening—and you can see the quality there was as good as the quality you could photograph from a local station. So, it takes practically the entire span of the VHF allocations or possibilities.

Cochannel and adjacent channel VHF interference does not only invade our area from Cuba to the south, but also from the north as presented in exhibit B. The exhibit contains a list of distant station reception as recorded on May 26, 1954.

Senator POTTER. You get interference from Baltimore down there?

Mr. KERSTA. Yes, sir, and also, I must point out that this was received on the back end of a highly sensitive antenna, faced away from the north, or toward the south, toward the Miami station, and this reception—and this was just taken quickly on a Polaroid camera by an amateur who knew nothing about the settings; but if you want to scan down some of these distant receptions—this is just a staff report here—there was WCBS-TV, channel 2, New York—and, of course, they identify the commercials and the shows; it was perfectly readable, and then we have "Mother's Movies" from WSAZ-TV, channel 3, Huntington, W. Va., and there were commercials which mentioned Myers Storage Co. of Huntington and Borden's Coffee Spot, and so on; and WLW-D, channel 2, Dayton, Ohio, with Valspar, and a Mr. District Attorney promotional announcements; and WCIA, channel 3, Champaign, Ill.

Senator POTTER. You even pick up Detroit?

MR. KERSTA. We have Detroit, and Louisville, Ky., and Baltimore—and again on the supposedly dead end of a highly sensitive, six-element Yagi antenna, faced in the opposite direction.

I do not know whether this is a condition that is unique to this one subtropical area of the United States. I have submitted the Cuban interference photos for analysis to the National Broadcasting Co. I was informed that an increase in power of the local VHF station should overcome this "other station interference." However, the stations that are interfering with channel 4 are either building more power or can be expected to increase power, in which case the relation between the 2 signals would be the same, and it is my opinion that such interference will ever be present in southern Florida. Of course, Cuban TV does not come under the regulatory powers of our FCC.

Conversions: I have heard from various witnesses at these hearings the techniques used to promote conversions to UHF. To avoid laboring this testimony, please accept the fact that the methods you heard of, along with others, were used by WFTL-TV to achieve as rapid a saturation of UHF conversions as possible. The success of these efforts are borne out by a recent report which stated that our county showed up as among the top four counties with the highest UHF saturation among other counties in the country with VHF competition.

Channel allocations in the area: Mr. Loewi, operator of the other UHF station in Fort Lauderdale, told you of the number of VHF and UHF allocations in the Gold Coast strip. There are 5 commercial VHF channels and 5 commercial UHF channels. One VHF and three UHF stations are now operating.

Our market strip is one distribution area; it is homogeneous in its economic characteristics and contiguous in regard to its population units. The strip lies in three counties—Dade County, containing Miami; Broward County, containing Fort Lauderdale; and Palm Beach County, containing West Palm Beach.

The presently operating VHF station in our area, assigned to Miami, obtained approval recently to move its transmitter some 15 miles north of Miami into our backyard in Broward County. By the same token, the other UHF station in Fort Lauderdale was permitted to move south of Fort Lauderdale toward Dade County. As the two transmitters stand, the UHF Fort Lauderdale station is actually closer to Miami than the VHF channel assigned to Miami; yet, this station must make its station identification as Fort Lauderdale, and the station which is closest to Fort Lauderdale must make its station announcement as identified with Miami.

I point this out to show the results of channel assignments made on the basis of specific cities in population area, rather than on the basis of markets.

The net result of such a ridiculous situation is that the UHF station which is forced to identify itself with Fort Lauderdale must attempt to sell network and national spot advertisers against a market size listed as No. 214; and the VHF station which moved closer to Fort Lauderdale can identify itself with a market listed as No. 39, as contained in the listing of markets published by the J. Walter Thompson Co.

Furthermore, in reality all the 10 commercial allocations in the gold coast strip can serve with an A signal a market that could have a national ranking in the order of lower than 20. Hence, by FCC

requirement, stations are forced to identify themselves unrealistically and many times at great commercial penalty to themselves.

This ludicrous predicament came about because the allocation of television channels was made against a city population list without regard to basic marketing principles, and population areas as they exist. The only solution of this is a reappraisal of the population areas of America on one hand and the coverage potential of TV stations on the other. Anything other than this is merely the application of purely academic theory and submission to pressures to get television channels in terms of numbers in a given state, city or other civic unit with no regard to economics, or the efficient use of one of our greatest national resources, our radio spectrum.

Such spraying of TV channels is just as wasteful as uselessly dissipating the people's resources in terms of water power, forests, and the like, or the damming up of some of our great waterways to prohibit shipping. The radio spectrum is in the forefront of all of our national resources and its utilization in terms of efficiency and freedom from monopoly deserves maximum consideration in this country today.

In fairness to NBC and CBS: During these hearings there have been many references to NBC and CBS networks as monopolizing the television industry. Out of fairness to all, I believe that more should be said on this matter.

As mentioned previously, I was associated with NBC for many years and I am acquainted with and have done business with many of the officials of the other networks over the years. I am certain that these networks are guided by men of integrity and that there are no devious schemes within a given network or conspiracies between the networks to generate a national monopoly in this industry.

I know from many years of service with a network that it is a highly competitive business and each network cannot afford to let go of any competitive advantage which, in this case, seems to be the letting go of any fraction of time on a VHF station in any market. This competition can be likened to two roosters fighting with their heads bobbing up and down looking for an advantageous peck. Under fair competitive conditions this is healthy and is the American way.

Neither network can be expected to give in on a voluntary basis regardless of how sincere these networks may be in wanting to foster a truly nationwide competitive television system in the United States. This is brought about because of paucity in the number of VHF channels that can be allocated in the country. The fault lies in what has been referred to as the big mistake made in the allocation plan and in the appraisal of the technical and economic inequities that lie at the present time between a UHF station and a VHF station. Through the present allocation plan and its implementation, monopolies have been nourished and day by day the situation is being abetted.

Frankly, I don't see how any voluntary plan on the part of the networks can break this mounting monopolistic atmosphere. I believe that the Government regulatory powers have inadvertently created this situation. I am always in favor of the least amount of Government control, but it appears that only through more governmental control and a reappraisal of the entire allocation plan can the situation be alleviated. Here, rules have defeated the purpose.

Normally, Government regulates to protect the weak, but, in the case at hand, it is benefiting the strong.

Experience with networks: Prior to our actual operation and for some period thereafter, we endeavored to obtain a network affiliation. At that time the local VHF station was carrying programs from all 4 networks, as it still does, and there was 1 cable connection to Miami.

Our negotiations with CBS resulted in our being informed that CBS intended to remain with the VHF station in our area. Recently it was announced that this station had a basic CBS affiliation.

Du Mont informed us in that Mr. Loewi, president of the corporation operating the other UHF station in our area, was an official of the Du Mont Co., that it would be futile for us to consider getting an affiliation with Du Mont.

In regard to ABC, we were unable to arrive at any conclusion with the network until after the second UHF station had a definite starting date, at which time this station, as well as ourselves, were informed by ABC that whichever of us would bid the most over a minimum of \$5,000 a month to pay for cable connection would get the ABC affiliation. We were given a deadline to present these bids. We were also informed by ABC that it intended to continue its agreement with the only VHF station in our area and the VHF station would have first call on any and all ABC service.

Further, whichever of our stations that gave the highest bid would not be guaranteed any traffic whatsoever. We chose not to enter this bidding under these terms. If the cable connection did cost \$5,000 per month, it is difficult to understand why they should be sold back to stations on a highest-bid basis. I mention this to indicate the strong position in which this network found itself, whereby it had complete bargaining position with the stations in this case.

In reference to NBC, we did obtain a secondary interim affiliation. For this, naturally, we are thankful. A stipulation in this agreement calls for a 90-day cancellation. The agreement stated that we were liable for \$1,083 a month against possible network compensation after foregoing 24 free hours to the network per month. It was further stipulated that our competition, the local VHF station, would have first call and first choice over all NBC programs in our area, and again there was no guarantee of traffic.

This has put us in a position where our competition has the power of life or death over us in regard to carrying national features.

Attached is a letter from NBC, exhibit C, dated May 12, 1954, which illustrates how we must stand in line for our competition to decide whether it would choose to carry a program before we could be considered.

I would like to refer to some matters in those letters. However, before going into that, Mr. Chairman, I wonder if I might have these photographs to which reference was made, which are exhibits A and B, made a part of the record.

Senator PORTER. They will be inserted in the record at this point and made a part of the official records of the committee.

Mr. KERSTAN. Now, here is a letter to which I would like to make reference, an excerpt from it:

As of this writing WTVJ, Miami, has given us an evasive and noncommittal answer on the Lux Video Theatre order. Right now, I would guess the chances of getting live clearance from them is pretty slim. We are waiting for some sort of a definite and concrete answer from them.

I understand the client very strongly wants to clear WTVJ and will not stand still while other soap companies are getting clearances in Miami. Our boys have told Lever about the remarkable conversion record in the market, with which the client was impressed.

So far as the second cable going into Miami in September, I don't think it will mean too much of a change to WTVJ and CBS. It does not necessarily mean that the station has to clear for all CBS programing. I don't think there is any way CBS can force them into that. As a matter of fact, it has been their claim that they will continue to take what they consider to be the best programs from all networks. For example, their excuse for not clearing certain high-rated NBC shows was that the cable was not available.

I mentioned that to show what our future looks like.

Also attached herewith is exhibit D, indicating that a national advertiser had ordered our station for the World Series but the National Broadcasting Co. refused to allow it because the VHF station was going to clear time for the series.

Senator POTTER. It will be made a part of the official records of committee.

Mr. KERSTA. In exhibit E, I am submitting a TWX message from NBC stating that we had been ordered for the Kate Smith Hour and then canceled because the VHF station had decided to carry it. As a matter of fact, we were carrying this program, and it was taken away from us.

Senator POTTER. It will be made a part of the official records of the committee.

Mr. KERSTA. Exhibit F shows a copy of a TWX wire from the Maxon Advertising Agency in New York, which again indicates that a national advertiser agreed to take the VHF station along with our station for the Rose Bowl game and NBC and the VHF station refused to allow the broadcast on our station.

Senator POTTER. It will be made a part of the official records of the committee.

Mr. KERSTA. The only time we were allowed to carry an NBC program at the same time as the VHF station was during the NCAA football schedule last fall. This was the result of an NCAA stipulation that the network had to permit such broadcasts. However, we were not compensated for carrying this service.

I use these few examples to indicate how such secondary and interim affiliations operate in practice.

Any statement presented on the amount of network traffic being placed on UHF stations by networks should be analyzed with the following points in mind:

1. The type of programs in reference to their audience ratings.
2. The number of UHF stations on which this traffic is placed.
3. The amount of network compensation paid per station to UHF stations in comparison to VHF stations.
4. To what extent VHF stations have first call on network traffic over UHF stations.

Future of our secondary interim affiliation: During discussions with NBC we were informed that if the Biscayne Television Corp., which is a merger application between two newspapers, the Miami Herald and the Miami Daily News which, in turn, own the NBC radio station outlet and the ABC radio station outlet in Miami under the presidency of Niles Trammell, a consultant to NBC, received its grant on channel 7 in Miami, we would lose our NBC affiliation. Also, that if

Biscayne were unsuccessful in obtaining a grant and if we could deliver the coverage, there may be a chance of our retaining NBC.

We were willing to take our chances under this arrangement in that we believe that it is not in the public interest for the 2 newspapers of Miami and the 2 radio stations to join together and be granted another voice in the area, notwithstanding the stipulation in Biscayne's application that should it be granted a TV license, 1 of the radio stations would be sold. Some of the reasoning offered for this was that NBC recognized certain prior rights and loyalties to its AM affiliate. However, it is a matter of record that such loyalties do not pertain except where they further the convenience and control of valuable properties.

As an example, in this very same Gold Coast strip in Palm Beach the CBS radio affiliate and the NBC radio affiliate received VHF construction permits, incidentally as a result of mergers and withdrawals. However, the CBS affiliate received the NBC-TV affiliation instead of the NBC radio affiliate.

Here there is another force at work in that one of the principal stockholders of the new group which merged with the CBS-AM outlet is a member of the immediate family of an official of RCA, parent company of NBC. This situation takes on greater emphasis when it is considered that Biscayne television in Miami is still in hearing status and the Palm Beach VHF stations are not yet on the air.

As a bit of information, I would like to include here that when we started our operation last spring we were told by NBC and A. T. & T. that we would not have a connection with the cable which ran through our city to Miami until the spring of this year. However, through our own efforts, we got our connection within less than 30 days.

Film availability and pricing: In addition to our difficulty in acquiring additional network service, we have difficulty in acquiring film packages because the operating VHF station usually has first call on these properties and of course the vendors of such films price the packages in terms of a VHF market.

VHF competition: Mr. Loewi, of WITV, presented as an exhibit an advertisement placed by the VHF station in our area which stated that that station carries all the best programs and conversions are not necessary.

Further, on the occasion of a national broadcast, the VHF station was unable to carry a given program in its entirety due to cable allocation. The station announced on the air that another south Florida station had taken the cable, making it impossible to present the remainder of the program.

Since we were the only other station in south Florida at the time, we were the recipient of complaints from viewers and the ill will of a large portion of the television audience. Whereas, the facts of the case were that we had no control over the network cable allocation. This is another example of a VHF station pressing a monopolistic position.

What has happened to UHF in our area? As of approximately the second week in January, the big national pall descended on UHF. Since then our network traffic has been reduced 25 percent of what it was and our national spot business has also declined 25 percent in the past month. The trend indicates a more serious picture in the

immediate future. These declines, I assure you, are not due to lack of increased effort on our part.

Conclusions: 1. I do not see how intermixture of UHF and VHF channels can operate successfully in our market, nor do I see the necessity for it.

2. To put television broadcasting on a practical basis, the allocations plan must be reappraised in terms of market and population areas, rather than a city population list.

3. It is my belief that it is not in the public interest, convenience, or necessity that 1 station in an area should be permitted to edit and control 4 national services, and to have complete competitive control as to what other stations in an area might take from national sources.

4. If the elimination of UHF and VHF intermixture is impractical in an area, UHF should be favored with regulations in regard to satellite stations. Thus, by a combination of UHF main and satellite stations a UHF signal could be achieved with present available transmitter powers which would be equivalent to radiating 1,000 kilowatts at 1,000 feet as authorized by present FCC regulations. This conclusion rectifies the dilemma presented above in regard to presently available 12½-kilowatt UHF amplifiers being inadequate to match maximum allowable VHF coverage.

Senator POTTER. Let me see if I understand what you mean by a satellite station.

Mr. KERSTA. You could build a 1,000-foot tower and using a 12½-kilowatt transmitter, the highest tower and the highest available amplifier and it would still be very inadequate when compared to the VHF coverage.

In our area it would cost in the order of \$250,000 for such a tower, and after you built it, you could not match it anyway. So by having favorable regulations, whereby we could operate a satellite station to achieve in another way what is due us in the Federal Communications regulations would give us a chance to have the same coverage.

Senator POTTER. What about this polycasting?

Mr. KERSTA. It is a branch of polycasting. It has merit. Polycasting is a development of a satellite operation.

By this statement I have no intention to harm or disparage, whether it be individuals, stations, networks, or the FCC. My objective is to be factual and analytical to bring about a national competitive system of broadcasting of which the American public, networks, manufacturers, stations, and our Government can be truly proud.

Whatever the outcome of these deliberations, as one who has devoted his entire life to this industry, I will continue to play the rules of the game to the fullest of my energies to bring about the finest in television for most people.

Thank you for this opportunity afforded me to present my views and experiences.

Senator POTTER. That was a very good statement. I appreciate it. Do you have any questions, Senator Bowring?

Senator BOWRING. No questions.

Senator POTTER. Thank you again, Mr. Kersta.

Mr. KERSTA. Thank you, Mr. Chairman.

Senator POTTER. We will now hear from Mr. Gordon Brown, of Rochester, N. Y.

**STATEMENT OF GORDON BROWN, OPERATOR OF RADIO STATION
WSAY, ROCHESTER, N. Y.**

Mr. BROWN. I find that very much of what I was going to say here today has been said. I find also that the outline which I have prepared is practically obsolete now. However, I will pull this down to a rather short time.

My name is Gordon Brown. I operate radio station WSAY in Rochester, N. Y. My experience started in 1914 when I was an amateur in wireless telegraphy. In 1920 I experimented with radio telephony, and I have had an amateur radio operator's license, and I started in commercial radio in 1922.

I am owner-licensee of a radio station, and back in 1927 it was WNBQ, a 15-watt AM station. I am a holder of a radio-television first-class operator's license, and I am presently the operator of radio station WSAY, which was on the air since 1936.

I think I am an old-timer in television. Back in 1927 there is a picture of a television receiver which I made and on which I received a picture one inch square with 24 lines. Radio broadcasting and television has been my full life's work. It would appear that what the boys are going through here with UHF is going to follow the pattern that we followed in FM. We had FM coming along, and then we found that the frequencies which were allocated to it were not the proper frequencies and FM went through a complete change of frequency. They went to another spectrum.

In 1927, when I had my radio station, it was assigned on 209 meters, and in November of 1927 the Commission said, "Well, we are going to take you off 209 meters, and we will put you on 1,500 kilocycles." We thought that change was an awful thing, but if it had not happened, I do not think there would have been much radio service in the United States.

I think the same thing is going to be true here with UHF. I think that the time has come, as it did in 1927, and as it did with FM, that you have got to provide a new system, and I think the principles of Commissioner Hennock, Mr. Dumont, and particularly, Mr. McGrath are very laudable.

We have heard here about the good network programs. You have also heard about how afraid everybody is of Madison Avenue. We have the Lux Theatre, which is not a network program. Let us say it is a program of Madison Avenue or a program with a sponsor who bought that program and put it on the network.

By virtue of the network position, which is quite monopolistic, we find that the economic destiny of radio stations is in the palm of their hands. They definitely hold even more so economic destiny of all television stations in their grasp.

Much will be heard in this hearing which could and could not be done for UHF stations, but there is no question of a doubt that you have got to control the networks the same as you control the radio stations, if you are going to have a nonmonopolistic system.

Senator POTTER. And you would support Senator Bricker's bill?

Mr. BROWN. Very much so, only it doesn't go half far enough. There have been a number of UHF and VHF stations taken off the air, and there is no use talking about that. Everybody knows that.

It might be interesting for this committee to incorporate into this statement the verbatim statements and the reasons for their discontinuances of the television stations. Those reasons were given to the Federal Communications Commission, and are now in the Federal Communications Commission files.

In analyzing these reasons, it will be definitely found that the one basic reason for their discontinuance was the fact that the networks could not feed them the expensive high-quality programs which the advertising sponsors paid for. The Federal Communications Commission needs legislation to control the networks. Congress should give them this power to license the networks the same as they license a radio station.

I have been talking about the licensing of networks for some time. After a considerable amount of research along the lines of legislative history and the Communications Act, I have spent many weeks working with the House in drawing up a bill which might be effective in licensing of the networks. The bill is attached hereto as H. R. 73. This has been drawn up after spending 2 weeks with the legislative counsel of the House, and it is not easy and it takes a lot of forethought to draw up a bill which will not have a lot of leaks in it when it comes to controlling the networks. They are very adept at finding holes in legislation.

So I am very much in favor of regulating the networks, and, as I say, Senator Bricker's bill is fine, but it does not go half far enough.

I am going to cut this a lot shorter than I anticipated. I have had a problem in radio. I have operated a radio station for years. I have had the networks try to tell me how to run it, and I decided that I was not going to let them tell me how to run it, and the result was that I lost the network affiliation, and as a result of that, in radio, I have lost out of pocket in the last 5 or 6 years about \$185,000 in radio. I lost \$18,000 last year, and I did not even take a salary, so that did not include my salary.

It appears that the networks have a terrific control over the programming and where it shall go, whose programming shall hit the air, and as a result of that, I think they need some regulation.

You have heard about the monopoly of the networks and they have been talked about for a long time. Here are just a few little articles which show how the networks have been operating, how they have been choking their demands down the affiliates' throats, and these articles I will turn over to you. I will just read the headlines.

One is an article entitled "Editorial Control by Networks Charged by Ellis." That is dated January 15, 1951.

Here is another article entitled "As Pegler Sees It—Discusses Air Privileges Granted Giant Networks." That is from the New York Journal-American dated Wednesday, October 17, 1951.

Here is another one headed "Radio-Television—Too Much Monopoly Creeping into TV," written by John Crosby.

Here is another one taken from Broadcasting, the August 20, 1951, issue, page 31, which states: "ABC Scored—Sale of Announcements Assailed by NARTSR."

Now the average radio station sometimes took in network programming with the understanding that they did not get much return from these programs, but they did sell spots around them to national advertisers, so that used to be a source of revenue to the radio stations,

and it was the business of the station representatives to sell those spots for a station. We find now that the networks are taking over spot business also, so it doesn't give the affiliate much of anything left and he has either got to take the networks or else, and that is the situation there.

Now as a result of that situation, we have got another article from the May 31, 1952, issue of the Billboard, which states "Station Reps Threaten NBC with FCC Complaint." There have been a lot of complaints about network operation to the Federal Communications Commission, but it appears that nothing has ever been done with them, and it appears also that not only do we need a law to license the networks, but we must put in that law something to make it compulsory for the Federal Communications Commission to carry out that law.

We have another article here from Broadcasting-Telecasting, the January 1, 1951 issue, which states "NBC Affiliates Up in Arms—Form Anti-Rate-Cut Bloc."

The result to the networks is that they are going to up the rate of many stations. They control the rate of their affiliates, and in so controlling the rates of the affiliates, they control my rates, because I must compete with my competitors, and the affiliate rates are the rates of my competitors, so that we find that not only do the networks control their programing, but also control the rates at which the radio station shall be sold. They not only control the rates for their affiliates, but through that indirect method they control the rates of my station.

Another article states "Webs-Affiliates Split Widens." That is from the Wednesday, May 2, 1951, issue of Variety.

We find continually that the affiliate just cannot seem to take it any longer. They have taken cuts. They are told they will not get anything for this program and that program, and so the affiliates try to get together and gang up and they complain to the Federal Communications Commission, and that is about as far as it goes.

The cuts go through and that is the end of that. Since the legislation, your last hearing here, the networks have decided that they are going to cut radio again. I don't know how much more they can cut it before they will be in the same predicament—in fact, it is in the same predicament now—that UHF is, only the radio boys have not been down here to tell you about it.

I think it is time now that you not only look at this from the picture of UHF, but you look at it from the picture of stations in the country who are losing money.

I have here some figures from the Federal Communications Commission which are as up to date as I could get on the radio station situation.

Senator POTTER. Is this with radio, Mr. Brown, or television?

Mr. BROWN. This is radio.

Senator POTTER. I think it would be very interesting. However, this is primarily a hearing on UHF.

Mr. BROWN. I will turn these into the record in which I want to get the television issue included also. I want to show you that not only have you got a problem with television, but radio also.

Whether you get it today or in a week from now, you will get it.

Senator POTTER. One headache at a time.

Mr. Brown. I think both headaches can be cured with the same pill, which is going to be hard for the networks to swallow.

We get into another article which is from the Wednesday, June 4, 1952, issue of Variety, and the headline is entitled "Affiliates' 'Kill Cut' Gang-Up."

Then there is another article from the Billboard, the November 1952, issue, the headline of which is entitled "Station Reps Claim Nets Try Encroach."

The next article is from the Wednesday, December 5, 1951, issue of Variety, and the heading of the article is entitled "Barring of Press at Boca Session Angers Affiliates."

The next article is from the August 9, 1952, issue of the Billboard, and the headline is as follows: "Web Rate Cuts May Cue FCC Move To Split Radio and TV."

Well, they might have talked about cueing, but nothing has been done about it.

Here we have from the Wednesday, November 12, 1952, issue of Variety the "Estimate Weekly Network TV Program Costs."

This list is back, as I said, in November of 1952. It gives the cost of all the various TV shows, and I believe they are about 50 percent higher now than this list shows. So you can get some ideas of the costs of the networks for these programs, which of course they charge to the sponsors.

There are three of those estimated weekly network TV program cost sheets.

Then the last heading I have here is from the Wednesday, June 4, 1952, issue of Variety, and the headline is "NBC-TV 'All Star Revue May Fold; Won't Go Out on a \$5 Million Limb.'"

Might these newspaper articles be made a part of the record, Mr. Chairman?

Senator POTTER. They will be made a part of the record.

(Newspaper articles referred to are as follows:)

[January 15, 1951]

EDITORIAL CONTROL BY NETWORKS CHARGED BY ELLIS

James H. Ellis, president of Kudner Agency, charged Friday that TV networks are approaching control of the editorial content of the air through growing domination over time, talent, and production.

In an address before the Detroit Aeraft Club, Mr. Ellis put much blame upon networks' competition for top shows "at any price."

He said TV networks' bidding for talent has brought television to a point where it "is getting too rich for the average advertiser's purse, no matter how good it is."

Mr. Ellis scored what he called a snowballing trend in which networks put together package shows and sell them to sponsors at skyrocketing prices. He said at least 70 percent of CBS commercial shows and 50 percent of NBC's are network-controlled, whereas a considerable majority of all shows on the air a year ago were handled by independent agencies.

Mr. Ellis' agency itself pioneered in development of many top TV shows. Its 1950 billings amounted to \$1.3 million for radio and \$4 million for television.

The Kudner executive stressed that television produces spectacular results when all factors are right, and conceded that networks are entitled to some control over talent and production. But the trend now, he asserted, is in the direction of "complete and monopolistic" control by networks.

"Three years ago" he said, "the top TV show on the air cost about \$10,000 a week for an hour program—\$2,000 being for time and \$8,000 for entertainment.

COST MOUNTS

"Now, and in only 3 years' time," he continued, "the cost of a top show for 1 hour a week has mounted to \$100,000. Time has gone up to \$36,000 and entertainment to \$60,000 or more.

"This means that to put on a good show on a yearly basis an advertiser must think in terms of a \$4 million annual budget—and this of course, is for TV alone without taking other advertising medias into consideration."

He said internetwork competition has reached a point of outright "audience stealing, with networks bidding fabulous prices which few sponsors can justifiably pay. With individual stars getting as much as \$40,000 for a single performance a lot of harm has been done."

Mr. Ellis feared present trends mean "we soon can arrive at the time when the networks provide all the entertainment." This, he said would be contrary to the challenge of free competition, and the inherent dangers in it are obvious."

NO "STRAIGHTJACKET"

He called upon the people responsible for the destiny of television to "stop, look, and listen."

"They already have a monopoly of the air waves, which is unavoidable," he said. "Television may prove to be the most powerful selling medium we have ever seen, but monopolizing TV entertainment is hard to justify as serving in anyone's best interests. We don't want to be put into a straightjacket when it comes to entertainment."

Asserting that "the customer has some rights," he said that "at least we can call a halt and give the independent sources a chance to find if there isn't some way to keep talent costs from going out of the reach of everyone—and thereby hurting TV owners, and the industry as a whole."

AS PEGLER SEES IT—DISCUSSES AIR PRIVILEGES GRANTED GIANT NETWORKS

(By Westbrook Pegler)

[October 17, 1951]

The air above these States which are united in the grand Republic of the United States, is the property of us people. The abuse of this public domain is a violation of our rights and an impudent affront to our human dignity of our rights and our citizenship.

This air does not belong to the National Broadcasting Co., Mutual, Columbia, nor American. It is yours and mine. These, and other, companies have obtained privileges of great value from the Federal Communications Commission which acted in our name in a technical legal sense.

They have not paid us for the use of our airplanes for their own profit. But, because they have created important machinery and towers, and because they have taken on large financial obligations, they presume to claim a vested right in our property.

They think they have a right to sell it to unscrupulous advertisers of products and promoters of propositions, including attacks on the religious and political faith of millions of us citizens. When they are taxed with their misuse of our property and abuse of our rights, they resort to evasive action and lies.

In one case, when a law-abiding taxpaying citizen had been maligned in a nasty way by Drew Pearson with a false statement over the "facilities" of the Blue Network, Robert Kintner, an officer of the company, refused to entertain a complaint.

He seemed to think that the Blue Network had a vested right to use our property to broadcast false, abusive statements about any individual or mass of individuals.

Ed Noble, the proprietor of this company at that time, is a New Dealer who received valuable concessions from the Federal Communications Commission, a very partisan political body. He also tried to discourage Pearson's victim from pressing his demand for a retraction.

He said that if Pearson were forced to retract he would couch his amend in language which would leave the victim in worse position than before.

Nevertheless, the victim obtained proof that Pearson's statement was a lie. Only then, and on notice that this proof was now in hand did Pearson make an unconditional and satisfactory retraction and apology.

But the Blue Network never expressed regret nor any other interest in a flagrant abuse of the air above the land which was entrusted to its stewardship.

Some radio companies pretend that they keep no record of false and gratuitous abusive remarks against respectable citizens which are broadcast after midnight. If that were true, the licenses would be subject to automatic revocation.

One "commentator" prepared himself for greater authority on public affairs by broadcasting from a drinking resort bearing the name of a person who once had been put out of business for running a disorderly place.

The FCC has no firm minimum requirements for broadcasters as to reputation, character, and intelligence. The people's air is available to any disreputable person, even to a covert spokesman for the underworld or for powerful, mysterious backers with ulterior motives for organizing public opinion against persons, political parties, and political issues.

Adolf Hitler captured Austria "by radio." He infuriated the Germanic Austrians against those whom he depicted as enemies in their midst. The Austrian military and political forces were reduced to impotence when he made his move.

Similar tricks are employed here by exploiters of the radio channels which are the property of our people. We who own the radio air may yet find ourselves undone by propagandists preying on our credulity, our warm American sympathies and our lack of background knowledge of the character of the broadcasters and the motives of those who pay them.

Broadcasters, uninhibited by decency, truth, and morals, make the most successful operators on our air and get the most money.

They are more effective for advertising purposes because scurrility is dramatic and compels attention which the people will not yield to conscientious, truthful discussion. These powerful individuals are seldom at loss for capitalists with wares to sell who are indifferent to the consequences.

These advertising broadcasts are arranged by advertising agencies, some of which have become great, undercover powers in the management of our thoughts by slanted radio broadcasts.

Rich corporations, busy with other management problems, job out their advertising to such advertising agencies and, in some cases, obviously pay no attention to the political and moral character of the people who arrange their sales propaganda.

One of our industrial giants, a very sensitive man where his own vanity is concerned, boasted that he had spent \$1,200,000 of our money, borrowed from the RFC to maintain a program of abuse composed entirely of lies against a patriotic citizen.

On examination he was unable to reconcile his complacency in this matter with his own notorious touchiness.

Drew Pearson's motive for trying to drive James Forrestal out of public life is one of the great taboos of the time. He certainly acted in collusion and his lies about Forrestal, accusing him of cheating on his income tax and running away in a cowardly flight as armed brigands robbed his wife, were so vile that a reaction set in against him.

Forrestal was a part owner of the air which Pearson used to defame him, and millions of other citizens who also own this air could not protect the victim. But in the finest legal sense they had a right to throw this scoundrel off their air for misusing their property.

In this, Pearson finally went over the line. He lost two sponsors and he has complained that his earnings have declined. But still he does not blame himself. His mentality is such that he may not realize how horrible his lies were. He thinks he owns the air.

As a final thought, though Pearson lost "sponsors," he was not denied the use of our air for nefarious, hidden purposes. He still has free use of it.

And the broadcasting company which uses our air to circulate Pearson's frequent mendacities, boasts that it does not censor any of its broadcasters. They may use our air to shout to the multitudes any lie that serves their questionable purposes.

TOO MUCH MONOPOLY CREEPING INTO TV

(By John Crosby)

One financial aspect of radio, which, it seemed to me stunted its growth was its control by the advertiser. It was always my contention, in this column and in an article in *Life* magazine that the broadcaster should run his own shop, that the advertiser should support, but not control, the editorial content of radio.

In a recent speech by J. H. S. Ellis, president of the Kudner Agency before the Detroit Adcraft Club, it was indicated that broadcasters are running their own shops in television and the results, according to Mr. Ellis, are not entirely happy. In the old days an agency came in with a radio program which it owned and bargained for the best time it could get on the network of its choice. It could drop the program or change networks at will; the network provided little except kilowatts and good frequencies.

Speaking of television, Mr. Ellis says: "Today 50 percent of the commercial shows on NBC are network controlled and the figure for CBS is 80 percent. All of which looks as if the major networks are headed for a monopoly of editorial content." (A year ago most of the shows were owned either by package outfits or advertising agencies.) What is the matter with editorial monopoly by broadcasters which, after all, also is exercised by magazines and newspapers? Mr. Ellis has some interesting criticisms.

Television is full of fierce shortages—a shortage of stations—47 stations on the coaxial cable, 29 cities with only 1 station, 9 with only 1 station, 9 with only 2—and a shortage of prime time, 8 to 11 p. m. at night. This puts the networks in a strong bargaining position for their own shows. With the present shortage of time, they—the networks—give at least a broad hint that if you want to get on their networks, you better buy one of their shows.

Furthermore, the network, Mr. Ellis says, is not above trying to swipe the ad agencies' talent and sign it to exclusive contracts. The agency can offer an actor money. Only the network can give him an audience, can put him on the air. The result, he continues, has been to make monopolies of an unhealthy sort which are behaving like all the monopolies of the past—underpricing the competition and then charging all the traffic can bear.

Mr. Ellis' figures in support of this are fairly startling. The Kudner Agency has the Milton Berle show and always has had. Three years ago, the Berle show's cost—time charges, Berle, production, everything—cost \$10,000 a week. Now time charge alone are \$36,000 an hour; the show costs around \$100,000.

If the spiral continues at the present rate, says Mr. Ellis, \$100,000 may be expected to be the tag on a half-hour show. That means an advertiser with a half-hour show on the air for the normal 39-week season would shell out \$4 million. How many advertisers can afford that advertising budget for television alone? Only a very few, very large corporations who would monopolize all the TV fare that comes into our homes. Hardly a healthy situation either for the public or, in the long run, for the networks.

Why does television entertainment cost so much? Mr. Ellis accuses the networks of recklessly bidding up salaries. The Texaco show—an agency package—once paid a singer \$1,500 for an appearance. In the Bob Hope show, a network package, the same singer got \$4,500. Why should the networks try to price themselves out of the market? Well, it's Mr. Ellis' theory that they are more interested in knocking the spots off the competing networks than in developing a balanced program schedule. He accuses them of building a variety show with name and high-priced stars and slotting it opposite a popular show of another network with the twin aims of (a) getting a quick high rating (b) diminishing the opposition rating.

Everyone is suffering from this suicidal competition—the advertiser, the network and—above all—you and me.

It was always my contention that a decent balance of programing—so many variety shows, so many dramatic ones, so many quiz, cultural, sports programs, etc.—would be achieved only if the broadcaster ran the show.

[August 20, 1951]

ABC SCORED SALE OF ANNOUNCEMENTS ASSAILED BY NARTSR

National Association of Radio and Television Station Representative last week shifted its sights from NBC to ABC in a new volley in the association's contin-

uing war against the network sale of announcements, which NARTSR considers unfair encroachment on what should be station business.

"The accepted area of network operation upon which the entire industry's economy is based is in the field of network programs," Murray Grabhorn, managing director of NARTSR, stated. "Revenue from announcements belongs to the stations. It is as simple as that."

Mr. Grabhorn, until recently an ABC vice president, charges this network with offering announcements "integrated within the body of four separate network programs" to stations for sale to local advertisers. "The advertiser is charged what might be considered a premium rate but the station does not get it," Mr. Grabhorn said. "Most of it goes to the network. * * * It is a wonderful take for the network, but the station gets the short end."

ABC ANSWERS

ABC viewed the matter in another light. A network spokesman explained that these announcements within programs are offered to network clients under the ABC pyramid plan. Stations not included in the sponsor's network are given the chance to sell the program spots locally on the standard ABC cooperative program basis, charging 3 percent of their 1-hour nighttime rate for each announcement, which the stations retain, plus a program charge, which the network receives, as it does on all co-op shows.

[May 31, 1952]

STATION REPS THREATEN NBC WITH FCC COMPLAINT—HIT PLAN TO SIGN REP STATIONS FOR NATIONAL SPOT SALES DEPARTMENT

NEW YORK, May 24.—Immediate filing of a complaint with the Federal Communications Commission was threatened this week by the station representatives' organization, should the National Broadcasting Co. seek to recruit independent affiliated stations for representation by its national spot-sales department.—The Billboard, May 24.

Tom Flanagan, head of the National Association of Radio and Television Station Representatives, said that the reps will not take any competitive moves by NBC in this direction lying down. He threatened that should such a drive materialize, NARTSR quickly will proceed to ask the FCC to come to a decision on the matter.

The FCC received a complaint on this subject from the station rep group some 4 years ago, with the Columbia Broadcasting System's spot sales division the main target at that time. Two weeks of hearings were held before the entire FCC, but no definitive conclusion ever was issued. Since that time, the issue has lain dormant, mainly because the web's spot sales division confined their activities mainly to o&o outlets. NBC, as reported in the Billboard last week, now intends to hypo its division, and is planning to line up pacts with additional outlets. The web's legal department has opined that such a procedure is perfectly within FCC and antitrust regulations.

TO MOVE SWIFTLY

Flanagan said that "if any network goes after spot representation with independent affiliated stations, you may be sure the move will be promptly and aggressively opposed before the FCC by NARTSR. Nothing could be more damaging to the independence of an affiliated station now owned by a network than to have such a station dependent for spot as well as network business upon the same giant organization."

He added that it is not likely that any such network move would meet with much success, because the trend has been for stations to seek greater independence from the webs, as shown by the actions of the All Affiliates Committee and the NBC Affiliates Committee. Independent affiliated outlets, he said, are determined to get better deals from the webs than they have been getting, and "they are hardly likely to fall into any association which would increase network domination over their livelihood, earnings, and independence."

[January 1, 1951]

NBC AFFILIATES UP IN ARMS—FORM ANTI-RATE-CUT BLOC

(By J. Frank Beatty)

Some two-score NBC affiliates blew their tops once again last week as they scanned a confidential document from NBC which explained in detail why the network felt it had to cut evening radio rates in TV cities.

Aroused and organized after a fortnight of indecision and informal talks, affiliates started to prepare, through a provisional committee, for the January 10 New York meeting called by NBC to study rate surgery the network had tried to impose in December—Broadcasting-Telecasting, December 25, 18, 1950.

On top of that, angered affiliates laid groundwork for their own private session January 9 at the Waldorf-Astoria, New York. This dinner meeting will serve as an organization and briefing session in advance of the main gathering the following day.

Judging by advance indications, at least 50 affiliate station executives will attend the private dinner meeting and the joint meeting to be held the following day.

Members of the provisional station committee indicated last week, after hearing from NBC stations in TV areas, that stations will stand up and fight against any network effort to slash rates.

PREPARE FOR FIGHT

Meantime, groups of affiliate executives are reviewing selected portions of the NBC bulletin. They will bring their findings together this week and go to New York prepared for a knockdown battle to prevent the network from slicing radio rates and perhaps setting in motion a nationwide rate debacle.

As members of the provisional committee heard from affiliates last week they reached the conclusion that NBC will have little support outside its owned stations. They reported many stations felt NBC's confidential bulletin was full of holes.

One member told Broadcasting-Telecasting that no affiliate contacted by the committee was willing to go along with the NBC rate cut. An affiliate listed as in favor of the cut originally is said to have made a flat denial that he had endorsed the idea.

Affiliates, in many cases, are said to insist they can't possibly take a rate cut at this time with present operating costs and the chance that costs will go even higher. They complain that income from network time is low compared to revenue from local and national spot. Some station operators have muttered dire threats about what they would do if NBC decided to resist the affiliates and insist on slashing rates.

The provisional committee comprises Clair McCollough, Steinman Stations, chairman of the NBC Stations Planning and Advisory Committee; Tom A. Brooks, Hearst Radio, WBAL Baltimore; Lee B. Wailes, Fort Industry Co., WSPD Toledo; P. A. Sugg, WKY Oklahoma City; William Fay, WHAM Rochester, and Nathan Lord, WAVE Louisville.

In general, NBC's affiliates argued that the network had pulled a fast one on them. As late as October, during the NBC affiliates' convention at White Sulphur Springs, network officials are said to have assured stations not rate cut will be in sight and nothing of the sort could happen this year.

Affiliates argued there's no excuse for rate cuts at this time. Sure, maybe the AM network operation will feel the pinch as advertisers jockey for lower rates, they contend, but that's nothing new in a business operation. What the network should do, they insist, is order officials to develop new clients and new business.

Feeling persists that the network should have raised rates two or three times in the last decade to keep pace with increased circulation and increased listening. Stations, they remind, have had two or three rate hikes in this decade. Other media, too, have done the same thing.

NEED MORE SELLING

"What's the hurry?" one affiliate executive asked "They say they can't sell enough time. What NBC needs is more selling. Actually, this is the third or fourth rate cut by NBC in the last few years, including the rate scales on Operation Tandem, Sunday afternoon time, and similar efforts.

"Nobody else is cutting rates. This thing is doing incalculable harm to the entire industry. Radio is still the cheapest medium in the world."

William B. Way, vice president and general manager of KVOO Tulsa, was among the affiliates who harshly criticized NBC.

"The attempt at AM network rate reduction is another means of forcing this medium to pay for television," he said. "This is evident when consideration is given to the fact that TV schedules are sold out yet station owners continue to suffer losses or admit that they are barely breaking even.

"I seems the obvious thing is to raise TV rates. If this then forces some TV advertisers off that medium they may return to more profitable AM. If increased rates do not force any advertiser off TV the then increased cost must prove profitable to the users.

"Either way each media will have to stand on its own feet."

[May 2, 1951]

WEBS-AFFILIATES' SPLIT WIDENS—CHIPS ARE DOWN IN RATE CRISIS

(By George Rosen)

One of the major battles in recent broadcasting history is on—AM's civil war, which lines up the networks against their own affiliates.

The Affiliates Committee representing 700 stations identified with the 4 major networks lost their initial major skirmish with the webs last week. Not only is the CBS rate slash a fait accompli, but NBC, ABC, and Mutual are falling in line.

Of perhaps even more dire consequences to the industry as a whole, however, is the revolution fomenting withing AM's ranks. The networks versus stations' jockeying for position is just beginning. It's apparent that from here on in, there will be no love lost between affiliate managers and network operators.

Behind the veiled statement issued following last week's 2-day meeting of the affiliates with the four network brass, is seen a drawing of battlelines—two concepts matched one against the other. Considered particularly significant is one section in the statement of principle in which the affiliates set forth:

"Any network reduction in rates should be recognized only as one network's opinion of the appropriate price of a network package, and should not be regarded in any respect as an indication of the overall value of radio. Particularly, it should not be regarded as any indication at all of the market-by-market value of radio, and affiliated stations should make their own evaluations of the value of their local service quite independent of network action. Further, stations should have no hesitancy whatsoever in increasing rates wherever in their considered opinion such rate increases are warranted."

Thus the affiliates are drawing up their own blueprint for attack, including a concerted campaign to recondition advertiser thinking that "market-by-market values" rather than cross-the-board network radio is the thing that counts today.

That the chips are down is evidenced from the committee's feeling that "a study should be made of the contractual relations between networks and their affiliate stations to determine, in what respect, if any, those relationships no longer realistically conform to present-day conditions."

The affiliates committee on the basis of some off-the-record observations, feel that the webs have succeeded in pulling a fast one on them. From here on in, they're not going to be caught flatfooted or tied to any contractual strait jacket in fighting off further vital network decisions. They deplore the fact that the webs have already moved into their national "spot biz" domain, and are particularly resentful of the recent ABC maneuver on binding their affiliates to the Procter & Gamble "spot biz" deal.

Unofficially, one key spokesman asserted that they'll be ready next time, in view of the committee's conclusion that "we find nothing * * * which indicates that the move taken by CBS * * * will prevent a further depreciation of radio values." Just how the affiliates committee intends to combat such an eventuality wasn't tipped, however.

ANTITRUST ANGLE

Because of possible antitrust repercussions, the network prexies, accompanied by other web high command, met individually with members of the affiliates committee representing their networks. CBS prez, Frank Stanton, made it emphatic

that "the die is cast." NBC prexy, Joseph H. McConnell, is scheduled to announce the NBC rate cut pattern this week following a meeting with his affiliates. Ditto ABC and Mutual. All are expected to follow pretty much the same 10 percent—plus elimination of cream time bonus—formula as evolved by CBS, although one NBC affiliate member expressed the belief that the mobilization may be a factor in "trimming NBC's sails" somewhat.

The network-affiliate schism apparently isn't one-sided. Some of the web hierarchy appeared to resent the tactics used by the affiliates committee in promulgating its statement of principles, and not taking the trouble to send copies to the networks.

[June 4, 1952]

AFFILIATES' 'KILL CUT' GANGUP—FIREWORKS DUE AT JULY MEET

(By Bert Miller)

A "revolt of the affiliates" in a last-ditch attempt to stave off a slashing of nighttime radio rates is shaping up. A group of CBS radio affiliates has called a meeting of Columbia outlets to take place at the Hotel Ambassador, New York, July 1-2, when action is expected to be taken to "kill the cut."

On the first day the affiliates will meet alone, with the probability they will "cook up some medicine" for the CBS radio brass to swallow when they appear before the session the following day. Columbia prexy Frank Stanton, Board Chairman William Paley, CBS radio prexy Adrian Murphy and station veepee Harry Akerberg are expected to meet the chain's affiliates on July 2.

Idea for the "July 1 and 2 fireworks" presumably arose from the All-Radio Affiliates Committee meeting May 20-21. At that time some segments of the radio industry, particularly station operators, expressed regret that the ARAC did not take a stronger stand against the impending network nighttime rate axing. The reason behind the ARAC's caution was the committee's fear that it could be open to charges of "monopolistic conspiracy" if it combined to prevent a rate cut.

However, it's believed that it is legal for the affiliates of one network to get together to press their case to their own web. It apparently was felt that CBS affiliates should be the first to convene, since that skein seems to be leading the movement for a "rape of the rates," and was the first to institute the 15 percent slicing in 1951.

Stations linked to other networks may follow suit. Whether affiliates conclave of the other chains are called will probably depend on developments at the Columbia pow-wow and industry reactions. However, there is a strong possibility that NBC and ABC outlets will also take the same warpath.

KEYMEN SIGN UP

Among the signers of the call to the July parley are four members of ARAC: Kenyon Brown, KWFT, Wichita Falls, Tex.; John Patt, WGAR, Cleveland, and WJR, Detroit; Victor A. Sholis, WHAS, Louisville; and George Storer, of Storer Broadcasting Corp. Other signers include WMT, Waterloo, Iowa; KIRO, Seattle; ETRH, Houston; WKZO, Kalamazoo, and WKRC, Cincinnati.

Affiliates committee has been moving slowly because of the complex legal questions involved. Combining to resist a price cut might be construed as "illegal combination" under the antitrust acts. However, a leading attorney with heavy experience in both the radio and antitrust fields told Variety that, in his opinion, a resolution recommending that affiliates refuse to accept a network rate cut could be issued. If the resolution were not binding on the affiliates, and accepting or refusing a cut were purely a voluntary matter, it would be within the law, the legal eagle said.

After the recent ARAC meeting, committee issued a statement that "affiliates of each network expressed grave concern over the current competitive network sales and rate situation, which is at such variance with the great resurgence of radio in terms of audience and business at the local and national spot levels." Significantly, statement spoke of affiliates of "each network"—pointing up the approach of not combining outlets of several chains.

A spokesman for the committee told Variety last week that most affiliates did not follow the network rate slashing last year. He added, "If the webs are able to impose an even greater cut in nighttime rates, affiliates will no longer be

able to maintain their own rates in competition with those of the nets, and spot and local rates will inevitably be hit."

Pointing up the ARAC concern with its legal position, and its extreme care in staying within legal bounds, is the fact that its attorney, Edgar Barton, sat in on all its sessions.

Committee has been taking steps to establish itself on a solid organizational basis. Bob Swezey, WDSU, New Orleans, was named to head a committee on constitution and bylaws. Swezey and Kenyon Brown, WKFT, were named vice chairmen to help Paul W. Morency, WTIC, Hartford, who agreed to stay on as chairman. Leslie C. Johnson, of WHBF, Rock Island, Ill., was added to ARAC, replacing Leonard Kapner, WCAE, Pittsburgh, who resigned because of pressure of other work.

[From the Billboard, May 31, 1952]

MORENCY NAMED AIAC CHAIRMAN, SWEZEY, BROWN VICE CHAIRMAN ; To DISCUSS ALLEGED CBS RATE CUTS

NEW YORK, May 24.—The All Industry Affiliates' Committee met here Tuesday and Wednesday, 21, 22, to establish a constitution and bylaws, and elect a chairman and vice chairman for this year. The group also listened to research presentations from C. E. Hooper and A. C. Nielsen and Ken Baker of Standard Audience Measurement.

Paul W. (Fritz) Morency was unanimously drafter to continue as chairman at least until next National Association of Radio and Television Broadcasters convention. Elected vice chairman were Bob Swezey and Ken Brown. Present at the session was attorney Edgar Barton of White & Case, to guide the affiliates group in the matter of areas in which they may effectively and legally operate.

A subcommittee was formed and instructed as to procedure for setting up a constitution and bylaws for the group. Bob Swezey also heads this subcommittee.

RUMOR DISCUSSED

Discussed informally and unofficially by the group were the recent, recurring rumors concerning special rate reductions alleged to have been offered to certain advertisers by the Columbia Broadcasting System. The all-industry group, however, is in no position to, nor will it take any definite action on, the CBS situation.

It was learned, however, that several CBS affiliates are mulling organizing a meeting of CBS affiliates to discuss CBS's alleged recent offers to certain advertisers.

At press time, considerable confusion existed as to whether CBS had or had not made any rate reduction pitches to advertisers. CBS, itself, continued to deny that such offers had been made.

[From the Billboard, November 15, 1952]

STATION REPS CLAIM NETS TRY ENCROACHMENT

NEW YORK, November 8.—The Station Representatives Association this week charged the networks with two new attempts to "encroach" on spot business. The webs involved are the American Broadcasting Co. and Columbia Broadcasting System.

Tom Flanagan, managing director of the SRA, claimed that ABC's attempt to make a "spot carrier" out of Live Like a Millionaire on its TV network had failed. The contract offered to affiliates proposed that stations pay for the program until 1 network announcement was sold, that the web get the income from the second announcement and that stations could sell 4 more announcements. Since the program has gone on ABC-TV as a sustainer, he pointed out, the web must have failed to win station acceptance for its scheme.

Flanagan also maintained that the CBS radio web is trying to reduce station income by selling local cut-ins on network shows. He claimed these cut-ins logically national spot advertising and should be billed separately as national spot advertising at the regular full-minute, national spot announcement rate. When the networks sell the cut-ins, they pay the affiliates the network rate

which is about half the spot rate received by stations when their representatives do the peddling.

BARRING OF PRESS AT BOCA SESSIONS ANGERS AFFILIATES

BOCA RATON, FLA., December 4, 1951.—Status of the trade press in relation to NBC and its affiliates almost became a cause celebre at the network's annual convention here. There was considerable rumblings from some station operators, who felt that the attitude of the network echelon in barring the press from all meetings, would only serve to hamper the press and frustrate the reporters seeking to factually record convention progress.

Particularly in view of the fact that this year's convention had such a vital bearing in formulating policy and resolving the economics attending network radio, it was felt that this was no time to allow conjecture or double-guessing to creep in.

Originally it was planned to permit the press to sit in on this year's session—excepting those involving network-affiliate bargaining and jockeying for position. But despite the pleas of the press department, which was backed by "exec veepee" Charles R. Denny, they were overruled, and for the fifth successive year the meeting doors were shut to the press.

It was pointed out that, in view of the dual affiliations of TV stations, actually many in attendance had a stake in CBS as well, and since these were permitted to sit in—under circumstances that could tip the rival web as to what's afoot at NBC—there was no reason to bar the press.

In his opening convention remarks, NBC "prexy" Joseph H. McConnell also took a swipe at affiliates who talk to the trade press on matters affecting network-station relations. His criticism was directed at stations who have opposed the new NBC basic economy study, and have expressed their views to the press without consulting NBC about it.

WEB RATE CUTS MAY CUE FCC MOVE TO SPLIT RADIO AND TV—OFFICIALS FEAR ADVERSE EFFECT ON PUBSERVICE—MOOD GROWING FOR OPEN COMPETITION BETWEEN TWO MEDIA

WASHINGTON, August 2.—The long, hard battle put up by the affiliated radio stations of the Columbia Broadcasting System and the National Broadcasting Co. against persistent efforts of the 2 major webs to cut radio rates has attracted the attention of at least 2 key members of the Federal Communications Commission to the degree that the FCC may eventually attempt to move against ownership by single corporations of joint radio and television operations.

FCC Commissioners have been watching the rate crisis with considerable interest. Chairman Paul Walker, indeed, made a comment re the inadvisability of downgrading radio in his talk before the National Association of Radio and Television Broadcasters in Chicago last April, and at least two members of the Commission are becoming increasingly outspoken in their opinion that:

(1) If radio rates are slashed any further, radio programing, public service efforts, and other functions in the public interest will suffer, and

(2) The single greatest reason for the willingness of NBC and CBS to bend toward advertiser pressure for lower rates is that the webs are dependent to a great degree for business for both television and radio, from the same group of major advertisers.

Thus, the reasoning is, if the radio networks and television networks were owned by different firms, the people running the radio networks only would put up a much stronger fight against advertiser pressure for lower rates, and would take far more aggressive steps to program radio so that it could withstand TV competition more effectively.

Trade observers, within and outside the FCC, indicate that the networks are aware of this thinking on the FCC's part. They point to the sudden decision on the part of NBC to reintegrate radio and TV operations under single departmental heads, and the rumored move in the same direction on the part of CBS—see separate story. They claim that this reversal of operational procedure back to integration is dictated, at least in part, by the web's realization the FCC may move against single ownership of both media. The recent talk about the possibility that the webs may establish a single rate for radio and television

combined is also attributed in part to the web's realization that the FCC is eyeing their "downgrade radio" efforts.

These trade observers reason that if the webs are able to achieve total reintegration of operations, and set up a sales structure wherein radio and TV are sold in combination for a single rate, they—the webs—will have a strong case against any future FCC effort to force the webs to divest themselves of ownership of either radio or TV.

"What do you mean, two operations?" the webs will be able to say to the FCC. "Our radio and television operations are obviously a single integrated business."

There is no doubt that the NBC reintegration move is dictated in part by a desire to achieve a more efficient operation, as well as to effect personnel and operating economies, but some key observers insist that the concern over the FCC move against single ownership is at least in part responsible for the reintegration. Effort comes not too long after NBC split radio and TV operations down the middle, on the basis of a costly study by Booz, Allen & Hamilton, management consultants.

There is no doubt either, that if radio rates are slashed considerably, not only the networks themselves, but their affiliates in many cases—and eventually and inevitably all broadcasters—will find themselves unable to program public service and otherwise as effective as they have in the past.

[June 4, 1952]

NBC-TV "ALL-STAR" REVUE MAY FOLD; WON'T GO OUT ON A \$5 MILLION LIMB

Fate of the NBC-TV Saturday night "All-Star" Revue will be resolved within the next few days, when the network will decide once and for all whether to call it quits permanently on the star-rotating program.

Although NBC's video program execs had an impressive talent roster tentatively lined up for the 1952-53 ride, including such newcomers as Maurice Chevalier, Harold Lloyd, Ritz Brothers, and Tallulah Bankhead, sponsorship trouble cropped up last week.

Rather than risk going out on a limb on such a costly undertaking, NBC has decided, unless the matter is resolved this week with a preguaranty of \$5 million a year in billings, to forget the whole thing and open up Saturday 8 to 9 for half-hour single-sponsor programs.

Initial snag arose when Snow Crop served notice it was canceling out. On top of that, further client trouble developed with Kellogg, which has been balking at the firm 52-week commitment insisted upon by NBC. If Kellogg refuses to come back on NBC's terms—and the network wants an answer this week—that would leave only Pet Milk to underwrite the costly hour showcase. NBC isn't willing to gamble on the possibility of two additional clients coming in at a later date, in view of the talent-production coin entailed.

NBC is sorely pressed for desirable half-hour segments in which to install new programs, such as the Fred Allen "Two for the Money" stanza and other recent acquisitions. Web execs say the Saturday periods would help solve matters.

Mr. BROWN. We get to the point of what can be done. Two things can be done, I think. One is to pass a bill which will regulate the networks the same as radio stations are regulated now. It doesn't have to go any further than that, because you find that the regulation of radio stations is pretty effective and has been very good.

But we have a problem here. In Chicago I talked to Ampex, and Ampex is a firm owned by Bing Crosby, which has done a considerable amount of development in the spectrum of taking a television picture and putting it on magnetic tape instead of a motion picture film. That system is going to be very cheap to produce a copy of a given program and it will be very quick. There is no development. You merely record it on the tape, and you can show the picture just as fast as you can run the tape through.

With that service, we will find that it might be possible for a sponsor who spends \$100,000 or \$150,000 for a show to say to UHF stations, "How about negotiating with us in rebroadcasting this program?"

Rebroadcasting in radio has been a very interesting thing. We find that there is a terrific demand for rebroadcasting, but we find that the Communications Act is so set up that the Federal Communications Commission has been reluctant to allow rebroadcasting to actually grow. They claim that the law states that we must get permission of the originating station to rebroadcast a sponsor's program, and even though the originating station doesn't have any money invested in the program, and the sponsor may want to rebroadcast it on our station, we still have to go back to the originating station and get permission. The result is that he refuses. It restrains commerce between myself and the sponsor who would like to present his show a second time in the area to attract more listeners to his original investment in the show.

Surveys on rebroadcasting clearly point out that rebroadcasting in the same area is not only in the public interest, but is an absolute necessity if sponsors are to continue to produce high quality radio programs costing from \$5,000 to \$25,000 per week.

1. WSAY has for some years been keenly interested in the results of rebroadcasting wherever it was done, especially the public interest aspect of it, and has made special investigations into the need for rebroadcasting with the assistance of radio and TV's two greatest survey organizations, Hooper and Pulse, Inc.

2. WSAY wishes to call attention to a few of the facts contained in a rebroadcasting survey made in the latter months of 1949, a time when radio listening was the highest it ever attained, just prior to the inroads of television. On page 2 of the first section of this survey entitled "Rebroadcasting," it was found that all commercial radio programs of all four major network programs, on an average, were heard by only 2.74 percent of the radio listeners in the United States, when these programs were broadcast only once over the air by the sponsors, through the coast-to-coast networks.

Now, mind you, that was prior to the inroads of television, and this was all the programs broadcast over the networks.

It being a fact the 97.26 percent of the radio listening audience of this country which did not hear these programs during their first broadcast, would be potential new listeners for the average sponsor's program that was rebroadcast for the second time and to rebroadcast these programs would definitely be in the public interest.

In fact, a rebroadcast of Jack Benny's program brought 31 percent more listeners on the rebroadcast program than on the original broadcast, and a rebroadcast of Charlie McCarthy's program brought 25 percent more listeners on the rebroadcast program than on the original broadcast.

3. Interesting recent facts on TV program duplication are brought out in the survey figures below, which surveys were made by Pulse, for New York TV stations in November 1952.

4. New York City Pulse survey station WOR-TV.

Program: Duplication of same motion picture for 5 consecutive days, Monday through Friday. Time: 7:30 to 9 p. m. Dates: November 10, 11, 5, 6, 7, 1952.

Day	Average rating	Showing	Percent of original broadcast audience
Monday.....	7.0	1st.....	100
Tuesday.....	4.7	2d.....	67
Wednesday.....	5.2	3d.....	74
Thursday.....	4.1	4th.....	59
Friday.....	5.0	5th.....	71

Above we find a rating for the original broadcast of 7 and the combined ratings of the 4 rebroadcasts of the same program of 19.

Four rebroadcasts of the same program made it possible for 271 percent more people to view the program than saw the original broadcast of the program.

Thus it is quite plain that everybody cannot be at their television set at the time some particular program goes on, so that a rebroadcast of a television show is definitely in the interest of the public and it is definitely in the interest of the sponsor who pays the high talent rate for that show.

The fifth broadcast of the same show in the same area brought over 71 percent as many listeners as the original broadcast.

5. New York City Pulse survey, Station WPIX program: Duplication of same motion picture for 5 days of a week, Wednesday, Thursday, Friday, Monday, and Tuesday. Time: 7:30 to 9 p. m. Dates: November 5, 6, 7, 10, 11, 1952.

Day	Average rating	Showing	Percent of original broadcast audience
Monday.....	4.4	4th.....	85
Tuesday.....	3.7	5th.....	71
Wednesday.....	5.2	1st.....	100
Thursday.....	4.1	2d.....	79
Friday.....	5.0	3d.....	96

So it is quite clear that not only is rebroadcasting in an area once in the public interest, but this shows quite clearly that it can go five times and still be in the public interest.

Above we find a rating for the original broadcast of 5.2 and the combined ratings of the 4 rebroadcasts of the same program of 17.2.

Four rebroadcasts of the same program made it possible for 331 percent more people to view the program than saw the original broadcast of the program.

The third broadcast of the same show in the same area brought over 96 percent as many listeners as the original broadcast.

6. The WOR-TV survey clearly points out the importance of rebroadcasts or reruns of programs in the same area, particularly in light of the fact that after the same program had been run over the

same station at the same time each evening for four consecutive evenings, the fifth rerun of the program brought 71 percent as many viewers as the original showing of the program. It would also no doubt be a fact that more viewers would have seen the program had the rerun of the program been at a different time on another station.

7. The WPIX survey further substantiates the statements made regarding WOR-TV reruns of programs. In this survey it will be noted that the third run of the program attracted 96 percent as many viewers on Friday as the original broadcast of the program brought on Wednesday and that the fourth run of the program on Monday attracted 85 percent as many viewers as the original broadcast.

8. The above surveys of WOR-TV and WPIX rebroadcasts point out that even a fifth run of the same program brings substantial viewers and indicates beyond a doubt that rebroadcasting in the same area is not only in the public interest, but that it is a definite necessity if many are to have an opportunity to hear or see the high quality programs which are broadcast by sponsors and which cost millions of dollars to produce each week.

9. Further recent investigation of rebroadcasting in Los Angeles and San Diego, Calif., is shown in the four following tabulations of the rebroadcast results of the Jack Benny and Bergen-McCarthy programs when rebroadcast in these areas by radio station KNX in Los Angeles and radio station KCPQ in San Diego.

(The pulse surveys referred to are as follows:)

10. LOS ANGELES, CALIF.

PULSE SURVEY ON REBROADCASTING

JACK BENNY PROGRAM—STATION KNX

Program: Jack Benny rebroadcast on the same day, in the same area, on the same station.

Times:

Original broadcast—4 to 4:30 p. m.

Rebroadcast—9:30 to 10 p. m.

Dates: Sundays, November 9 and December 7, 1952.

Time	Original broadcast		Rebroadcast		
	Rating	Percent of homes using radio	Time	Rating	Percent of homes using radio
4:00 p. m.	8.00	25.5	9:30 p. m.	6.3	19.3
4:15 p. m.	8.50	24.3	9:45 p. m.	6.5	18.5
Average	8.25	24.9	Average	6.4	18.9

ANALYSIS

In the case of the Jack Benny program in Los Angeles, the rebroadcast program was actually heard by 77.6 of the listeners that heard the original broadcast.

The original broadcast attracted 33.1 percent of the homes listening to radio while the rebroadcast attracted 33.9 percent of the homes listening to radio.

This clearly points out that the rebroadcast was actually 102 percent as effective as the original broadcast.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 675

It is interesting to note from the average ratings below at the time of the rebroadcast that the rebroadcast program attracted many more listeners than the first-run programs on any other station. In fact the rebroadcast program was 376 percent as effective as the average for the first-run programs on all of the other Los Angeles stations.

Station :	Rating	Station :	Rating
KECA-----	1.7	KHJ-----	3.3
KFAC-----	1.8	KLAC-----	.9
KFI-----	2.4	KMPC-----	1.0
KFOX-----	.7	Other stations' average-----	1.7
KFWB-----	.7	KNX-----	6.4

11. LOS ANGELES, CALIF. PULSE SURVEY ON REBROADCASTING BERGEN-McCARTHY PROGRAM—STATION KNX

Program : Bergen-McCarthy, rebroadcasting on the same day, in the same area, on the same station.

Times :

Original broadcast—5 to 5:30 p. m. Rebroadcast—9 to 9:30 p. m.

Dates : Sundays, November 9 and December 7, 1952.

Time	Original broadcast		Rebroadcast		
	Rating	Percent of homes using radio	Time	Rating	Percent of homes using radio
5 p. m.-----	7.00	22.3	9 p. m.-----	5.3	21.0
5:15 p. m.-----	7.50	22.3	9:15 p. m.-----	5.5	20.0
Average-----	7.25	22.3	Average-----	5.4	20.5

ANALYSIS

In the case of the Bergen-McCarthy program in Los Angeles, the rebroadcast program was actually heard by 74.4 of the listeners that heard the original broadcast.

The original broadcast attracted 32.5 percent of the homes listening to radio while the rebroadcast attracted 26.3 percent of the homes listening to radio.

This clearly points out that the rebroadcast was actually 80.9 percent as effective as the original broadcast.

It is interesting to note from the average ratings below at the time of the rebroadcast that the rebroadcast program attracted many more listeners than the first-run programs on any other station. In fact, the rebroadcast program was 257 percent as effective as the average for the first-run programs on all of the other Los Angeles stations.

Station :	Rating	Station :	Rating
KECA-----	1.7	KHJ-----	3.4
KFAC-----	2.4	KLAC-----	1.2
KFI-----	4.2	KMPC-----	1.2
KFOX-----	---	Other stations' average-----	2.1
KFWB-----	.9	KNX-----	5.4

676 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

SAN DIEGO, CALIF.

PULSE SURVEY ON REBROADCASTING

JACK BENNY PROGRAM—STATION KCUQ

Program: Jack Benny rebroadcast on the same day, in the same area, on the same station.

Times:

Original broadcast—4 to 4:30 p. m.

Rebroadcast—9:30 to 10 p. m.

Dates: Sundays, May 4 and June 1, 1952.

Time	Original broadcast		Rebroadcast		
	Rating	Percent of homes using radio	Time	Rating	Percent of homes using radio
4 p. m.-----	9.0	29.3	9:30 p. m.-----	9.5	20.5
4:15 p. m.-----	8.8	28.3	9:45 p. m.-----	9.3	19.5
Average-----	8.9	28.8	Average-----	9.4	20.0

ANALYSIS

In the case of the Jack Benny program, the rebroadcast program was actually heard by 6 percent more listeners than heard the original program.

It has often been said that rebroadcasts are more successful on the west coast because of the change in time; however this is not true because there were 44 percent more homes using their radios during the original broadcast at 4 p. m. than there were using their radios during the time of the rebroadcast at 9:30 p. m.

The original broadcast attracted 31 percent of the homes listening to radio while the rebroadcast attracted 42 percent of the homes listening to radio.

This clearly points out that the rebroadcast was actually over 35 percent more effective than the original broadcast.

It is interesting to note from the average ratings below at the time of the rebroadcast that the rebroadcast program attracted many more listeners than the first-run programs on any other station. In fact the rebroadcast program was 482 percent as effective as the average for the first-run programs on all of the other San Diego stations.

Station:	Rating	Station:	Rating
KFI-----	0.3	KSDO-----	0.4
KFMB-----	2.4	KSON-----	.5
KFSD-----	3.5	Other stations' average-----	1.7
KGB-----	2.9	KCBQ-----	8.2
KNX-----	2.0		

13. SAN DIEGO, CALIF.

PULSE SURVEY ON REBROADCASTING BERGEN-McCARTHY PROGRAM—STATION KCPQ

Program: Bergen-McCarthy rebroadcast on the same day, in the same area, on the same station.

Time: Original broadcast—5 to 5:30 p. m. Rebroadcast—9 to 9:30 p. m.

Dates: Sundays, May 4 and June 1, 1952.

Time	Original broadcast		Rebroadcast		
	Rating	Percent of homes using radio	Time	Rating	Percent of homes using radio
5 p. m.-----	7.8	30.8	9 p. m.-----	9.5	23.5
5:15 p. m.-----	8.0	30.3	9:15 p. m.-----	9.3	22.8
Average-----	7.9	30.6	Average-----	9.4	23.2

ANALYSIS

In the case of the Bergen-McCarthy program, the rebroadcast program was actually heard by 22 percent more listeners than heard the original program.

It has often been said that rebroadcasts are more successful on the west coast because of the time change; however, this is not true, as shown here, because there were 32 percent more homes using their radios during the original broadcast at 5 p. m. than there were using their radios during the time of the rebroadcast at 9 p. m.

The original broadcast attracted 26 percent of the people listening to radio while the rebroadcast attracted 41 percent of the people listening to radio.

This clearly points out that the rebroadcast was actually 58 percent more effective than the original broadcast.

It is interesting to note from the average ratings below at the time of the rebroadcast that the rebroadcast programs attracted many more listeners than the first-run programs on any other station. In fact the rebroadcast program was 470 percent as effective as the average for the first-run programs on all of the other San Diego stations.

Station:	Rating	Station:	Rating
KFI-----	0.5	KSDO-----	0.7
KFMB-----	2.4	KSON-----	.4
KFSD-----	3.9	Other stations' average-----	2.0
KGB-----	3.9	KCPQ-----	9.4
KNX-----	2.2		

Mr. BROWN. 14. The above surveys not only substantiate the fact that rebroadcasting in the same area is in the public interest, but that it is a definite convenience to the listeners, as well as an absolute necessity, if the listeners and viewers of this country are to get full benefit and use of their public-domain radio and TV channels.

15. To further point out the necessity for a fuller use of the high quality radio programming by rebroadcasting, much of which programming is now being wasted, there is attached hereto as exhibit No. 2, a copy of a letter which substantiates this fact, dated December 30, 1952, from one of the country's most eminent authorities on the listeners' and viewers' acceptance of radio and TV programming, Mr. Sydney

Roslow, director of research of The Pulse, Inc. This association is recognized by all in the industry as one of the foremost authorities on radio and TV audience survey research. In Mr. Roslow's letter he states:

We have always found that the second broadcast—
referring to a rebroadcast—
draws a substantial following.

This authority also states:

My own feeling is that since availability to the radio is one factor in audience size, the rebroadcast of significant programs is almost certain to obtain a good audience. This would make it possible for these unavailable listeners to hear such programs.

16. Exhibit No. 3 attached hereto, gives the best available estimates, from a responsible source of the radio and TV program costs for the past year, 1952. This exhibit is furnished for the purpose of conveying to the Commission how many millions of dollars of radio and TV programming are going to waste each week, because these programs are only heard by a very small percentage of the listeners or viewers and are not made available to them by rebroadcasting at other times when they would be able to hear or see them.

17. Exhibit No. 3 is a reprint from the trade periodical *Variety*, estimating the amount of money spent each week throughout 1952 to 1953 by radio sponsors and advertisers, just for the production of their broadcasts, such as, production expenses, actors, musicians, writers, royalties, free-lance directors, transportation, prizes, and so forth. These figures do not include the costs for commercial announcers, agency directors, agency commission or time charges.

18. Sponsors or advertisers spent \$868,400 per week on their radio programs and \$2,484,455 per week on their TV programs alone, not including the program costs of commercial announcers, or agency directors. These sponsors have been, and are now being deprived of their property rights, as well as the full use of their own programs, by the misinterpretation of section 325 (a) of the act and the continued refusal by WARC to allow WSAY to rebroadcast such sponsors' programs.

19. The letter on the first page of exhibit No. 3 by Mr. George Rosen, the radio and TV editor of *Variety*, who is no doubt one of the best informed individuals on radio and TV, program statistics and showmanship, which letter describes the evolution of radio programming, is one of the greatest examples of clear thinking and careful factual analysis of the situation. Mr. Rosen's observations bear serious consideration and study if radio is to continue to best serve the public interest, convenience, and necessity.

20. Attention is called to Mr. Rosen's statement regarding the continued snowballing of TV talent-production fees and the decline of the high-budgeted network radio show. That there is no diminishing in the number of sponsored network radio programs, has a significance all its own, for it reveals the successful attempts to repattern the AM-program structures, with their modified price tags, to meet the TV competition and evaluate programming to match the bankrolls of the advertiser who still finds network radio a vital and kicking medium in moving the product off the shelf.

21. Exhibit No. 4 entitled, "Pricing TV Off the Market," and exhibit No. 5 entitled, "Now Even Berle Is Singing the Cancellation

Blues," are concrete examples of how the public suffers from the inability of TV and radio to cope with the ever-increasing costs of programing.

22. Radio and TV cannot continue to produce these costly programs for the sponsorship of advertisers when these programs reach such a small percentage of public, as when they are broadcast only once to the listeners and viewers.

23. Attached hereto as exhibit No. 6 is a photocopy of an article appearing in the Billboard trade paper, entitled, "Pic Reruns Shape Up as Major Factor." This article points to the fact that surveys show that the third run of a motion picture on WCBS-TV was seen by about three times as many people as saw the first and second runs of the same picture in the same area. It also points out the fact that reruns of popular programs in the same area attract a greater audience than first runs of less popular programs.

24. Exhibit No. 7 entitled, "Repeats, Discounts in Summer Plans," clearly points out that to continue high-quality programing, rebroadcasts in the same area are an absolute necessity, if the program cost is to be warranted. These exhibits 4, 5, 6, and 7 also point out the public necessity for making these costly programs available to listeners when they can be at their sets to listen and view these high-quality sponsors' programs.

25. It is clear that the networks realize the above facts and they are fostering, and wherever possible using section 325 (a) as an instrument whereby they are restraining the affiliated and independent radio and TV stations from negotiating with sponsors to rebroadcast the sponsors' programs unless the negotiations and revenue come through the network on the network's optioned station time. It definitely is not the congressional intent of 325 (a) to allow such monopolistic practices, which sections 309 (a), 314, 506, and 326 of the Communications Act of 1934 were designed to prohibit.

26. High quality radio programing is without a doubt very costly to produce. Neither networks nor station licensees can afford to broadcast such expensive entertainment. Such programing must be, and is, paid for by sponsors or advertisers. This policy is what has made the American system of broadcasting the most outstanding in the world, as compared with the radio programing of other countries, which is much inferior to ours and for which radio set owners and the public pay taxes to produce this inferior type of radio entertainment.

27. Sponsors and advertisers who pay for and originate our excellent programing must sell their products in order to continue to produce expensive entertainment. In order to sell products the radio programs must be heard by a large number of potential purchasers. In order to reach a greater number of purchasers the sponsors' programs must be rebroadcast. Conclusive proof by the above surveys on rebroadcasting show that rebroadcasting will make it possible for several hundred percent more of our population to avail themselves of this excellent radio entertainment. Statistics show that sponsors are cutting their budgets on radio shows. If sponsors or advertisers can negotiate with individual radio stations for the rebroadcast of their programs without restraint, this fuller use of their programs will without a doubt discourage the trend of cutting their talent and production budget on their radio programs.

28. The better availability, better radio station programing, and the continued or better quality of radio programs broadcast, which rebroadcasting programs in the same area will afford the public, is definitely in their interest, convenience and necessity.

29. After a careful study of the tremendous success of rebroadcasting in the few places where it has been done it is startling to believe that so few people—on an average less than 3 percent—heard the major expensive radio programs when they were broadcast only once in an area, even in the winter months of 1949 prior to the competition of television, and how many more people—several hundred percent more than actually heard the original program—could and would have taken advantage of these high-quality programs, had the rebroadcasting of the programs been made available to them.

30. Another factor in this problem is the fact that one network always arranges to put high quality sponsors' programs in their schedule at times when other competing networks are broadcasting equally popular sponsored programs, thereby making it impossible for one listener or viewer to hear or see all 4 sponsors' high quality and popular programs on the 4 major networks at the same time. Such programing is definitely not in the public interest but in this case the public is secondary. This situation is not the fault of the affiliated station because even though he is a licensee of the Federal Communications Commission, he has no control whatsoever over the majority of the programing on his station, which is scheduled by the networks. Exhibit No. 8, a photocopy of an article appearing in the April 1 copy of Variety, entitled "Du Mont in Repeat Formula," clearly backs up the above statements. It is also significant to note that unless the right to rebroadcast sponsors' programs who desire their programs rebroadcast, is made universal and a determination of the sponsors themselves, section 325 (a) could well shut out negotiations between affiliated or independent stations and sponsors, while at the same time opening the door for further monopoly by the networks of national advertising by giving the networks an exclusive right to negotiate with sponsors for the rebroadcast of their programs, at the exclusion of affiliated and independent stations to do the same.

31. It is fantastic to believe, but it is a plain fact, that for the last 25 years the radio public of the United States has been deprived of actually billions of listeners and viewers high quality program hours of the most expensive entertainment broadcast, because the radio networks and certain affiliated stations such as WARC in Rochester, N. Y., have seen fit to purposely misinterpret section 325 (a) of the Communications Act of 1934, in such a way as to deprive radio advertisers of the property right in their own radio programs for which they spend millions of dollars each week. This restraint of rebroadcasting is just contrary to the intention of Congress, which specifically intended section 325 (a) of the act to protect the property right in the radio programs of those who paid the large sums to prepare and produce them, namely the sponsor.

32. Many, including the affiliated and independent radio stations, the advertisers or sponsors, as well as the public, have suffered damages and restraint beyond any conceivable form of compensation, just because a few in the radio industry set out to misuse the law so that they could monopolize, control the entire economic structure of the industry, and restrain the "preservation of competition in commerce,"

(sec. 314 of the Communications Act of 1934), as it relates to radio and television broadcasting.

THE PUBLIC INTEREST ASPECT OF REBROADCASTING IN THE ROCHESTER AREA AND HOW IT RELATES TO THE FCC'S ORDER OF OCTOBER 30, 1952, INTERPRETING REBROADCASTING

33. The following facts are pointed out to show the great public interest in rebroadcasting and how this relates to the Commission's determination set forth in statements contained in paragraph 13 of its order relative to the intent of the rebroadcast rule 325 (a) adopted October 29, 1952.

A. Quoted from paragraph 13 of the FCC's October 30, 1952, order:

Whether requesting stations serve the same or different area as the station whose program they wish to rebroadcast.

34. From the above language, it is clear that the Commission wishes to determine that the public interest, convenience and necessity would be served if the rebroadcasts were in the same area. To substantiate the fact that such rebroadcasts are in the public interest, and in fact a dire necessity, it is urged that the more recent facts pointed out above, as well as the facts contained in the Analysis of Rebroadcasting made by Gordon P. Brown, attached hereto as exhibit No. 1, be given careful consideration. In light of the fact that the survey entitled "Rebroadcasting" was made in the latter half of 1949, prior to the inroads of radio audiences by television, it is apparent that rebroadcasting would even be a greater public interest now that the radio listening audiences are distributed not only among the radio stations, but among the new television stations as well.

35. For a more recent and local picture, it is pointed out that the latest Rochester Pulse Surveys (based on the 1950 United States census which indicates that there are 3.3 people per household, including quasi-householders in the Rochester area) show that the sponsors' programs broadcast over WARC and which were fed WARC by the ABC network, including all such sponsored programs which are reported in the Pulse survey for the months of October and November of 1952, that an average of only 2 percent of the Rochester listeners were able to hear these programs when they were broadcast only once over WARC and that 98 percent of the Rochester listeners did not, or were not able to hear these programs the first and only time they were broadcast to Rochester listeners over WARC. It certainly would be in the public interest to present by rebroadcast over WSAY, the higher quality group of these programs to the 98 percent of Rochester listeners who did not, or could not hear them the first and only time they were broadcast in the Rochester area. WSAY would make it a point to only rebroadcast those sponsors' programs which WSAY knew as a licensee, were of the greatest public interest, and which would provide a "well-rounded program service".

36. B. Quoted from paragraph 13 of the FCC's October 30, 1952 order:

whether the request is for permission to carry a simultaneous rebroadcast or to rebroadcast a program at some subsequent date.

37. Such a situation is well taken care of by the economics of such a rebroadcast. It is evident that in most cases such rebroadcasts

would be made at a later time. A sponsor would not pay for a rebroadcast which did not reach a fairly large group of listeners, thereby the question of public interest in the above situation would be controlled by the listeners themselves.

38. It is further pointed out that WSAY as a licensee would at all times exercise its duty and right to determine the public interest, convenience and necessity aspects of its programming. WSAY would have a greater opportunity to determine these factors of public interest, and much more so than WARC, or any other licensee who may be affiliated with a network. First, because WSAY does not have network option controls on its time. Second, because WSAY would know in most instances, except in simulcasting, what the program content was, prior to its rebroadcasting, as compared to the network affiliate, such as WARC, who has no knowledge whatsoever of the program content of the large number of programs fed to it by the network and broadcast over its facilities, until after the program has been heard by the listeners.

39. It is important to consider that WARC's night coverage based on FCC statistics is only 165 square miles, and that the Rochester metropolitan area consists of 673 square miles, therefore the signal of WARC, when it is broadcasting the sponsor's original program, is covering less than 18 percent of the Rochester metropolitan area.

40. WSAY's night coverage based on FCC statistics at present is 300 square miles, considerable more than that of WARC. It is clear that the rebroadcasts of sponsors' programs over WSAY, in addition to being presented to the 98 percent of the people in the Rochester area who did not hear the original broadcast, will be made available for the first time to the people within the 135 square miles of the Rochester metropolitan area which actually is not covered by WARC.

41. C. Quoting from paragraph 13 of the FCC's October 30, 1952, order on rebroadcasting:

Whether the program concerned has public-service aspects that make its wide disseminating to the public clearly desirable.

42. A study of the surveys on rebroadcasting presented herein, in themselves are clear evidence of the public's acceptance and listening response to rebroadcasting. This would particularly be the case in Rochester, N. Y., where less than 2 percent of the Rochester listeners were able to hear the more expensive and high quality sponsors' programs when they were broadcast only once in the area over WARC, and particularly in light of the fact that WARC's evening coverage of the Rochester metropolitan area is less than 18 percent of this area. WARC's small coverage is such that many radio listeners in the area do not even have adequate coverage on the first broadcast of the higher quality programs. Proper and much more adequate coverage could be made available by the rebroadcasting over WSAY, of these programs to the over 98 percent of the radio listeners in the Rochester area who are unable to hear these programs when they are broadcast only once over WARC.

43. If a program is not worth broadcasting so that "its wide disseminating to the public is clearly desirable," it is not worth placing on the air in the first place. Such a program in its original broadcast would not be in the public interest.

44. As pointed out, rebroadcasting of a program allows and affords better programming and control of the station's programming by a licensee than the original broadcast of the program by, say, a network affiliate, such as WARC, in which case WARC is not aware of the fact whether the program is clearly desirable or whether it falls in the category of programs now being investigated by the House Interstate and Foreign Commerce Committee.

45. WARC has no idea of the sponsored program's public-interest value or content, fed to it by the network, until after the program has reached the ears of the listeners which in most cases is too late. Such a condition is not only true on WARC but on many other stations, as pointed out by the hundreds of letters received by the House Program Investigation Committee which is scrutinizing radio programs of licensees bordering on the obscene, or in poor taste.

46. WSAY, as a licensee, will, and will be better able to, perform in the public interest through the medium of rebroadcasting. It is pointed out here that the provisions against censorship of radio programming set up by Congress in section 326 of the act, and the requirements of 309(a) of the act, makes the licensee the sole judge of what should or should not be broadcast or rebroadcast over his own station and it also makes the licensee solely responsible to the Commission that such broadcast or rebroadcast, as well as the station policies, practices and overall operation, are in the public interest, convenience and necessity.

47. Testimony by the FCC Chairman, Mr. Walker, and the FCC General Counsel, Mr. Benedict Cottone, before the committee of the House investigating radio and television programs on House Resolution 278, pages 472 to 488, clearly substantiate the facts contained in paragraph 45 and 46 above.

48. It surely is not a privilege of WARC under the FCC's interpretation of section 325 (a) to determine whether the rebroadcasting of any individual sponsor's program, or of any or all sponsor's programs by WSAY, is or is not, in the public interest.

REBROADCASTING

The tremendous advantages to national sponsors of rebroadcasting their costly radio programs for a second time in a given area have in the past, been given very little consideration.

The networks wish to discourage this type of advertising on the part of sponsors, because on the east coast the rebroadcasts of the programs of sponsors using the network would have, in the majority of cases, to be placed on the network affiliated stations in nonnetwork optioned time, thus the rebroadcast business would not fall in the networks category, but would fall in the category of direct business placed by the station representatives on the network affiliated stations on non-network optioned time, or independent stations.

The networks have attempted to scare sponsors and their agencies from considering rebroadcasting by telling them that rebroadcasting would involve a serious union problem. This statement is absolutely false, and does not present any problem whatsoever to those who would rebroadcast their programs.

A careful study of the Rebroadcast Program Analysis of the Pacific Coast Hooper Ratings (copy attached) will point out the unusual

results and success of rebroadcasting, as well as the great advantages to those national sponsors who rebroadcast their programs.

John Blair of Chicago, the representative of the Don Lee stations, was the first station representative to recognize the value of rebroadcasting when he placed a simultaneous rebroadcast of the Walter Winchell show on the entire group of Don Lee stations, which rebroadcasting well compensated Mr. Blair, his stations, and, most of all, the sponsor.

Analysis of the Pacific Rebroadcast Hooper Ratings will convince any sponsor or agency of the terrific value of rebroadcasting.

It is as fantastic to assume that when a network program is broadcast once in a metropolitan area that all people owning radio sets in that area hear that program at that particular time, as it would be to think that a major movie by being shown once or for a week in one theater that that picture has no value when it was shown as second, third, fourth, fifth, and so on, runs in the same community. A quick glance at any Hooper tells the broadcasting industry better.

A 1949 Hooper radio listening survey for the entire United States on all of the commercial radio programs of all of the four major networks including the NBC, CBS, ABC, and Mutual, definitely shows on an average only 2.74 percent of the radio listeners in the United States hear the network programs when they broadcast only once over the air by the networks. This means that 97.26 percent of the listening audience of this country would be potential new listeners for the average radio program that was rebroadcast for the second time. Even taking the highest rated network show in the country, which is well above the average, only 10 percent of the potential radio listeners hear the broadcast, while 90 percent of the radio listeners do not hear the program and they would be potential listeners for the rebroadcast of the program.

In another survey, made during December 1949, of programs which were broadcast over the same station the second time, on the same day, the following ratings prove conclusively that programs rebroadcast the second time receive even greater ratings than the ratings for the first broadcast, as tabulated below.

Program	Ratings	
	Original broadcast	Rebroadcast
Charlie McCarthy.....	15.5	19.4
Jack Benny.....	15.7	20.7

Charlie McCarthy and Jack Benny were rebroadcast on the full CBS west coast network.

The above surveys were taken in 1949 at a time when radio listening was at its peak. Now with the inroads of television on radio listening, rebroadcasting would have even greater advantages to national sponsors.

The above factual data behooves every national radio sponsor, his advertising agency, every network affiliated station, independent station, and most of all the station representatives to pursue the tremendous advantages of this yet untapped reservoir of mutual gains.

A simple campaign by the radio station representatives, as well as

the network affiliated and independent stations, to acquaint national agencies and sponsors with the facts regarding rebroadcasting, could not help but create millions of dollars of additional revenue for the radio industry, without in any way effecting the present revenue of the networks, or the network affiliated stations which stations could greatly supplement their present income through the medium of rebroadcasting.

REBROADCAST PROGRAM ANALYSIS OF THE PACIFIC COAST HOOPER RATINGS

Rebroadcast of Jack Benny program :

1. Jack Benny's original broadcast on CBS at 4 p. m. brought a rating of 15.7.¹ Five and one-half hours later, at 9:30 p. m., on the same station, a rebroadcast of the program brought a rating of 20.7, an increase in rating of 5, or over 31 percent more than the original program.

Rebroadcast of Charlie McCarthy's program :

2. Charlie McCarthy's original broadcast on CBS at 5 p. m. brought a rating of 15.5. Three and one-half hours later, at 8:30 p. m. on the same station, a rebroadcast of the program brought a rating of 19.4, an increase in the rating of 3.9, or over 25 percent more than the original program.

Even more amazing is the fact that this high rebroadcast rating was obtained in spite of the fact that the Charlie McCarthy rebroadcast program was flanked at the exact same time (8:30 p. m.) by a rebroadcast of Walter Winchell on the ABC network, as well as the unusual situation of being flanked at the exact same time (8:30 p. m.) by a simultaneous rebroadcast of Walter Winchell and Louella Parsons on the Don Lee network, a network other than the originating network.

Here we find the clear-cut situation of where not only one network originating the program allows the rebroadcast of this same program on another competing network, but the rebroadcast is in direct competition with the rebroadcast on the originating network, since the rebroadcast was a simultaneous rebroadcast.

In spite of this terrific competition, flanking the rebroadcast of Charlie McCarthy on CBS at 8:30 p. m., which was the rebroadcast of Walter Winchell on the ABC network, as well as a simultaneous rebroadcast of Walter Winchell on the Don Lee Mutual network, even with this stiff competition the rebroadcast of Charlie McCarthy on CBS produced 25 percent more listeners than the original program when it was first broadcast on CBS at 5 p. m., which original broadcast was flanked by shows of very poor rating, such as a religious program on ABC, called This Thing Called Life, and a weak sustainer on DLBS "Mr. Feathers."

Rebroadcast of Walter Winchell program :

3. Walter Winchell's original broadcast on ABC at 6 p. m. brought a rating of 17. Two and one-half hours later, at 8:30 p. m., a rebroadcast on ABC (the same network) brought a rating of 4.7, a very good rating considering it was competing with a rebroadcast of Charlie McCarthy on CBS at the exact same time, as well as competing with

¹ Authority for all the above figures is the December, substantiated by the November, and October 1949, west coast ratings as shown in the Hooper pocket piece rating book.

itself (it's own identical program) at this exact same time which was being rebroadcast on another network (the Don Lee network), and this same Walter Winchell rebroadcast program on Don Lee brought the high rating of 7 in direct competition to itself (a simultaneous rebroadcast) on the ABC network at the exact same time (8:30 p. m.), as well as the rebroadcast of the Charlie McCarthy program on the CBS network.

It is important to notice that the rebroadcast of Walter Winchell at 8:30 p. m. on the same network (ABC network) brought a rating of 4.7 while a rebroadcast at the same time and under identical conditions (a simultaneous rebroadcast), brought a rating of 7 on the Don Lee network, which did not originate the program. A study of this tends to prove that the rating of a rebroadcast program would be higher on a station or network which did not originate the first broadcast of the program.

It is quite apparent that had the rebroadcast of Walter Winchell been placed opposite programs of the same insignificance as those flanking the original broadcast and not opposite the competition of itself duplicated on another network, as well as Charlie McCarthy on the CBS network, that the first rebroadcast as well as even the second rebroadcast might have surpassed the original broadcast in rating.

Rebroadcast of Louella Parsons program:

4. Louella Parsons original broadcast on ABC at 6:15 p. m. brought a rating of 11.7. Two and one-half hours later, at 8:45 p. m., on the Don Lee network, a rebroadcast of Louella Parsons brought the rating of 5.1, an exceptional rating for a rebroadcast of that program, considering that it was flanked at the exact same time by the rebroadcast of the Charlie McCarthy program on CBS.

OVERALL ANALYSIS

A careful study of the December Hooper ratings for the Pacific coast conclusively proves the value of rebroadcasting to the sponsors of these programs and a study of the October and November Hooper ratings conclusively substantiates all the facts enumerated above.

This analysis appears to be definite evidence that a more general use of rebroadcasting would be the incentive for sponsors to continue to produce high-quality programs, and last but not least, rebroadcasting can and will be the medium for the placing of millions of dollars more of business in the Aural radio industry, without in any way injuring or affecting any phase of the existing business or industry.

It appears that this rebroadcasting on the west coast is the first extensive rebroadcasting done in the United States. It is also noted that there is considerable more unsponsored network time available on the stations on the west coast. Naturally, the networks are not anxious to foster rebroadcasting in the East because most of this rebroadcasting would have to be done on time not optioned and controlled by the networks, therefore, the revenue of rebroadcasting programs in the East would not be network revenue but it would be spot revenue direct to the stations.

It must be remembered that these rebroadcast Hooper ratings are for the latter part of 1949, a time when television had not reached a factor to be considered. Naturally, rebroadcasting of radio programs

now would be much more valuable due to the television competition at the times of the original radio broadcasts.

The Commission says under a ruling—which I was some 31½ years getting out of the Commission—that we must still get permission from the originating station.

So we went to the originating station as defined by the Commission, and we asked them for permission to rebroadcast a sponsor's program. Here is what we asked for, and it is entitled at the top "Request of Station WSAY To Rebroadcast the Signal of Radio Station —."

It reads as follows:

WSAY, herewith, pursuant to the FCC interpretation of section 325 (a), of the Communications Act of 1934, requests permission of Station — to rebroadcast the signal of that station, when the facilities of the station are hired or purchased, either directly by a sponsor, or sponsors, or their agencies, or indirectly through the facilities of a network, and when this signal of — is broadcasting the program or programs of a sponsor or sponsors, which desire, or may desire, their programs rebroadcast by radio station WSAY; it being expressly understood that Station — does not have any property right in the sponsor's programs, and thereby does not in this permission intend to convey any such property right to station WSAY.

It is further understood that WSAY is not requesting, nor is Station — herewith granting, any permission to rebroadcast the signal of —, when it is broadcasting sustaining programs, the talent or transcription cost of which is paid for by the station, or a network furnishing the program material, and where on such programs, no major portion of the talent or transcription cost is defrayed or paid for, by any other person, corporation, or organization, which desires or may desire WSAY to rebroadcast their programs.

All we are asking the station to do is to give us permission to rebroadcast that program which belongs to the sponsor. The Commission has refused and we, as a result of the refusal of the station to allow us to rebroadcast this program have gone to the Commission and have cited their interpretation of section 325 (a), and we have asked that the Commission be told that they are not acting in the public interest in withholding these programs of the sponsor from our area for a second run, particularly when the sponsor is willing to pay my station to put his program on for the second time. We find that the Commission came back just a few days ago with an answer, and after this report which is—and this is only part of it—it consisted of, well, over 125 pages explaining the reasons from the public-interest standpoint for rebroadcasting and so forth, the Commission said, and here is what they said in effect—well, we are not going to do anything about it, because you did not ask for specific programs.

In other words, the Commission wants me to go back to the radio station and ask him for every program on his station that I want to rebroadcast and go back to the Commission and ask again.

Well, now, that is absurd, first, because if I am allowed to rebroadcast one sponsor's program, for anybody to say that I should not broadcast another sponsor's program is definitely censoring radio. In other words, if the station that I request from says "you can rebroadcast that sponsor's program, but you cannot rebroadcast this sponsor's program," that station is dictating to me what shall be broadcast over my station.

So you consider this on a per-program basis, and it definitely puts the thing into the realm of censorship.

Senator POTTER. Mr. BROWN, I have to remind you that I have to leave in a few minutes, and we do have another witness.

Mr. BROWN. How much time have I got?

Senator POTTER. You have had 45 minutes, more than any other person today. It is a very interesting subject, but I would like to get as much testimony today as we can on the problem that we are considering on the matter of UHF, and I would be happy to have anything you care to submit.

Mr. BROWN. I do have something. I want to say this one thing that I think the Commission should recognize that rebroadcasting is in the public interest, that it should do something about it, so that the UHF station might go back and negotiate with sponsors and put these important programs on their television stations the same as I today can put them on radio stations.

Senator POTTER. I think that deserves consideration.

Mr. BROWN. I think that covers that situation.

There is one other statement. We are opposed to the Federal Communications Commission idea of booster stations.

Statements taken from the FCC sixth report and order relative to a proposal of Gordon P. Brown, of radio station WSAY in Rochester, N. Y.:

222. The Federal Broadcasting System, Inc., proposed that the Commission provide for the assignment of "satellite" or "booster" stations by means of the use of directional antennas. The purpose of the proposal would be to allow parties not financially interested in the dominant station to erect and operate a lower power television rebroadcast station at a high point above communities situated in valleys otherwise out of the range of the dominant station.

223. The assignment plan contemplates the use of stations so removed from each other as to serve the greatest number of areas and persons and to keep the areas of interference between stations to a minimum. The indiscriminate use of "booster" or "satellite" stations in cities other than shown in the assignment table would defeat the aims of the plan. The Commission is of the opinion, however, that there may exist special cases where the carefully controlled utilization of such stations may be beneficial to the plan. However, in view of the absence of adequate data in this record, the Federal Broadcasting System proposal must be denied.

Now this proposal might help this area such as Senator Bowring brought up. In other words, you have a dominant station which is broadcasting a signal, and that signal would be picked up and rebroadcast by a booster station and feed that particular area. There is one particular area south of Rochester, N. Y., which is in a valley, and doesn't get service and never will get service from any of the existing television allocations, because of the fact that they are not able to reach that area, and this particular rebroadcasting service might be beneficial.

If booster stations are allowed, the dominant station should not own them, but somebody in the particular community who is familiar with the community should own the booster station.

I think that covers most of it.

Senator POTTER. I wish to thank you for your testimony.

Mr. BROWN. There is one other article I would like to get in, which is the number of television stations which should be owned by the network. It is a presentation to the Commission, and I think the networks are enough of a monopoly now without giving them the television stations to give them a greater monopoly.

Senator POTTER. Thank you, Mr. Brown. We will make these other documents of yours part of the record.

(The statement submitted by Mr. Brown is as follows:)

BEFORE THE FEDERAL COMMUNICATIONS COMMISSION

Washington 25, D. C.

In re Limit of TV stations which can be owned by a single entity

Submitted by Gordon P. Brown, president, the Federal Broadcasting System, Inc., licensee radio station WSAY, Rochester, N. Y.

COMMENTS

The Federal Broadcasting System herewith comments on the FCC's proposal to extend the number of TV stations a single entity may own, the effect of multiple ownership as it relates to the monopolistic control of both national advertisers, advertising budgets, as well as the serious control of public opinion and information channels by a few.

1. The entire purpose and philosophy behind the Congress and Senate in the discussion and debate on the Radio Act of 1927 and later the Communications Act of 1934, which acts formulated the original Radio Commission later to be called the Federal Communications Commission, was the control of the public's radio channels and the prevention of monopoly or control by a few, of these powerful mediums of public information. In fact the act itself directs the Commission to protect radio from such monopolistic control was evidenced by the legislative history of the act of 1934 as quoted below.

QUOTED FROM PAGE 2881 OF THE 1927 CONGRESSIONAL RECORD. DISCUSSION OF THE RADIO ACT OF 1927 AND THE DUTIES, OBLIGATIONS, AND FORMATION OF THE FORMER FEDERAL RADIO COMMISSION NOW KNOWN AS THE FEDERAL COMMUNICATIONS COMMISSION

"Mr. BROUSSARD. I desire to ask the Senator from Washington a question which has been suggested to me by the remarks made by the Senator from Nevada (Mr. Pittman) and the questions asked by the Senator from Massachusetts (Mr. Walsh):

"I received this morning a telegram from Shreveport, La., signed by Mr. W. K. Henderson, who is a very wealthy man there, and who has a broadcasting station which he uses mostly to entertain his friends and to accommodate the public. I do not think he is making anything out of it. His telegram reads:

"SHREVEPORT, LA., January 31, 1927.

"Hon. EDWIN S. BROUSSARD,

United States Senate:

"Our Shreveport Times this morning carried headlines of 35 stations to be chained together. Just as I wired you the other day, chain stations will monopolize and independent stations, such as we have at Shreveport, are practically done for. Hope you will give bill considerable study and stand for interest of others beyond Radio Corporation of America who control chain stations. Between American Telephone & Telegraph Co. and Radio Corporation of America and other interests the independents are through.

"W. K. HENDERSON,
"Owner, Radio Station KWKH."

"I should like to have the Senator from Washington cover the suggestion contained in telegram, and if the bill does actually make this impossible, to make that known to the Senate.

"Mr. DILL. I am very glad the Senator from Louisiana has asked the question. It gives me an opportunity to explain not only that but some things regarding what the Senator from Nevada said.

"In the first place, under this bill chain broadcasting today, concerning which the writer of the telegram is concerned, is absolutely without regulation. We have no law today to handle the situation, and the various radio organizations, including the Radio Corporation of America and the American Telephone & Telegraph Co., are going ahead and building up the chain stations as they desire, without let or hindrance and without any restrictions, because the Secretary of Commerce has no power to interfere with them. Unless this proposed legislation shall be enacted they will continue to do so, and they will be able by chain-broadcasting methods practically to obliterate the independent small stations, as the man who wrote the telegram suggests.

"While the Commission would have the power under the general terms of the bill, the bill specifically sets out as one of the special powers of the Commission the right to make specific regulations for governing chain broadcasting. As to creating a monopoly of radio in this country, let me say that this bill absolutely protects the public, so far as it can protect them, by giving the Commission full power to refuse a license to anyone who it believes will not serve the public interest, convenience, or necessity. It specifically provides that any corporation guilty of monopoly shall not only not receive a license but that its license may be revoked and if after a corporation has received its license for a period of 3 years it is then discovered and found to be guilty of monopoly, its license will be revoked.

"In addition to that——

"Mr. HEELIN. Mr. President——

"Mr. DILL. Just a moment. In addition to that, the bill contains a provision that no license may be transferred from one owner to another without the written consent of the Commission, and the Commission, of course, having the power to protect against a monopoly, must give such protection.

"I wish to state further that the only way by which monopolies in the radio business can secure control of radio here, even for a limited period of time, will be by the Commission becoming servile to them. Power must be lodged somewhere, and I myself am unwilling to assume in advance that the Commission proposed to be created will be servile to the desires and demands of great corporations of this country."

2. The net effect of multiple ownership by a few powerful interests has been for these interests to finally own the largest and most powerful outlets in the largest and most densely populated cities and communities. Such effect has come about by the systematic purchase and sale of various radio and TV stations until these groups control the most important outlets in the country. In this, these monopolistic groups have been heretofore assisted by the Commission in that the Commission has sanctioned the purchase of one outlet even if it would exceed the limit of stations to be owned, allowing the monopolistic groups to later dispose of a less powerful outlet to bring the number of stations down to the maximum allowed. In so doing the Commission has already allowed over periods of time, the operation by one owner, of more stations than the maximum allowable under the rules.

3. The Commission apparently feels that allowing the large powerful groups to own two additional UHF TV outlets will boost the cause of UHF, which cause needs boosting. This is a very laudable purpose but not at the expense of monopoly. It is suggested that the Commission insist that at least 2 of the 5 now owned by these powerful groups be UHF TV stations and that the Commission order the disposal of 2 VHF stations by these groups with the right to purchase 2 UHF outlets, and the maximum of TV stations to be owned by any one nonnetwork entity shall not exceed a total of 5. Such a policy may give the end result desired by the Commission in attempting to assist the almost lost cause of the UHF TV broadcaster, many of which have already gone out of business.

4. The multiple ownership of radio and TV stations by the network chains has made it impossible for other stations in these ownership areas to not only compete for the national advertising dollars but also for the local advertising dollars as well as public and program prestige, both of which are directly proportional to a station's ability to broadcast the expensive and high quality programs paid for by the national advertisers. These network chains who virtually control all program production, the advertisers' budgets, as well as the operation and financial position of their affiliated stations, should not be allowed to own more than 1 radio station and 1 TV station. It is urged that the Commission rule that any interstate network shall dispose of all its owned and controlled stations except 1 in each category.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 691

The national radio network chains with only their owned and operated stations control the public opinion and information channels of the country. Such a condition in light of the dictates of Congress in the issue of monopoly as evidenced by the legislative history of the act bears careful consideration and bold action. It is a well-known fact that the networks not only control the operation and programming of their owned and operated stations, but the operation and programming of other multiple-ownership groups, as well as hundreds of their affiliated stations. Such control is exercised by the chains' power of granting or refusing network affiliation contracts to such stations, thereby directly controlling the financial destiny of these stations in granting or denying these stations the right to broadcast the high quality programs of the national advertisers which these network chains control.

5. As of the writing of these comments, over 40 postthaw TV stations have surrendered their licenses and all of these communities and people have been deprived of the TV service from these stations, basically because the network chain monopolies have refused to feed these outlets the programs of the national sponsors.

Therefore, in light of considerable personal experience with these monopolistic groups, I beg that your Commission give serious consideration to the above.

Respectfully,

GORDON P. BROWN, *President.*

JANUARY 27, 1954

(The tabulations and exhibits are as follows:)

Commercial stations deleted—1947-52

Year	AM		FM		TV	
	On air	Not on air	On air	Not on air	On air	Not on air
1947.....	4	31	0	35	0	0
1948.....	6	47	8	124	0	2
1949.....	27	42	45	172	0	13
1950.....	18	25	81	41	0	2
1951.....	17	21	63	12	0	1
1952.....	11	12	47	1	0	0
Total.....	¹ 83	178	² 244	385	0	³ 18

¹ Although a detailed check has not been made, it may be assumed that few, if any, of these 83 "on air" AM deletions were affiliated with major networks.

² Approximately 200 of these 244 deleted FM stations were operated jointly with AM stations. It is estimated that in the majority of such instances, the AM station was affiliated with a major network. In the case of deleted FM-only stations, none were affiliated with major networks.

³ All TV deletions were VHF.

Source: Federal Communications Commission.

692 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

Number and percent of AM broadcast stations reporting losses from broadcast operations segregated by stations serving as network outlets and those not serving as such outlets—1947-52

Year	Total AM stations reporting ¹	Reporting a loss	
		Number	Percent
1947:			
Total	1,453	369	25.4
Network	987	170	17.2
Nonnetwork	466	199	42.7
1948:			
Total	1,813	581	32.0
Network	1,096	259	23.6
Nonnetwork	717	322	44.9
1949:			
Total	2,009	684	34.0
Network	1,088	267	24.5
Nonnetwork	921	417	45.3
1950:			
Total	2,131	527	24.7
Network	1,151	203	17.6
Nonnetwork	980	324	33.1
1951:			
Total	2,188	519	23.7
Network	1,135	189	16.7
Nonnetwork	1,053	330	31.3
1952: ²			
Total	2,276	362	15.9
Network	1,158	129	11.1
Nonnetwork	1,118	233	20.8

¹ Excludes "key" stations of the 4 nationwide networks as follows: 1947-48, 11; 1949-52, 12.

² Based on preliminary reports.

Source: Federal Communications Commission.

Number and percent of FM-only broadcast stations reporting losses from broadcast operations—1948-52

Year	Number operated FM only	FM-only stations reporting a loss	
		Number	Percent
1947	60	(¹)	(¹)
1948	89	86	96.6
1949	104	104	100.0
1950	80	76	95.0
1951	66	60	90.9
1952 ²	54	46	85.2

¹ Data not available.

² Based on preliminary reports.

NOTE.—Losing station information is restricted to FM-only stations, i. e., FM stations which were not operated in conjunction with AM stations in the same community.

Source: Federal Communications Commission.

EXHIBIT No. 2

THE PULSE INC.
New York, N. Y., December 30, 1952.

MR. GORDON P. BROWN,
WSAY, Rochester, N. Y.

DEAR MR. BROWN: In answer to your inquiry of December 16, we have observed in our surveys on the west coast a definite and strong following in rebroadcast radio programs, I refer to the west coast, because this is the only area where we have surveyed the audiences to such programs. For example, the Jack Benny program which is originally broadcast at 4 p. m. is rebroadcast later in the evening. We have always found that the second broadcast draws a substantial following.

My own feeling is that since availability to the radio is one factor in audience size, the rebroadcast of significant programs is almost certain to obtain a good audience. This would make it possible for these unavailable listeners to hear such programs.

Cordially yours,

SYDNEY ROSLOW, *Director.*

EXHIBIT No. 3

VARIETY,
New York 36, N. Y.

This year's Radio-TV talent cost charts as compiled exclusively by Variety have a significance far beyond the detailing of program price structures. In themselves, they reflect the changing trends in the AM-TV upheaval; the continuing snowballing of TV talent-production fees and the decline of the high-budgeted network radio show. That there is no diminution in the number of sponsored network radio programs has a significance all its own, for it reveals the successful attempts to repattern the AM program structures, with their modified price tags, to meet the TV competition and evolve programing to match the bankrolls of the advertiser who still finds network radio a vital and kicking medium in moving the product off the shelf.

A further perusal of the TV talent cost chart indicates that talent and production fees (particularly where unions are involved) are reaching new high levels, with programs in the \$20,000-\$25,000 bracket the norm today for a modest-budgeted display. How high they'll go in 1953 is anybody's guess.

The annual talent cost charts are but one of the many "exclusives" in Variety, an added filip to the week-to-week comprehensive coverage in Variety's Radio-TV section of an industry where the patterns and the thinking are in a constant state of flux. To keep pace with the trends, Variety today, as always, is "must" reading.

GEORGE ROSEN,
Radio-TV Editor.

BEFORE THE FEDERAL COMMUNICATIONS COMMISSION

Washington 25, D. C.

Docket No. 9808

In the matter of amendment of sections 3,191, 3,291, 3,591, 3,655, and 3,790 of the Commission's rules and regulations¹

REPORT AND ORDER

By the Commission: Commissioners Hyde and Jones not participating.

This proceeding was instituted on October 5, 1950, by the adoption of a Notice of Proposed Rule Making, released October 6, 1950, which proposed the amend-

¹ Sec. 3.655 was formerly sec. 3.691. The number was changed by the Sixth Report and Order in Docket No. 8736 et al.

ment of sections 3.191, 3.291, 3.591, 3.655, and 3.790 of the Commission's Rules and Regulations to clarify these rules with respect to the meaning of the term "originating station" in section 325 (a) of the Communications Act of 1934, to resolve any possible conflict between section 325 (a) of the Communications Act of 1934 and the Commission's rules against exclusivity, and to clarify the Commission's rules with respect to the necessity for securing the consent of foreign broadcast stations under section 325 (a).

Section 325 (a) provides in pertinent part:

"* * * nor shall any broadcasting station rebroadcast the program or any part thereof of another broadcasting station without the express authority of the originating station."

This proceeding arose out of a controversy between television stations WJIM-TV, Lansing, Mich., and WWJ-TV, Detroit, Mich., the facts of which were set forth in the Notice of Proposed Rule Making, and need not be repeated here. Comments on the proposed amendment and clarification of the rules have been received from Hon. Harry R. Sheppard, Member of Congress;² television station WWJ-TV; the National Broadcasting Co., Inc.; the then National Association of Broadcasters (now the National Association of Radio and Television Broadcasters); and Gordon P. Brown, general manager of radio station WSAY, Rochester, N. Y. Gordon Brown, Hon. Harry R. Sheppard and American Broadcasting Co., Inc., also filed answers to the filed comments. Each of these expressions of views has been carefully considered, as well as the petition for declaratory ruling filed by WJIM-TV.

To decide the questions before us most expeditiously, we will say first that we do not believe section 325 (a) requires the consent of the originating station before the rebroadcast of the program of a foreign broadcast station. All who commented on this phase of the proceeding expressed the view that the extension of such protection would be desirable if on a mutual basis. A careful inspection of the relevant legislative history fails to provide any indication that Congress, in adopting section 325 (a), intended to afford protection to foreign radio stations or gave any consideration to this question. In the absence of a treaty or other international agreement providing that consent shall be secured before the rebroadcast of the program of a foreign station, and in the absence of any indication that it was the intent of Congress to protect non-United States stations, we believe that section 325 (a) must be interpreted as requiring consent only when the program of a broadcast station subject to the provisions of the Communications Act of 1934 is to be rebroadcast.

With the question thus limited, the problem remains with respect to the intent of section 325 (a) when one station wishes to pick up and rebroadcast the signal of another station which has in turn received the program from a third station and broadcast it as part of a network presentation. Section 325 (a) refers to "the originating station." The comments which have been filed in this proceeding construe that term in several different ways. One view is that the originating station, whose consent must be secured, means only the station whose signal is picked up and rebroadcast. Another interpretation is that section 325 (a) requires the consent only of the network station through the facilities of which the program is produced and first disseminated. A third view is that while consent must be had from the station whose signal is picked up consent must also be secured from the network station supplying the program, in the case of a network broadcast. And, finally, it has been urged that section 325 (a) was intended to require the consent of the person, sponsor, station, or other party who bore the principal expense for preparing and producing the program. The theory of this latter view is that a program produced predominantly at the expense of a sponsor or advertising agency is not the property of the station whose facilities are used to transmit the program.

These views, as somewhat broadly restated above, present all of the possible interpretations of the statute. However, the suggestion that section 325 (a) be so interpreted as to require the consent only of the party who contributes the major share of the expense of producing the program, however appealing it might be as a matter of policy, requires, we believe not an interpretation of section 325 (a), but a revision of it. The statute refers only, and specifically, to broadcast stations. Its revision, if desirable as a matter of policy, must be left to the Congress.

² Congressman Sheppard also filed an "Introduction of New Evidence," for which a petition for rate acceptance was filed, and which has been considered.

We think section 325 (a) should be interpreted as providing that no program may be rebroadcast without the consent of the station whose radio signals are received, and transmitted either simultaneously or at a later time.³ We base this opinion primarily upon the fact that the legislative history of the section, insofar as it is helpful here, indicates that Congress, while obviously not facing the problems which the subsequent rapid development of network broadcasting has created, intended the words "originating station" to be applicable solely to the station whose signal was received and rebroadcast. Section 325 (a) of the Communications Act of 1934 is identical with section 28 of the Radio Act of 1927 (44 Stat. 1172), where the prohibition against rebroadcasting first appeared as law. Prior to the adoption of section 28, the Fourth National Radio Conference which met in Washington in 1925, adopted the resolves of its committees on operating regulations and legislation that rebroadcasting of programs should be prohibited "except with the permission of the originating station." (See hearings on S. 1 and S. 1754 before the Senate Committee on Interstate Commerce, 69th Cong., 1st sess., pp. 71 and 85,⁴) S. 1754, a predecessor bill to the Radio Act of 1927, which was introduced by Senator Dill, 69th Congress, 1st session, contained a section 13, which provided:

"No station licensed under this act shall have the right to rebroadcast any radio energy or radio communications or signals transmitted by another station except by permission of the station from which the radio energy, communications, or signals were originally broadcast or transmitted."

The Solicitor of the Department of Commerce testifying on S. 1754, stated that the section adopted a new principle and was "directed to the practice that has commenced to grow up by which one station simply picks out of the air the program of another station and rebroadcasts it. That is entirely a question of policy. It is one that in no way affects [sic] the Department. It is, in other words, a recognition of the right of the originating station to control its programs after it has been thrown onto the air." (Hearings on S. 1754, supra, p. 120. H. R. 5589, 69th Cong., 1st sess., also contained a provision (sec. 15) in the terms of the present section 325 (a).)

On the floor of the Senate, Senator Dill stated with respect to section 28 of H. R. 9971, the bill which was enacted as the Radio Act of 1927:

"Mr. President, I may say to the Senator that the bill does not in any way define the terms 'broadcasting' and 'rebroadcasting' because they are terms which have grown up in the use of radio which are generally understood.

"As to section 28, providing that no person, firm, or corporation shall rebroadcast the material broadcast by a station without that station's consent, it is, I think, a very necessary provision. *Otherwise, we would have a broadcasting station spending a large amount of money to prepare and present a program as a program from that station, and then under the modern methods of rebroadcasting, it could be picked up and broadcast from other stations, and particularly over the wired wireless, and money charged for listening to it. The provision referred to does not prevent rebroadcasting, but it does require those who would rebroadcast to get permission from the original broadcaster.* I do not think the construction placed upon the section by the gentlemen who sent the telegram is justified. Of course, he cannot rebroadcast it, but rebroadcasting is not publishing. It has a generally understood meaning, namely, the reproduction by radio of the broadcasting waves." (68 Congressional Record 2880.) [Emphasis supplied.]

It thus appears from the foregoing that Congress intended section 28 to require the consent of the station whose signal is received and retransmitted. It appears that the purpose of the provision was to protect the rights of those having property rights in programs. At the time Congress acted upon the matter the beneficiary of his protection was normally the station whose broadcast signal was involved. But today the station whose signal is rebroadcast frequently does not own the property rights in the program. Indeed, none of the stations in a network may own the property rights in the program. Since section 325

³ See *In the Matter of A. E. Newton* (2 F. C. C. 281), which is in accord with this interpretation.

⁴ The Committee on Operating Regulations reported in part as follows:

"The term 'rebroadcasting' was considered as referring to the interception by a broadcasting station of the program transmitted by another station and rebroadcasting the program transmitted from the originating station. It was pointed out that the program feature will ultimately become the most expensive part of a broadcasting station, and that it would be unjust for any station to intercept and rebroadcast programs from originating stations without permission."

(a) does not purport to alter or define the property rights in program material. In some cases the consent given under the section may be of little value as authority for the rebroadcast of a program because of the station's lack of right to give consent to a third party for the use of someone else's property. To the extent that section 325 (a) may no longer accurately reflect present conditions or effectively carry out the original intent of Congress, the amendment of the section, or its repeal insofar as it pertains to rebroadcasts, is a matter requiring legislative action.

The Commission's notice of proposed rulemaking in this proceeding also raised the question of whether section 325 (a) endows network affiliates with power to prevent the rebroadcast of any network program in a substantially different area from that served by the affiliate. In this connection, the notice of proposed rulemaking suggested that the Commission's rules relating to rebroadcasting might be amended to alleviate any possible conflict between any such grant of power and the policy enunciated in sections 3.102, 3.232, and 3.632 of the Commission's rules and regulations directed against arrangements for territorial exclusivity, by requiring stations to file a written statement explaining the reasons for a refusal of permission to rebroadcast a program. Where such refusal did not appear to be reasonably related to protecting property interests and other interests which section 325 (a) is intended to protect, the matter would be considered in relation to the qualifications of the station. None of the comments received was directed to this particular proposal for written statements. However, it has been suggested that the Commission's chain-broadcasting regulations could not operate to require a station to permit the rebroadcast of its signal even by a station serving a substantially different area since the station has an independent property right in its broadcast signal which it is entitled to protect.

We have stated our belief that section 325 (a) requires the consent of the station whose signal is rebroadcast, even in those cases where property rights in the program material may rest elsewhere. We do not know what the intention of Congress would be today with respect to requiring consent where only such rights as may exist in a station's signal are concerned. But, even if there be the claimed property right in a broadcast signal, or if Congress would today wish to afford protection to the signal alone, it does not follow that section 325 sanctions arbitrary refusals of consent for rebroadcasts on the part of network affiliates or other stations who may have the power or authority to give such consent. In our opinion, a station's operation must be in the public interest in respect of its exercise of the power conferred by section 325 (a) as in other respects, and such powers cannot and were not intended to be used for the monopolistic purposes which the chain-broadcasting rules were intended to prevent. A refusal either by a network affiliate, or a nonnetwork station, to permit a rebroadcast where based upon no reasons at all, or upon unreasonable grounds, may well constitute conduct going to the qualifications of a licensee to operate in the public interest. So that we may be better able to inquire into such instances, we have determined to adopt the rule requiring an explanatory statement for each refusal of consent to rebroadcast.

Since the Commission's rules as presently constituted are consistent with the interpretation of section 325 (a) herein set forth, no other amendment of the rules is being adopted.

Accordingly, pursuant to the authority contained in sections 4 (i), 303 (i), 303 (r) and 325 of the Communications Act of 1934, as amended, sections 3.191, 3.291, 3.591, 3.655 and 3.790 of the Commission's rules and regulations are amended, effective July 1, 1952, by adding thereto as subsections 3.191 (f), 3.291 (e), 3.591 (d), 3.655 (d), and 3.790 (d), respectively, the following:

"Any station which refuses authority for the rebroadcast of a program broadcast by it, or any part thereof, shall file with the Commission within 10 days of such refusal a statement containing the following information: The station requesting authority for the rebroadcast; the date of the request; the program or programs, or parts thereof, for which authority to rebroadcast was requested; the date of refusal; the reason, or reasons, for denial of the request. A copy of the statement filed with the Commission shall also be sent to the station whose request has been denied."

FEDERAL COMMUNICATIONS COMMISSION,
T. J. SLONIE, *Secretary*.

Adopted May 14, 1952.
Released May 15, 1952.

BEFORE THE FEDERAL COMMUNICATIONS COMMISSION

Washington 25, D. C.

Docket No. 9808

In the matter of amendment of sections 3.191, 3.291, 3.591, 3.655, and 3.790 of the Commission's rules and regulations

MEMORANDUM OPINION AND ORDER

By the Commission: (Commissioner Hyde concurring in part and issuing a statement)

1. On May 14, 1952, the Commission adopted a report and order in the above-entitled proceeding (17 F. R. 4711) in which it set forth its interpretation of section 325 (a) of the Communications Act of 1934, as amended, with respect to certain matters, and also adopted a new amendment to its rules and regulations.

2. Section 325 (a) provides in pertinent part: " * * * nor shall any broadcasting station rebroadcast the program or any part thereof of another broadcasting station without the express authority of the originating station."

3. As stated in the notice of proposed rulemaking issued herein on October 5, 1950, this proceeding arose out of a controversy between two television stations concerning the meaning of the term "originating station" in section 325 (a), which raised questions of general interest which the Commission believed should be the subject of rulemaking. According, it was proposed to amend sections 3.191, 3.291, 3.591, 3.655, and 3.790 of the Commission's rules and regulations to clarify these rules with respect to the meaning of the term "originating station" in section 325 (a) of the Communications Act; to resolve any possible conflict between section 325 (a) and the Commission's rules against exclusivity, and to clarify the Commission's rules with respect to the necessity for securing the consent of foreign broadcast stations under section 325 (a).

4. In its report and order of May 14, 1952, the Commission, after considering the comments filed in response to the notice of October 5, 1950, set forth its interpretation of section 325 (a) in respect of the following matters:

(1) In the absence of an applicable treaty, the statute does not require the consent of the originating station before the rebroadcast of the program of a foreign broadcast station.

(2) The "originating station" is the station whose signal is received and transmitted, either simultaneously or at a later time.

(3) The statute does not confer upon the originating station an arbitrary right to refuse consent for a rebroadcast, without regard to the nature of the interests sought to be protected by a refusal and its effect upon the public interest. In addition to these interpretations of section 325 (a), an amendment of the rules was adopted providing for a report to the Commission in each instance of a refusal to grant permission for a rebroadcast.

5. Upon petitions seeking such relief, the Commission has twice postponed the effective date of the amendment to the rules for successive periods to, and including, October 31, 1952.

6. Petitions have also been received from Columbia Broadcasting System, Inc., National Broadcasting Co., Inc., National Association of Radio & Television Broadcasters, and on behalf of stations KLOK, WKLO, KXRO, KLO, KING, KPQ, KPHO, WHEN, and WOW, seeking reconsideration of the report and order of May 14, 1952, and the amendments to the rules adopted on that date. These petitions have been opposed by Hon. Harry R. Sheppard, and by Gordon P. Brown of radio station WSAY, Rochester, New York.¹

7. The petitions for reconsideration do not seek reconsideration of the Commission's determinations with respect to the need for consent from a foreign

¹ The petition filed on October 9, 1952, on behalf of radio stations KLOK, WKLO, KXRO, KLO KING, KPQ, KPHO, WHEN, and WOW has been considered only as it was directed to the amendments to the rules. It was not timely filed with respect to the interpretive aspects of the report and order (Communications Act of 1934, sec. 405). Gordon Brown's petition in opposition, filed on October 23, 1952, was also filed too late for consideration as an opposition thereto since it was filed more than 10 days subsequent to the filing of the petition it opposed (sec. 1.730 of the rules and regulations). Gordon Brown's request, made in the same petition, that the Commission investigate an alleged conspiracy to restrain rebroadcasting, based upon an alleged unity of action in opposing the Commission's report and order herein, will be denied, since it is unsupported by facts sufficient to warrant an investigation.

station or the meaning of the term "originating station." They do challenge the reporting requirement and the interpretation of the report and order with respect to the absolute right of a station to refuse consent for a rebroadcast.

8. The Commission finds, upon reconsideration, that the amendments to its rules requiring a report in each instance of a denial of consent for a rebroadcast are unnecessary. No facts have been presented to the Commission by those opposing the requirement concerning the probable extent of any possible burden which the reporting requirement might involve. Indeed, the reporting rule as finally adopted on May 14, 1952, was in almost the identical language as that proposed in the notice of proposed rule making which has been adopted on October 5, 1950. Yet none of the instant petitioners or any other persons who filed comments addressed to the proposed rule raised any question concerning the burdens which are now alleged.²

9. Nevertheless, we find that many situations may be resented in the day-to-day operation of stations which raise difficult but bona fide questions as to the applicability of our rule. Thus, a station may frequently have difficulty in deciding whether particular types of inquiries are requests for rebroadcast privileges, or whether responses to such inquiries setting forth conditions for granting rebroadcast consent constitute "refusals." A station may thus act at its peril in failing to file a report which under a different interpretation of the circumstances involved might be deemed by the Commission to have been required under the rule. Moreover, an undeterminable number of requests to rebroadcast may involve situations which would not be thought to warrant a complaint or where a refusal would not be improper. We now recognize that these factors make it undesirable to deal with the problem by the rule adopted. Instead, the same purposes may be achieved by leaving it to the Commission to request explanatory statements from licensees in situations in which complaint is made by another licensee of an alleged refusal to permit a rebroadcast. The procedure in connection with such complaints would thus be similar to that followed in the case of other complaints. The amendments to the Commission's rules and regulations adopted on May 14, 1952, will therefore be deleted.

10. The petitions for reconsideration also argue, in substance, that section 325(a) gives an absolute right of refusal, and that the Commission is legislating, contrary to the intent of the statute, when it declares that the right to refuse consent for a rebroadcast is not absolute. It is said that a refusal to grant consent cannot be made a revolant consideration in determining whether a station has operated in the public interest. The oppositions to the petitions for reconsideration support the Commission's previous interpretation of the statute. They also argue that the use of section 325(a) to prevent a station from carrying a sponsor's program by means of a rebroadcast when the sponsor desires to have that station carry the program, involves a restraint of trade, and that rebroadcasts are valuable both to sponsors, independent stations, and the public.

11. In the Report and Order of May 14, 1952 we set forth our interpretation of the meaning and purpose of section 325(a). We have carefully considered the comments received since the adoption of that report and order. They do not persuade us, however, that section 325(a) of the Communications Act was intended as a lonely exception to the general principle that every broadcasting station is licensed to serve the public interest and that every station is account-

² Sec. 4 (a) of the Administrative Procedure Act requires "either the terms or substance of the proposed rule or a description of the subjects and issues involved." The Commission's notice of proposed rulemaking, although directed chiefly to the problem of exclusivity, specifically stated: "Such an amendment [to the rules] might require that an originating station which refuses permission to rebroadcast a program file with the Commission and with the station requesting such permission a written statement describing the grounds and reasons for the refusal; * * * In view of the importance of the subject matter it is desired that interested persons be afforded an opportunity to present their views in the matter before the Commission issues final amendments to the above sections of the Commission's rules. To accomplish that purpose the instant rulemaking proceedings are being instituted." The comments received by the Commission in the petitions for reconsideration which were directed to the reporting requirement should have been filed in response to the notice of proposed rulemaking. The burdens now claimed to result from the rule should have been as apparent to the petitioners when the rule was proposed as after it was adopted. Conceding that the final rule may have had a wider application than the proposal, its substance was exactly the same. It destroys the whole purpose of the Administrative Procedure Act requirement of notice to ignore a proposal because it is a "suggestion" when that very purpose is to provide an opportunity to comment on proposed rules, which, by statutory requirement, can only be suggestions. There is no magic terminology in proposing a new rule so long as the purpose is clear. It was abundantly clear here. This problem is mentioned here because a great deal of effort and misunderstanding might have been avoided if the opportunity to comment on the proposed rule had been properly availed of by those who now comment adversely upon it.

able for such of its actions as affect that interest and the wider and more efficient use of the channels of interstate communications. We cannot, therefore, accept an interpretation of section 325 (a) which reads into that section the creation of an absolute right unqualified in any respect by the duties and responsibilities of stations under other sections of the act.

12. However, lest there be any misunderstanding, we wish to make clear that we have not said, and we are not saying, that legitimate property rights, recognized by law, may be freely appreciated by others through the mere device of demanding rebroadcast privileges. Moreover, we have not implied, nor are we implying, that many if not most, cases in which request to rebroadcast a station's program is denied may not be justified under the circumstances there presented. It is clear, however, that a licensee may abuse its right to refuse rebroadcast privileges, just as it may abuse other rights. The principle involved is not novel. Thus, a broadcast station has a right to decide who shall use its facilities and for what type of program, but not the right to act arbitrarily in this respect without due regard to the public-interest in a well-rounded program service. See, *In the Matter of Editorializing by Broadcast Licensees*, 1 (pt. 2) Pike & Fischer, R. R. p. 91:201.) So too, even the holder of a copyright or patent cannot use it to unreasonably deter competition. (See, e. g.,

13. We do not attempt here to define the scope and attributes of property interests in broadcast material which may legitimately be entitled to protection, *Interstate Circuit v. United States*, 306 U. S. 208, at 230.)

or the effect of the antitrust laws in this field. Nor do we seek to specify here the situations where such refusal is justified or where it is unjustified. Such determinations will obviously depend upon the facts of particular cases and upon an evaluation of such factors as whether licensees of stations, through express or implied agreements or understandings, act in concert with each other or with other interests in refusing rebroadcast requests, whether requesting stations serve the same or a different area as the station whose program they wish to rebroadcast, whether the request is for permission to carry a simultaneous rebroadcast or to rebroadcast a program at some subsequent date, whether the requesting station has indicated a willingness to pay a reasonable share of the legitimate costs of the originating station, whether or not other persons having interests in the program have requested or agreed to the rebroadcast, and whether the program concerned has public service aspects that make its wide disseminating to the public clearly desirable.

14. Upon reconsideration, we believe, as above stated, that the reporting provisions which we adopted in our May 14, 1952, report are unnecessary and may be deleted. We believe that the interpretation of section 325(a) of the Communications Act therein announced is correct and should be affirmed.

15. Accordingly, IT IS ORDERED that the amendments to section 3.191, 3.291, 3.591, 3.655 and 3.790 of the Commission's rules and regulations adopted on May 14, 1952, ARE HEREBY DELETED AND RESCINDED and the report in this matter adopted on May 14, 1952, is, in all other respects, AFFIRMED, and

16. IT IS FURTHER ORDERED, That the petition filed on October 23, 1952, by Gordon Brown requesting an investigation of an alleged conspiracy is DENIED.

FEDERAL COMMUNICATIONS COMMISSION,¹
T. J. SLOWIE,¹ Secretary.

Adopted: October 29, 1952.
Released: October 30, 1952.

NOTE

A large portion of the factual data presented herein was prepared for the Federal Communications Commission in a complaint filed with this Commission by Radio Station WSAY against Radio Station WBBF in Rochester, N. Y. (formerly Radio Station WARC), which station still persists in preventing WSAY from rebroadcasting sponsors' programs to the thousands of Rochester listeners who were unable to hear the first broadcast of these sponsors' programs when it was broadcast only once in the area by WBBF, although these sponsors may desire to have their programs rebroadcast by WSAY.

WBBF persists in using section 325 (a) of the Communications Act to restrain rebroadcasting just contrary to the congressional intent of the act itself.

¹I favor the reconsideration and deletion of the rule previously announced and concur in the opinion insofar as it accomplishes that purpose.

700 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

In a recent decision by the FCC on May 21, 1954, the FCC states "the questions raised by petitioner with respect to rebroadcasting matters, and incorporated in the instant petitions by reference, presented only general allegations rather than specific facts concerning particular instances of refusal by a station to permit rebroadcasts of specific programs." Such a decision by the FCC makes it imperative that Congress immediately restate its intent, to control monopoly and trade restraint, as well as section 325 (a) of the act, by enacting a resolution similar to H. R. 10 which would so plainly word section 325 (a) so that the FCC could carry out the intent of this section of the act.

Pacific program Hooperatings

OCTOBER 1949

Program time	ABC	CBS	DLBS
4 p. m.	Rating 0.1.....	Jack Benny; Lucky Strike; rating, 14.3.	Sustainer offered (4-4:30). Scattergood Baines; rating, 4.5.
5 p. m.	Stop the Music; Old Gold; rating, 4.3. Stop the Music; Smith Bros.; rating, 3.7.	Charlie McCarthy; Coca Cola; rating, 11.0.	Sustainer offered (5-5:30). Mediation Board; rating, 1.2.
6 p. m.	Walter Winchell; Kaiser-Frazer; rating, 9.5. Louella Parsons; Jergens; rating, 6.8.	Corliss Archer; Electric Companies; rating, 5.4.	Rating, 2.2.
8:30 p. m.	Walter Winchell; Kaiser-Frazer; rating, 6.2. Sustainer offered (8:45-9). Etchings in Music; rating, 2.1.	Charlie McCarthy; Coca-Cola; rating, 10.3.	Walter Winchell; Kaiser-Frazer; rating, 5.9. Louella Parsons; rating, 3.7.
9:30 p. m.	Sustainer offered (9:30-10). Claremont Hotel Orchestra; rating, 3.2.	Jack Benny; Lucky Strike; rating, 17.3.	Sustainer offered (9:30-10). Chicago Theater of the Air; rating, 1.2.

NOVEMBER 1949

4 p. m.	This Thing Called Life; Institute of Religious Science; rating, 0.5.	Jack Benny; Lucky Strike; rating, 17.3.	Rating 2.1.
5 p. m.	Stop the Music; Old Gold; rating, 3.7. Stop the Music; Smith Brothers; rating, 7.4.	Charlie McCarthy; Coca-Cola; rating, 15.5.	Sustainer offered (5-5:30). Mediation Board; rating, 1.3.
6 p. m.	Walter Winchell; Kaiser-Frazer; rating, 14.6. Louella Parsons; Jergens; rating, 10.5.	Corliss Archer; electric companies; rating, 7.6.	Sustainer offered (6-6:30). Enchanted Hour; rating, 1.8.
8:30 p. m.	Walter Winchell; Kaiser-Frazer; rating, 5.4. Sustainer offered (8:45-9). Etchings in Music; rating, 1.9.	Charlie McCarthy; Coca-Cola; rating, 20.4.	Walter Winchell; Kaiser-Frazer; rating, 7.0. Louella Parsons; Jergens; rating, 5.7.
9:30 p. m.	Sustainer offered (9:30-10). Claremont Hotel Orchestra; rating, 5.0.	Jack Benny; Lucky Strike; rating, 17.6.	Sustainer offered (9:30-10). Chicago Theater of the Air; rating, 1.6.

DECEMBER 1949

4 p. m.	This Thing Called Life; Institute of Religious Science; rating, 0.8.	Jack Benny; Lucky Strike; rating, 15.7.	Sustainer offered (4-4:30). Mr. Feathers; rating, 2.5.
5 p. m.	Stop the Music; Old Gold; rating, 4.2. Stop the Music; Smith Bros.; rating, 6.2.	Charlie McCarthy; Coca-Cola; rating, 15.5.	Sustainer offered (5-5:30). Mediation Board, rating, 2.3.
6 p. m.	Walter Winchell; Kaiser-Frazer; rating, 17.0. Louella Parsons; Jergens; rating, 11.7.	Corliss Archer; Electric companies; rating, 8.7.	Rating, 1.0.
8:30 p. m.	Walter Winchell; Kaiser-Frazer; rating, 4.7. Sustainer offered (8:45-9). Etching In Music; rating, 2.2.	Charlie McCarthy; Coca-Cola; rating, 19.4.	Walter Winchell; Kaiser-Frazer; rating, 7.0. Louella Parsons; Jergens; rating, 5.1.
9:30 p. m.	Sustainer offered (9:30-10). Claremont Hotel Orchestra; rating, 3.3.	Jack Benny; Lucky Strike; rating, 20.7.	Sustainer offered (9:30-10). Chicago Theater of the Air; rating, 2.9.

Source: Authority Hooper Pocket Piece.

Senator POTTER. We will now hear from Mr. Harold E. Fellows, president and chairman of the board, National Association of Radio and Television Broadcasters.

STATEMENT OF HAROLD E. FELLOWS, PRESIDENT AND CHAIRMAN OF THE BOARD, NATIONAL ASSOCIATION OF RADIO AND TELEVISION BROADCASTERS

Mr. FELLOWS. The proper response, Mr. Chairman, is that I am happy to be here.

My name is Harold E. Fellows. I am president and chairman of the board of the National Association of Radio and Television Broadcasters, which is located at 1771 N Street NW., Washington, D. C. I have been the chief executive officer of this association for the past 3 years.

The NARTB is, as its name indicates, a business association comprising in its acting and voting membership radio and television stations, radio and television networks, and various nonvoting associate members who supply equipment, programs, and other services to the industry. Our association was organized 31 years ago and, until the advent of television, dealt exclusively with radio broadcasting matters. Three years ago the board of directors established television memberships, and since that time the association has been known as the NARTB (National Association of Radio and Television Broadcasters).

Its television activities, however, preceded by many years the formalization of television membership. In the beginning the major activities centered around engineering and technical phases. Today the association offers the industry comprehensive services relating to both radio and television. Under its auspices, conferences, panels, and study groups have been convened to give special attention to the current needs of television broadcasters, both UHF and VHF.

The active association membership presently is made up of 1,133 AM radio stations, 330 FM radio stations, 260 television stations, 2 nationwide radio networks, and 4 nationwide television networks.

The association has, in effect, three separate boards of directors. There is the radio board, which consists of directors representing radio members, the television board, representing television members, and the overall joint board, consisting of the members of both the radio and the television boards.

The objective of the association, as stated in its bylaws, is to "foster and promote development of the arts of aural and visual broadcast in all of its forms; to protect its members in every lawful and proper manner from injustices and unjust exactions; to do all things necessary and proper to encourage and promote customs and practices which will strengthen and maintain the broadcasting industry to the end that it may best serve the public."

I am here by direction of the television board of the association to offer to your committee a brief, factual report of the historical developments of the broadcasting industry in this country. Our television board feels that the hearing record would be incomplete without such a background presentation from our association. This testimony is offered in the spirit of the purpose for which the association was founded and is intended to contribute not alone to the welfare of the television industry but, more importantly, to the requirements of the American people for television service.

The NARTB is dealing constantly with the various complex problems of broadcasting in the interest of the association's membership. Most of the facts that I will give you have been compiled from source material by the research and engineering departments of the association. Many of the statistics which I shall cite are derived from prepared tables attached as appendixes to my presentation. In the interest of brevity, Mr. Chairman, I will not read these, but I commend them to the attention of the committee members, and respectfully request that they be copied into the record as a part of my testimony.

Senator POTTER. Without objection they will be made a part of the record.

(The statistics are as follows:)

TABLE I.—*Total AM station authorizations, 1934 through 1953, inclusive (as of dates shown)*

Year:	Number of authorizations	Year—Continued	Number of authorizations
Jan. 1, 1934-----	591	July 20, 1945-----	956
Jan. 1, 1935-----	605	Jan. 1, 1946-----	1, 004
Jan. 1, 1936-----	632	Jan. 1, 1947-----	1, 520
Jan. 1, 1937-----	685	Jan. 1, 1948-----	1, 762
Jan. 1, 1938-----	721	Jan. 1, 1949-----	2, 127
Jan. 1, 1939-----	764	Jan. 1, 1950-----	2, 234
Jan. 1, 1940-----	814	Jan. 1, 1951-----	2, 351
June 30, 1941-----	897	Jan. 1, 1952-----	2, 408
June 30, 1942-----	925	Jan. 1, 1953-----	2, 524
June 30, 1943-----	912	Jan. 1, 1954-----	2, 636
June 30, 1944-----	924	June 1, 1954-----	2, 686

Source: Broadcasting Yearbook-Marketbook, 1954 (from FCC records).

TABLE II.—Radio net time sales, 1935-53—class of business
[From broadcasting magazine, 1954 Yearbook]

Year	National network	Percent change from previous year	Regional network	Percent change from previous year	National nonnetwork	Percent change from previous year	Local	Percent change from previous year	Total	Percent change from previous year
1935 ¹	\$39,737,867	341.4	(1)		\$13,805,200	67.4	\$26,074,476		\$79,617,543	48.1
1936 ²	56,192,396	41.7	\$2,854,047		23,117,136	21.6	35,745,394	37.1	117,908,973	(-6)
1937	56,612,925	7	(2)		28,109,185	21.6	32,657,349	(-8.7)	117,379,459	10.7
1938	62,621,689	10.6	(2)		30,030,563	6.8	37,315,774	14.2	129,968,026	20.5
1939	71,919,428	13.1	1,869,583		37,140,444	23.8	44,756,792	20.0	155,686,247	16.4
1940 ⁴	79,621,534	10.7	2,752,073		45,681,959	23.0	51,697,651	15.5	179,753,217	5.8
1941	81,744,396	2.7	3,444,581		51,056,159	11.8	53,898,916	4.2	190,147,052	20.0
1942	89,389,177	21.6	6,256,508		59,352,170	16.2	64,104,309	18.9	228,102,164	7.9
1943	89,389,177	0	7,612,366		73,312,899	23.5	84,960,347	29.3	287,642,747	11.4
1944	121,757,135	3.2	8,301,702		76,696,463	4.6	96,814,042	17.5	310,484,046	7.6
1945	125,671,834	3.2	8,043,381		82,917,505	8.1	116,380,301	16.6	334,078,914	12.0
1946	126,737,727	.8	7,012,889		91,581,241	10.4	147,778,814	27.0	374,086,686	2.1
1947	127,713,942	.8	7,012,889		104,759,761	14.4	170,908,165	15.6	416,720,279	11.4
1948	133,723,098	4.5	7,329,255		108,314,507	3.4	182,144,301	6.5	425,357,133	6.6
1949	128,973,467	-3.6	5,994,558		118,823,880	9.7	203,210,854	11.6	456,954,930	3.6
1950	124,633,089	-3.3	6,897,127		119,559,000	3.4	214,519,000	5.6	473,151,000	7.4
1951	113,984,000	-8.5	8,481,000		123,658,000	3.4	239,631,000	11.7	498,428,000	3.6
1952	102,528,000	-10.0	7,334,000		144,595,000	-3.8	257,254,000	7.4	498,428,000	3.6
1953 ³	89,528,000	-12.7	7,051,000							

¹ Nationwide and regional networks combined.

² Data not available.

³ Change from 1935.

⁴ Figures prior to this date not comparable in all categories.

⁵ 1953 figures estimated.

704 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

TABLE III.—Statistics, by year, from 1945 through 1954 covering FCC processing of television applications, licenses, construction permits, and showing number of stations on air and authorizations

	June 30									May 1, 1954
	1945	1946	1947	1948	1949	1950	1951	1952	1953	
Applications for new stations filed during year.....	0	7	13	353	88	28	72	337	655	97
Applications (pending).....	118	78	10	294	338	351	415	716	572	234
Licensed.....	6	6	6	7	13	47	81	96	101	101
Construction permit (on air).....	5	5	1	22	57	58	26	12	97	276
Construction permit (not on air).....	24	55	80	47	4	2	-----	285	193	193
CP's surrendered.....	0	3	2	7	8	0	1	5	64	64
Total on air.....	29	6	11	29	70	105	107	108	198	377
Total authorized.....	29	30	66	109	117	109	109	108	483	570

¹ Includes KM2XBD, Los Angeles, which began commercial operation May 6, 1948, under special authorization. Became KTSL under regular construction-permit Oct. 9, 1950. Now is KNXT.

² Includes 3 experimental stations rendering program service.

³ Plus 17 noncommercial educational television stations.

⁴ Plus 29 noncommercial educational television stations.

Source: FCC records.

TABLE IV.—Total television sets in use in the United States (estimates as of January 1)

1946.....	10,000	1951.....	10,549,000
1947.....	16,476	1952.....	15,577,000
1948.....	189,900	1953.....	21,234,000
1949.....	1,000,000	1954.....	27,000,000
1950.....	3,950,000	1954 ¹	30,000,000

¹ Estimate as of May 15; source, FCC.

Source: NBC research department.

TABLE V.—Average TV operational expense

Year	Number of stations ¹	Average expense per station	Ratio of expense to revenue
			Percent
1945.....	(2)	-----	-----
1946.....	(2)	-----	-----
1947.....	(2)	-----	-----
1948.....	40	\$310,000	314.5
1949.....	84	335,714	188.0
1950.....	93	533,333	98.4
1951.....	93	824,731	71.5
1952.....	93	1,049,462	68.1
1953.....	92	1,238,848	65.3

¹ Prefreeze stations reporting, excluding owned and operated.

² Not available.

Source: FCC records.

TABLE VI.—Average and/or median profit and loss, in dollars, and number of
 prefreeze TV stations showing profit or loss

Year	Profit stations		Loss stations	
	Number stations reporting ¹	Median income before Federal taxes	Number stations reporting ¹	Median loss
1945.....	(²)	.....	.....	.....
1946.....	(²)	.....	.....	.....
1947.....	(²)	.....	.....	.....
1948.....	.....	.....	40	\$212,500
1949.....	.....	.....	85	159,100
1950.....	53	\$129,200	53	88,300
1951.....	92	330,000	14	(³)
1952.....	94	450,000	14	(³)
1953.....	97	654,000	11	(³)

¹ Excluding network owned and operated stations in 1948 and 1949, all stations in other years.

² Not available.

³ This is average loss per station because FCC did not determine median that year.

⁴ Not computed by FCC because of small number of stations involved

Source: FCC data.

Mr. FELLOWS. At the present time nearly two-thirds of the families of this Nation own and use television sets. Extension of television service to more and more families and increased diversification in programs, are, I am sure, the mutual objectives of the industry, this committee, the FCC, and the public itself.

Here is the statement that was made on October 26, 1928:

The recent advances in radio television threaten to create serious problems.

That prophetic understatement was contained in the second annual report of the old Federal Radio Commission nearly 26 years ago.

The problems under consideration by this committee can be related to historic difficulties that have attended the phenomenal development of broadcasting in this country. The bewildering complications attendant to the development of television are not too dissimilar from situations which existed in radio—and a few references to the development of aural broadcast as a service to the American people are pertinent.

At the end of World War II in 1945—some 23 years after commercial radio was launched in this country—there were only 956 AM stations on the air. In passing, it is interesting to note that radio once had a type of freeze of its own, although it was not known exactly by that name.

During World War II, the FCC suspended the licensing of new radio stations as an emergency measure. With the ending of the Government's war restrictions, licensing of radio stations was resumed, and during the ensuing 9 years, the number of radio outlets nearly tripled. Today there are 2,686 AM radio stations. This is shown in tables I and III.

In television, the freeze ended in the spring of 1952 with 108 stations on the air. As of June 1—a brief 2 years later—there were 377 television stations on the air. This is shown in table III. Let us compare,

for a moment, the growth rate of television with that in radio. In a period of slightly more than 30 years radio has advanced to a place where it serves over 98 percent of the families in the country. In less than 9 years, television has developed with sufficient rapidity to serve 63 percent of the families of the Nation.

I believe it is fair to state that television's growth would not have been so rapid and remarkable had not most of the early telecasters who risked capital in this new visual enterprise been thoroughly experienced in the broadcast medium through long association with radio. Nor does this observation detract from the contribution that has been and is being made by manufacturers and others who invested in television as their first venture in the broadcast field.

Federal Communications Commission data show that in 1948, the year the freeze was initiated, when there were 4 television networks and 50 television stations on the air, all networks and all stations reported a loss for the year. These total losses were almost \$15 million. The Commission data segregates the network owned and operated station statistics from the rest of the industry. Ten of the fifty stations on the air in 1948 were network owned and operated. The remaining 40 television stations on the air were spending more than 3 times as much to operate as they were taking in—the average operating ratio of expenses to revenue being 314.5 percent. The average annual loss for these 40 stations during 1948, as evidenced by Federal Communications Commission data, was \$212,500. This is shown in tables V and VI.

During 1949 a total of 84 stations—not owned or operated by the networks—were in operation. These 84 stations reported that their average ratio of expenses to income was 188 percent—the average television station was still paying out in operating expenses nearly twice the amount being taken in. Although approximately half of the 93 stations were still losing money in 1950, the overall average operating ratio of all stations in this report was 98.4 percent—an average profit before taxes of 1.6 percent.

It is safe to say that these pioneers in television broadcasting—as do pioneers in most risk investments—took considerable losses in the early days of their ventures, finally overcoming these losses, many of them, through increased circulation, a better product, and a better control of operating costs.

If I understand properly, the major situation facing this committee in its current deliberations deals particularly with the question of circulation. The caliber of programing, of course, is vitally important—not only programing locally originated, but that obtained through the two other major sources of supply—networks and films.

With respect to films as a source of television programing, may I suggest that the committee thoroughly examine the present status and the potentialities for future developments in this area. They are, believe me, of great importance in all television broadcasting.

Nevertheless, I repeat, circulation would seem to be the key to the problem—and this is not without comparison to the development in radiobroadcasting. Radiobroadcasting revenues obtained through network affiliations have dropped sharply in the last 2 or 3 years. Despite this fact, for the past 15 years radio total industry revenue from time sales has increased every year as shown in table II, with the replacement dollar coming from the development of more local busi-

ness and so-called national spot business in which national advertisers buy locally on a selective system-by-station basis.

The intriguing development here is the relation of radio stations' growth to its audience growth. In the broadcasting business, many experts have been predicting for some years that radio had reached its maximum potential and that it was inevitable that many of the two thousand six hundred-odd stations would go out of business. This has not happened. As a matter of fact, in the year just past, the Federal Communications Commission granted licenses for about 100 new AM stations. Last year more radio receivers were sold than had been sold in 1952. Although it appears that this year's set sales will represent a decline over last year—not surprising, since similar declines are noted in other retail lines—there will still be sold more radio receivers than television receivers. It is apparent that the continuing and encouraging sale of radio receivers and the continuing and increasing revenues enjoyed by the radio business indicate the trend one electronics mass medium took after years of trial and error.

It is recognized that this historic growth of radio broadcasting cannot be compared in all respects to the future we can anticipate for television since television is a much more expensive medium to build and to operate. As a matter of fact, it requires about the same investment to put a small radio station on the air today as it does to buy a single television camera chain—just one unit of equipment. Although we are dealing in costs that are not comparable, we are also dealing with revenues that are not comparable. Some television stations take in as much in a month as many small radio stations do in a full year's operation. On the other hand, the annual operating expenses of a television station are many times those of a radio station.

Radio has reached the saturation point because of a demand on the part of the public. Such a demand certainly exists in television and if there is one objective which should be constantly before us, it is to satisfy this demand. As the members of this committee know, it has been historically true that competition begets business. In the light of this age-old philosophy, it follows that American telecasters want and welcome expansion to a full maturity—expansion accomplished as rapidly as possible in an orderly and logical fashion.

Now the National Association of Radio and Television Broadcasters is supported by all kinds of television broadcasters and thus can devote its efforts with single purpose to all kinds of television. The association recognizes, however, that in the final analysis there is only one kind of television; that which is seen. The public's interest becomes of moment at the point of reception, not at the point of transmission. I believe this to be a factor for all of us to keep in mind as we review briefly the historic development of the television industry in the United States.

Let us consider an average commercial television station in the United States. It was probably started by a radio broadcaster who applied for and received a license to operate a commercial television station. It became what is called a VHF station because at the time it went on the air the only portion of the spectrum allocated for regular commercial broadcasting, and for which equipment could be purchased, was the very high frequency band. This average station initially invested approximately \$540,000 to get on the air and it lost

money heavily for several years. As I have previously stated, this station lost \$212,500 in 1948, as shown in table VI.

In that year, the FCC imposed a freeze on new authorizations because it decided that there were not available a sufficient number of VHF channels to assure a nationwide, diversified service, and it wanted to make a new study of propagation characteristics. Nevertheless, in 1949, this average station lost \$159,000. Finally, in 1950, if it was among the fortunate, it just about broke even.

Then, by the end of 1951, 15 million families in the United States had invested billions of dollars in television receiving sets. They had done other interesting things. They had bought receiving antennas, soaring high over their housetops. They were sufficiently interested in this new medium to go out and reach for it if it could not reach them.

And, at about this time, when most of the original television broadcasters were beginning to earn a profit, the FCC announced that the freeze was over and there were available for application some 1,800 assignments: two-thirds of them in UHF and one-third of them in VHF, with certain reservations for noncommercial, educational stations.

Today there are television receivers in the homes of 63 percent of the families of America. It has reached this impressive stature after 8 years of operation. Radio, after more than 30 years, reaches listeners in 98 percent of the homes. But the story does not end there. Radio reaches most of its listeners with a choice of program sources, and the American people have come to expect a comparable opportunity of selection as between programs in television as well.

It is at this point that we face the real long-range issue of this hearing which is: what can be done by the industry, the people, and the Government to make possible a truly nationwide competitive television service, and this within the framework of our free-enterprise concept of broadcasting?

The National Association of Radio and Television Broadcasters has no simple answers to suggest to this distinguished committee of the Senate. Our own long and careful study of all of the factors involved has convinced us that there is no tailormade panacea to cure all of the present and anticipated ills.

On the other hand, we do believe there are certain important considerations which should be kept in focus as the problems are studied. These considerations are vital because they are the product of experience, of technical development, and of managerial skill in the operation of television. Let me set forth for you, if I may, several of these major considerations:

1. The first objective is to extend a satisfactory television picture across the length and breadth of the country so that as many of the people as possible can be served by television. The second objective—and we are into this stage in many parts of the Nation—is to extend a multiple choice of television programs to as many of the Nation's citizens as is economically and technically feasible.

2. From the evidence we have at hand, both from the Government's expert body—the FCC—and the experience of the industry, it will require both the VHF and UHF bands of the spectrum in order to provide desirable flexibility in matching television service with the varying locations and situations of the people.

3. As we know them today, the economic facts of life pertaining to television impose certain limitations on the ability of relatively small cities, and thinly populated areas to sustain a television operation with the same degree of local service to which we have become accustomed in radio.

4. It is axiomatic that where both UHF and VHF television signals are utilized for transmission of programs to common areas, some means short of direct Government intervention must be found to encourage the manufacture and sale of all-channel television receivers to those listeners. In addition, ways and means must be found to make it more attractive and feasible for present VHF-only television owners residing in UHF-VHF-served areas to convert to all-channel receiving sets.

5. The earlier disparities separating and distinguishing VHF and UHF transmitting equipment are being equalized through technical development.

6. Repeating the pattern traceable in the case of radio, there are already hopeful signs in television pointing to the development and practical utilization of additional television program sources to meet the critical requirements of television stations which cannot obtain, or do not choose to have, national network affiliation. Notable in this category are rapidly expanding competitive film library services, and the projected use of video tape.

It was announced 2 weeks ago that I would make this appearance before your committee. I have had many telephone calls and letters from both UHF and VHF television broadcasters. Some of them urging the appearance; some of them suggesting that I should not appear, but the board of directors of the association determined that no good purpose would be served by an attitude on the part of the association that this was a contest between its members and between those television broadcasters operating in all frequencies who are not members of the association.

Earlier in my statement, I used the term "pioneer" in referring to those who put the first television stations on the air in this country. The truth of the matter is that this industry even now is still in its pioneering stages of development—as witness the present difficult problems confronting many UHF licensees and some VHF licensees as well. We are also in a somewhat animated state of suspension with the promise of new technical developments in the future such as the rapid advance of color television which is now being made.

One thing should be kept clearly in mind as we face these trying problems. In no sense are they an indictment of the development of television in this country. We must not lose sight of the fact that when television broadcast service was made available to the American people, the very high frequency band was the only technically proven space in the spectrum then available for television transmission. At that time, as indicated in the experimental designation applied to the ultra high frequency band, the practical use of this space in the spectrum was largely conjectural.

There should be no recriminations nor post mortem regrets about the tremendous clamor on the part of the people for prompt and effective television service when it became technically feasible. In fairness it seems unrealistic to derogate the actions of the Federal Communications Commission in proceeding as it did with its allocations

first in the very high frequency band, and then, as facts became known and service potentials available and evident, to add the ultra high frequency band with its promise of truly diversified program choices to the public.

Our responsibilities to the people now indicate that we should combine our voluntary contributions of know-how and planning to resolve the two really outstanding problems before us, namely, securing more adequate and attractive program service for all television stations to garner larger listening audiences, and seeking to reach the optimum of all-channel television receivers in the hands of the public.

This association will be pleased to join with all interested parties representative of the people, the industry, and the Government in conferences looking toward united voluntary action to the end that something of real value can be done to extend competitive television service, and to meet the genuine plight of television broadcasters who face near-impossible odds in their struggle to survive this transitional period.

I wish to thank the members of this committee for your courtesy in affording me this opportunity to appear and present this statement. If the association can be of any further assistance to you in your deliberations we will be pleased to respond in every way possible.

Senator POTTER. Thank you. It is a good statement. Do you have any questions, Senator Bowring?

Senator BOWRING. No questions.

Senator POTTER. The committee will be in recess until 9:30 tomorrow morning.

(Whereupon, at 4:52 p. m., the committee took a recess until tomorrow, Thursday, June 17, 1954, at 9:30 a. m.)

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

THURSDAY, JUNE 17, 1954

UNITED STATES SENATE,
SUBCOMMITTEE NO. 2 ON COMMUNICATIONS OF THE
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D. C.

The subcommittee met at 9:40 a. m., pursuant to recess, in room G-16 of the Capitol, Senator Charles E. Potter (chairman of the subcommittee) presiding.

Present: Senators Potter, Schoeppel, Bowring, and Hunt.

Also present: Bertram O. Wissman, chief clerk, and Nick Zapple, counsel for the subcommittee.

Senator POTTER. The subcommittee will come to order.

The first witness today, I am happy to announce, is Dr. Hunter from one of our leading institutions of Michigan. Dr. Hunter of Michigan State.

I wish to welcome you to our committee and we are looking forward to your statement. I know of the great work you have done at Michigan State and your efforts to promote an educational television facility there. I have discussed the matter with your great president, Dr. Hanna, and I wish to compliment you for your great interest in this field.

STATEMENT OF DR. ARMAND L. HUNTER, PROFESSOR AND DIRECTOR OF TELEVISION DEVELOPMENT, MICHIGAN STATE COLLEGE

Dr. HUNTER. Thank you very much, Senator.

My name is Armand L. Hunter. I am professor and director of television development at Michigan State College. Michigan State College is the Nation's oldest agricultural college, the model for the entire land-grant college system, the largest separate land-grant college in the country, and the ninth largest institution of higher education in the United States. It has an enrollment of over 14,000 students on campus annually, and a total faculty, including teaching, research and extension, above 2,000. The college consists of nine separate schools: Agriculture, Education, Home Economics, Engineering, Veterinary Medicine, Science and Arts, Business and Public Service, Graduate studies and the Basic College. Through the Agricultural Cooperative Extension Services and the Continuing Education Service, an additional 300,000 Michigan residents are given assistance and training each year by the college, both on the campus and throughout the State of Michigan.

Senator POTTER. You also have a very good football team.

Dr. HUNTER. Yes, sir, and a fairly good football team, that is correct, sir.

Michigan State College is proud of its heritage, and of its successful fulfillment of its constitutional obligation to teach such branches of learning as are related to agriculture and the mechanic arts in order "to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life."

All this is pertinent to the matter at issue because it explains why Michigan State College has operated an educational radio station for 30 years, and why it has established and put into operation an educational television station. These media of communication and education are, in the opinion of the college, necessary and essential to the effective realization of its traditional mission to serve all of the people throughout the State of Michigan.

In order to make clear that the college considers television as an extremely important and significant medium for the extension of its educational services, research and activities, I would like to state the nature, conditions, and status of the college television station. The sixth report and order of the Federal Communications Commission allocated UHF channel 60 to East Lansing. The college applied for and received a construction permit for this channel, and went on the air January 15, 1954, under a special temporary authority with a visual e. r. p. of 243 kilowatt and an aural e. r. p. of 125 kilowatt. The total capital investment of the college in the station was over \$500,000; and its annual operating budget is in excess of \$350,000. The physical plant consists of a 1,000-foot tower topped with a 34 foot, 25 gain, General Electric antenna, a 12 kilowatt General Electric transmitter, and a studio and station installation which consists of: Three separate production studios with separate control rooms, a master control room, film and projection facilities, kinescope recorder, a complete mobile unit for the origination of remotes and special events, a microwave relay unit for transmission from the point of origin of the remote, and a studio transmitter link from the studios on campus to the transmitter tower and building in Okemos.

Also included are the necessary administrative offices, scenery and set construction facilities, laboratories and maintenance workshops, and such functional operational space as is required by the film department, news and special events, music and continuity, and dressing rooms. The total station staff consists of over 40 full-time people working directly in connection with the station's broadcasting activities, and six producer coordinators and instructors working with the television courses of study and the development of programs from the teaching, research, and service departments and divisions of the college.

The college also offers courses of training and instruction in radio and television, leading to the bachelor of arts and master of arts degrees. Over 125 students are registered each quarter in these courses; and the station's studios and facilities are used as laboratories for the student training. In turn, the students are given practical experience and an opportunity to work in the regular broadcast programs of the college station.

The program service originating on that opening January 15 date was set at 6 hours a day, 7 days a week, for an average of 42 hours, of

which 80 percent was local live programming and only 20 percent film of kinescope recording. This average has been held consistently throughout these first 6 months of operation. This is more local live programming per day and week than that produced by any local television station with the possible exception of the network owned and operated stations in such metropolitan centers as New York, Chicago, and Hollywood.

This was made possible by a period of 2½ years of closed circuit operation in which programs were developed, the staff trained, and experience obtained in the conditions and requirements of a daily broadcast service. Also, during this "dry run," over 700 programs were produced and recorded on kinescope for evaluation, research, and distribution to local commercial stations which were on the air in the State of Michigan.

The structure of the program service which is now being broadcast by the college consists of the following:

1. Informational and demonstration service programs in the areas of agriculture, home economics and engineering;
2. Systematic and adult education programs and courses of study in the areas of literature, the fine arts, political science and economics, business and public service, the natural sciences, and driver education and traffic safety;
3. Cultural and vocational programs in the areas of music, the fine arts, drama and the dance;
4. Entertainment programs in the areas of baseball, hockey, boxing, wrestling, basketball, and other intercollegiate sports and student activities.

I think you understand, too, that we would like to have the football games on too, but that isn't possible.

Senator POTTER. A lot of people would like to see it, too.

Dr. HUNTER. 5. Special events such as the coverage of the hearings of the subcommittee of the House Committee on Un-American Activities held in Lansing under the chairmanship of Congressman Clardy, the college commencement exercises, the College Band recital, and the International Student Festival.

In addition, the station has produced programs for the State legislature, the office of the Governor, the conservation department, the chamber of commerce, the Lansing and East Lansing public schools, the Girl Scouts, the State office of public instruction, the Michigan Health Council, the community hospital drive, and the Michigan State Police.

These programs were either broadcast as a series, or recorded on kinescope for distribution to other stations, or both. The station also has produced, and recorded on kinescope for distribution, special religious, educational and public service programs for outside organizations and agencies.

During this same period, the college station has given approval for the pickup and rebroadcast of its current programs upon special request by UHF stations in Lansing and Ann Arbor, and VHF stations in Lansing and Kalamazoo. At the present time, the Ann Arbor UHF station is carrying the Better Farming series being broadcast Monday through Friday, and other special programs and events upon request.

Now, what has been the result of this program service, and what returns have we realized upon our educational and public-service investment?

First some statistics:

1. The college station went on the air in an already established VHF community, preceded by some 4 months by a local commercial UHF station.

2. The college station also attempts to service a region covering an area of 30 counties, with a population of over 2½ million. This area is already serviced by 6 VHF stations, and has 3 additional VHF stations in prospect—1 already on the air in Bay City, 1 a recent grant in Flint, and 1 a proposed "drop in" at Parma-Onondaga.

3. UHF stations on the air in Flint and Battle Creek have recently gone off. The UHF stations remaining in Lansing, Ann Arbor, Saginaw, and Battle Creek are having difficulties. There is a very real possibility that these stations will not be able to sustain continued operation under the present conditions.

4. Surveys of UHF conversion and the percentage of available audience indicate that there is approximately 75 percent to 80 percent television set saturation in the families living within the coverage radius of the college station. Of this 75 to 80 percent set saturation, only 25 to 30 percent of the sets have been converted to receive UHF. This is true only in the metropolitan centers with UHF stations. The percentage of converted receivers in the rural areas is probably less than 5 percent. Translated into set and population figures, the best estimate obtainable through regular surveys and our own research indicates that at the most 25,000 receivers have been converted in the coverage area with a total possible audience availability of 50,000 to 60,000.

All of the above refers to live-production production and recording. The film and kinescope program service is obtained from such sources as the Educational Television and Radio Center established by a grant from the fund for adult education by the Ford Foundation, and includes such programs as the award-winning series on Shakespeare by Professor Baxter of the University of Southern California, and the Great Ideas series by Prof. Mortimer Adler, and other programs in the fields of political science, the physical sciences, and international relations, which represents the best of the educational TV programs now produced by colleges and universities over the United States.

Other educational film resources are: Encyclopedia Britannica Films and Coronet Instructional Films; and general film resources have been arranged through Sterling Television, the March of Time, Interstate Television, Lakeside Television, and the usual Government and international agencies such as the Army, Air Force, United States Department of Agriculture, and British, Dutch, Switzerland, and so forth, Information Services.

All the above is cited in an effort to demonstrate and prove that the college and the station have met every requirement usually given as being necessary for a successful UHF operation. We have met the conditions of tower height and coverage, the highest power UHF transmitter available, and the most effective, unique, and finest program structure possible for us to produce.

5. Reports on reception vary from excellent to poor.

6. Audience response to the programs and to the service we are attempting to provide has been unanimously favorable and enthusiastic.

7. The most persistent criticism we receive is the inability of the viewer to receive the college station, or the inferiority of its picture in comparison with the available VHF services.

Second, steps which have been taken to overcome the above difficulties, and to build audience awareness and interest:

1. An active promotion and advertising campaign to acquaint the audience with the special program features and services of the college station;

2. Cosponsorship with the local UHF commercial station of a seminar and conference on proper UHF installation for the servicemen, dealers, and distributors in the local area;

3. Active production and promotion of programs for special interest groups such as the schools, vocational-agricultural clubs, and various national, professional, and public service organizations;

4. A survey of the coverage and signal characteristics of the station, resulting in a change of 0.6° in the radiation pattern of the antenna by means of an electrical tilt, thus reducing the zero angle, horizontal, ERP from 243 kilowatts to 184 kilowatts visual, in an effort to increase and improve the local signal level.

These efforts and actions have not resulted in any appreciable improvement or change in the reception of the station's signal, or any marked or significant increase in the rate of set conversion. Obviously, there are a number of factors and variables at work. We are meeting the performance requirements of UHF transmission set by the Commission in excess of the minimum for both class A and class B service.

We are covering a radius of over 60 miles as is proved by the fact that the Ann Arbor UHF station, 46 airline miles away, and the Kalamazoo VHF station, approximately 60 airline miles away, can both receive and retransmit our signal without appreciable loss in quality or acceptability.

In addition, we have audience response of the station's reception from as far as 80 to 100 miles away which indicates fair to good reception. However, this range and extent of acceptable signal and service is not particularly comforting when, as a matter of record, the signal pickup and rebroadcast by the VHF station 60 miles away was as good or better when picked up locally on VHF receivers at 60 miles distance, than the UHF receivers from the college station 5 miles away; the signal from the VHF rebroadcast not appearing to lose any detail or contrast in its transmission.

This is all evidence of coverage which indicates the full meeting of all transmission requirements; but, it is countered by equal evidence of difficult and inferior reception.

Apparently, the lack of UHF acceptance is due in large part to the need for a good receiving antenna, properly placed and installed, and the care required to tune it in, the obvious superiority of the VHF receiving circuits over the UHF, and the fact that all of the "big time" and network programs are readily available over the VHF stations.

I do not believe it is a problem of transmission, or of poor management, or of limited local program resources, or of funds or know-how,

or of time and experience. If I may paraphrase and "convert" Shakespeare, "the fault is not in ourselves that we are underlings."

The analogy that UHF is going through a period comparable to the early days of VHF is not only inaccurate but irrelevant. Early VHF had no other television service in competition. It was strictly a question of design, transmission and receiver performance, and set availability. Present-day UHF has the competition of an excellent television service available in the VHF stations. This is a technical and program competition which VHF never faced.

Also, VHF can be received with built-in and indoor antennas. UHF, for the most part, requires an outside antenna and an extremely careful and exact placement and installation. VHF receivers are demonstrably superior and less expensive. And, the "big shows" are available on VHF only in almost every market where intermixture is involved. Obviously, the problem cannot be solved on the basis of historical analogy.

The problem facing Michigan State College and its educational UHF television station is no different from that facing most of the UHF stations, educational or commercial. What is true for the majority of the educational reservations and for a large number of the commercial UHF stations is true for us. We are in the immediate danger of being the only UHF island in a sea of VHF service. Under these conditions, highest of towers, the highest of powers, and the finest of local and live program service are not sufficient in themselves to motivate or develop a general acceptance of UHF and its services by the general public. We cannot afford to be "medievalist" in this situation, and speculate and theorize in a vacuum. We must "consult nature" and go into the marketplace of the general public in order to wrestle with the facts and realities of life, audience preference and human behavior.

Anything that costs more, looks worse, and involves additional effort is not going to meet with wide public acceptance. Anything which requires a special technique and knowledge for installation and performance will meet with resistance and disinterest on the part of those engaged in service and sales. It is only human nature that the "reflection of inferiority" will be cast upon the particular medium and the station, rather than upon the quality of the receiver and the quality of the service installation.

We have no final answer to the problem at issue before this committee. However, we do suggest that somehow the differences must be eliminated and the conditions made equivalent and truly competitive if UHF is to survive. Somehow, and some way, all television stations must be put on an equal and equivalent footing in terms of transmission, reception, and access to the audience, if UHF is to have any truly competitive opportunity to survive, and if a truly national television service is to exist.

We do not ask for subsidy, for privilege, for advantage, or for sympathy. We ask only that we have a fair and equitable opportunity to reach the public with our educational service through the medium of television. The college has been given the responsibility of extending its educational services to the people of the State of Michigan who are its resource as well as its beneficiary. However, the tool, the method of distribution, the medium of its fulfillment through television, is not equal to the task under the present conditions.

We believe in the medium. We have made the investment. We have met every requirement. We have spared no effort. We only hope and trust that the channel for our educational television service can be made equal to the challenge. This is the responsibility of the Commission. It will be our responsibility then to see that it is properly and effectively used to fulfill the full potentiality of this new medium of communication, and to realize to the fullest degree the values of a democratic system of education, which is the heritage of our Nation, and the hope of civilization.

Senator POTTER. Dr. Hunter, I would like to state it gives me a great deal of pride being from Michigan and to realize the tremendous effort and the work that has gone in to promote this UHF station at Michigan State College.

I think from your statement here that you have spared no effort to make this a success. I know if it can be a success any place it can be there.

I would like to ask this one question; do you feel that you could be competitive and could get your listening audience if the average receiver could pick up your station?

Dr. HUNTER. That would be accessibility to the audience, and that is all that any of us would ask, and that is the opportunity to have equally accessibility to the audience regardless of what methods or means would be possible to achieve it.

Senator POTTER. Do you agree that if UHF doesn't survive in the commercial field that it will not be able to survive in the educational field?

Dr. HUNTER. I would say that would be the case, yes, because it would leave the educational UHF station alone and I am quite certain that under those conditions they could not sustain an educational service through UHF only.

Senator POTTER. Senator Schoepfel, do you have any questions?

Senator SCHOEPFEL. I do not believe I have any question on this matter. I do appreciate getting your excellent statement before us.

Senator POTTER. Senator Hunt, do you have any questions?

Senator HUNT. Dr. Hunter, what percent of the receivers in this area are capable of receiving both UHF and VHF.?

Dr. HUNTER. In our immediate community area I would say about 30 percent of the receivers are converted to UHF, which would give us in Lansing and East Lansing alone 16,000 or 17,000 receivers that can receive both UHF and VHF.

The total set saturation in the Lansing area would be between 75 percent and 80 percent of the families available, which would mean there would be around 40,000 receivers in the Lansing and East Lansing area and the immediate community, and of that approximately 15,000 to 17,000 have been converted.

Senator HUNT. How long have you been with television?

Dr. HUNTER. Approximately 6 months. We started January 15, 1954, this year.

Senator HUNT. What percent of your television audience do you think you are holding?

Dr. HUNTER. Holding?

Senator HUNT. Say you started out with 100 percent; what percent do you have now?

Dr. HUNTER. I would say that we have increased the conversion rate in our community through the process of going on the air. The

conversion has increased from the point when the local UHF commercial station went on the air, which has been due in some respect I suspect to the Michigan State College station going on the air, and the program service which we have been able to provide.

In that respect we have been helping each other in terms of attempting to develop the rate of conversion.

Senator HUNT. You have no type of advertising of any nature, do you?

Dr. HUNTER. No, sir.

Senator HUNT. Would you consider commercial advertising, if you had a sponsor, say the Farm Bureau, or any other organization of that kind which is very desirous of receiving your services?

Dr. HUNTER. It could not be and would not be paid advertising. In other words, there are different methods of advertising. If a program is offered that presents information or has a certain content or material within it which is in a form indirect advertising, it would be a form of advertising, but not a paid advertisement.

Senator HUNT. You are precluded from receiving financial assistance from anybody except in the form of gifts.

Dr. HUNTER. We are not on our particular channel, but the educational channels are. Our particular channel is not a reserved educational channel, but we operate it as an educational system.

Senator HUNT. Under existing conditions, what do you foresee for your own station, the future?

Dr. HUNTER. Under existing conditions I could not expect and would not expect the college to be able to maintain the level of its service or to put the investment into it that would have to be done unless it could provide a much more substantial service through reaching a greater number of people than is possible under the present conditions.

Senator HUNT. And your present expenditure on this particular item in your budget is how much?

Dr. HUNTER. Our present expenditure, the total capital investment in all equipment and facilities is around \$500,000. Our total annual operating budget for a full-time service would be in the neighborhood of \$350,000. This includes faculty and staff and the actual operating cost, supplies and services, equipment, replacement, maintenance, and the rest of it.

Senator HUNT. I understand from your statement that that would be a complete loss to you unless in some way we are able to help on this situation?

Dr. HUNTER. That is correct, sir.

Senator POTTER. Do you have any other questions?

Senator HUNT. No, sir.

Senator POTTER. Dr. Hunter, thank you again for your statement.

Dr. HUNTER. Thank you, Senator.

Senator POTTER. We will now hear from Mr. George Storer of the Storer Broadcasting Co., from Miami, Fla.

It is good to have you here, and we are looking forward to your statement.

**STATEMENT OF GEORGE B. STORER, STORER BROADCASTING CO.,
MIAMI, FLA.**

Mr. STORER. My name is George B. Storer. I am president and founder of Storer Broadcasting Co. My home and the headquarters offices of our company are located in Miami, Fla. Our company and its subsidiaries own and operate, under license of the Federal Communications Commission, five VHF television stations located at Detroit, Mich.; Toledo, Ohio; Atlanta, Ga.; Birmingham, Ala.; and San Antonio, Tex. We also own and operate, under license of the Commission, 7 radio stations located in these same 5 cities, and 2 others at Miami, Fla., and Wheeling, W. Va.

Broadcasting is our business. More than 95 percent of our revenues is derived from the operation of radio and television stations. Our company is owned by some 1,500 stockholders, largely resident in the areas which we serve, many of whom are employees. Each of our principal officers and executives is a substantial stockholder and actual control of the company held by the management group.

Among the larger multiple owners of radio and television broadcasting stations, I believe our company is the only multiple owner which is wholly independent and unrelated by ownership to major interests in the network, manufacturing, newspaper publishing, or motion-picture fields.

I have here a brief history of the growth and development of our company and a statement of the policies which we have established and follow in the operation of our broadcast stations.

Senator PORTER. It will be made a part of the record at this point. (Description of Storer Broadcasting Co. is as follows:)

DESCRIPTION OF STORER BROADCASTING CO.

Storer Broadcasting Co., an Ohio corporation, was organized by Mr. George B. Storer and Mr. J. Harold Ryan, in 1927. In November 1953, the company issued to the public 200,000 shares of its common stock, representing approximately 18 percent of its common stock. Mr. Storer and Mr. Ryan hold voting control of the stock, and substantial stock is also held by the executives and management personnel of the company, including each of the station managers. There are a total of about 1,500 common stockholders, many of whom live in the communities in which the company's stations are located, due to the fact that the publicly held stock was issued primarily through brokers located in these cities in order to encourage local ownership.

The company is primarily engaged in the ownership and operation of radio and television stations, and in 1953 over 95 percent of its gross revenues was derived from the operation of these stations. As distinguished from most other so-called multiple owners of radio and television stations, the company is not connected by ownership with any major network, radio or television manufacturer, magazine, newspaper, or motion-picture concern.

The company entered the radio business in its infancy, in 1928, by the acquisition of a 100-watt standard broadcast station in Toledo, Ohio. In 1931 it acquired its second station in Wheeling, W. Va., then a 5,000-watt station. Step by step it improved the facilities of these stations, and acquired stations in other markets, which were also improved. In 1947, the company built 6 FM broadcast stations, and in 1948-49 it built 3 TV broadcast stations. In 1951 and

720 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

1953 it acquired by purchase two additional television stations. At the present time, the company's AM and TV stations are as follows:

Station and city	Type	Power	Year built or acquired
		<i>Watts</i>	
WSPD, Toledo, Ohio.....	AM	5,000	1928
WWVA, Wheeling, W. Va.....	AM	50,000	1931
WAGA, Atlanta, Ga.....	AM	5,000	1940
WGBS, Miami, Fla.....	AM	{ 50,000 2 10,000 }	1944
WJBK, Detroit, Mich.....	AM	250	1947
WBRC, Birmingham, Ala.....	AM	5,000	1953
KGBS, San Antonio, Tex.....	AM	{ 50,000 2 10,000 }	1953
WSPD-TV, Toledo, Ohio.....	TV	(3)	1948
WJBK-TV, Detroit, Mich.....	TV	(3)	1948
WAGA-TV, Atlanta, Ga.....	TV	(3)	1949
KGBS-TV, San Antonio, Tex.....	TV	(3)	1951
WBRC-TV, Birmingham, Ala.....	TV	(3)	1953

The FCC's multiple-ownership rules preclude the company from owning and operating TV stations in Wheeling and Miami.

In common with other independent, or non-network-owned, radio stations, Storer Broadcasting Co.'s broadcast revenues are derived from (1) sale of local advertising by its local sales staffs, (2) sale of national spot advertising by so-called national reps, and (3) sale of network advertising by the national networks. During 1953, national spot and local advertising represented the bulk of the revenues of the Storer stations, as follows:

[Percent]

Revenues	Radio	Television
National spot.....		
Local.....	45	42
Network.....	42	31
	13	27

While local stations, of course, cannot afford the tremendous expenditures for programs and talent made by the major national networks, the radio and TV programs produced and broadcast by the local independent stations fill a need for locally tailored programing that the national networks cannot supply. For example, WAGA-TV, the company's TV station in Atlanta, Ga., during the month of May 1954 produced and broadcast the following local public-service programs with live talent (as well as numerous other local commercial programs):

Religious Viewpoint, a daily religious series broadcast in cooperation with the Atlanta Christian Council for 15 minutes per day, Monday through Friday. Total, 21 programs, 5¼ hours.

School of the Air, a daily educational series broadcast in cooperation with the University of Georgia, Atlanta division, for 15 minutes per day, Monday through Friday. Total, 21 programs, 5¼ hours.

This is Your Town, a weekly 30-minute panel show, with a different panel of local civic leaders for each week, discussing the problems and projects for betterment of the community. Total, 5 programs, 2½ hours.

Career Opportunities, a weekly 30-minute panel show, broadcast in cooperation with the Atlanta city schools, featuring panels of high-school students and businessmen discussing a different business or industry each week. Total 5 programs, 2½ hours.

TV Bible Class, a weekly 30-minute program broadcast in cooperation with the Atlanta Christian Council concerned with the study of the Bible, with a different Bible class appearing each week from a local church. Total, 5 programs, 2½ hours.

Capitol Reports, a biweekly discussion program broadcast in cooperation with the Governor of the State of Georgia, on which the governor appears in person and answers questions sent in by listeners. Total 2 programs, 1 hour.

The Law Says, a weekly 30-minute discussion program, in cooperation with the Atlanta Bar Association and Atlanta Lawyers Club, featuring a panel of lawyers who answer legal questions sent in by listeners. Total 3 programs, 1½ hours.

During this same month WAGA-TV broadcast 307 local public-service announcements, including 56 for Campfire Girls' day camp, 41 for the cerebral palsy drive, 20 for the Civil Defense Ground Observers Corps, 19 for the Salvation Army, 14 for the Atlanta Tuberculosis Association, and many others. Likewise, many public-service films and public-service programs of the CBS and Du'Mont networks were broadcast.

Throughout the years the company's policies have been designed to insure that each of its radio and television stations was operated in the interest of the public in the service area of the particular station. To this end the company's main policies have been:

1. To integrate its stations into the lives of the communities they serve by cooperating with and supporting the activities of all worthwhile local governmental, civic, educational, religious, and charitable organizations:

2. To insist that local station managers operate with substantial local autonomy, so that the operation of each station is attuned to the needs and desires of its community:

3. To take every practicable step to improve the technical facilities of its stations so that each station may be capable of rendering the best possible service to the community.

Effectuating these policies, the company has "ploughed back" into its stations over its 26 years of broadcasting in excess of 75 percent of its earnings.

Mr. STORER. This opportunity to express the views of our company concerning the ultra-high-frequency television service and upon multiple ownership limitations is most sincerely appreciated. We are hopeful that our statement may be of some help to this subcommittee in achieving a proper perspective of both matters.

During the first 3 days of these hearings, the UHF broadcasting group has primarily directed an attack upon the television allocation table established by the FCC in its sixth report and order of April 12, 1952. The core of the complaint is intermixture of VHF and UHF television facilities in the same markets.

Our company strongly supports the plan of allocation adopted by the Commission, and in fact commends it for having accomplished a superlative job in the face of most difficult and complex circumstances. This is not to say that the allocation plan may not now, in light of present experience, be improved upon, but the all-important fact is only by a plan of allocation involving intermixture could the best possible television service be made available uniformly to the greatest number of people in this country in the shortest possible period of time. More particularly true then, but equally true now, VHF television was and is a superior facility to UHF and nothing that can be said here will alter this scientific reality. In terms of the public interest, therefore, our company believes that the Commission neither had then, nor has now, any alternative other than to proceed with a television allocation plan based upon intermixture.

As a point of departure, we think it should be recognized by this subcommittee that any suggestion advanced here to replace the existing VHF television with UHF, either on a nationwide basis or by the elimination of an existing VHF service in any individual market, will necessarily result in the substitution of an inferior service for a superior service.

The VHF service is superior in point of propagation, a factor of particular importance in terms of service to rural areas, and superior also in fidelity of reception in the home. It is cheaper in terms of cost per thousand to the advertiser, and it should not be forgotten that it is the advertising dollar which supports the television medium and upon which the future of both UHF and VHF are largely dependent.

I feel that the public is entitled to the best television service available, one that will reach the farmer and the rancher remote from the city as well as the city dwellers. The long-range coverage of VHF stations, operating with the maximum powers and antenna heights, now an accomplished fact, is the only feasible method of reaching the large nonurban population.

Many VHF television stations are now operating with maximum power and antenna height which will provide good service to rural viewers living as far as 90 or 100 miles from the station. VHF licensees have made tremendous investments to provide this service. A VHF transmitting plant with 100-kilowatt power and a 1,000-foot tower costs upward of \$750,000.

Dozens of applicants for VHF stations have competed in lengthy hearings, involving legal, engineering and other expenses totaling as much as \$200,000 per applicant, in the hope of bringing additional VHF service to the public. Many of these applicants have entered into settlement agreements and joined their interests in a single application in order to speed the day when more VHF television service will be available to the public. I know of no legal procedure for unraveling these contractual commitments, which were entered into in good faith and in reliance on the continuation of the VHF service.

Moreover, I deem it a public trust to protect the tremendous investment—probably exceeding \$6 billion—that the public has made in 30 million television receivers. It has been proposed by the UHF group, supported by Madam Commissioner Hennock, that on a certain day these 30 million VHF set purchasers be denied a VHF service, based upon the theory that by that date their VHF sets will be obsolete, worn out, or otherwise of no value.

Senator POTTER. Mr. Storer, I have a telephone call if you will bear with me for just a moment. I will be right back. You may continue.

Mr. STORER. To set the record straight, I think you should consider how all these 30 million television receivers are constructed. In my household we have sets dating back to 1946. They are in use in different parts of my home. As we have purchased newer and larger-screen sets, we have used the old ones in bedrooms, porches, and elsewhere. Some of these sets are 8 years old but are functioning well.

No other interest is of any real significance except that of the public. I would hate to be in the Congress or on the Federal Communications Commission on the day when the 30 million or more television set owners are told, "Your sets are now all obsolete. Hie yourself to the store and spend your money on a new set or on a UHF converter, antenna, and installation."

To digress a minute, I wish to say that from figures we have been able to find it costs roughly about \$100 to make a conversion. There are some few instances where it is less, but generally it is about \$100.

A freeze on VHF television cannot be sugar coated by calling it a hiatus, or by predicting it will last only a short time. Today it is significant to recall that the 1948 freeze was expected to last only 6 to 9 months; but it actually lasted 3½ years.

The FCC also imposed a freeze on certain clear channel radio applications in 1946—and that freeze still continues because the North American Radio Broadcasting Agreement has not been ratified by the United States, and until this treaty becomes effective the FCC is powerless to act.

Our company believes that the elimination of any existing VHF television service is unthinkable in terms of the "public interest," and we feel with equal vigor, that a present freeze or hiatus upon the licensing of VHF facilities is equally repugnant to the public interest and can only serve to retard the normal growth of the television art, UHF as well as VHF, within the economic framework of the country.

What, then, is the future of the UHF television service?

This, in our opinion, can only be answered on a market-by-market basis, and the answer will depend upon the size and economic structure and limitations of each community or area served. Where VHF service is limited or inadequate, or where there is no existing or potential VHF service, and where requisite advertising support exists, UHF can and will be successful.

In intermixed markets UHF will face competitive problems of conversion and limitations upon both propagation and reception, but these obstacles can all be overcome in time if a real need for service exists and is economically feasible. Where UHF is presently competing for survival against VHF in intermixed communities, and only one, and not both, can survive in the economic market place, it is only logical that the superior VHF service will be successful in securing public acceptance, and this reality must be accepted. Improvement in UHF transmitting equipment, higher power, and other technical developments will undoubtedly ultimately equate some of the present disparity between UHF and VHF, but this is not yet at hand.

To those of us who lived through the early days of radio there is nothing either new or insurmountable in the present UHF situation. There was a time years ago, when existing radio home receivers could not be turned above 1500 kilocycles nor below 550 kilocycles. Nevertheless, I, along with others, built stations to broadcast in the kilocycle band above 1500 kilocycles and below 550 kilocycles in areas where the service was needed and could not be otherwise supplied.

In due time, because of good programming, effective promotion, and new home receivers available for purchase by the public, we were ultimately successful in our efforts. I can think of no reason why the same formula will not be successful for UHF in those areas where the service is needed, cannot otherwise be supplied, and where requisite economic support exists. I must say that it never occurred to us in radio to suggest that the kilocycle band above 550 kilocycles or below 1500 kilocycles be abandoned, and all existing radio receivers obsoleted in order that we might achieve competitive parity with the greater majority of other broadcasters utilizing the regular bands. I believe any such proposal would have been contrary to the public interest.

I believe with equal conviction that any proposal today for the abandonment of VHF television service, either on a nationwide or limited per market basis, is equally repugnant to the public interest and to the development and growth of the television broadcasting art.

There have been, and will continue to be, fatalities in television broadcasting, both among VHF and UHF operators. Wherever broadcasters fail to gauge the economic and competitive limitations of their markets, or are insufficiently financed for pioneering, financial failure is inevitable. This is regrettable and even tragic from an

individual point of view, but this mortality experience appears always to be present in the growth and development of any new industry, and no solution exists which will rectify basic mistakes in economic business judgment.

If this statement seems hardheaded and unfeeling, may I hasten to say that I most deeply appreciate the concern of the UHF broadcasters who are now in the pioneering stage of a new service. We also have pioneered, not only in VHF television but in AM and FM radio as well, and no one better knows the strain and anxiety which attend such efforts.

Moreover, we intend, if the Commission rules will permit, to pioneer in the UHF service also. When our company determined to enter television broadcasting in 1947, we borrowed \$1,800,000 from banks to finance construction of 3 television stations. This sum represented very nearly the entire capital and surplus accumulated by our company over a twenty-odd-year period. Moreover, to secure this financing, I was required personally to endorse the company note.

Our first station went on the air in Toledo on July 1, 1948, followed by Detroit on October 24, 1948, and Atlanta on March 8, 1949. As of December 31, 1950, we had accumulated operating losses in Toledo of \$234,000, \$147,000 at Detroit, and \$226,000 at Atlanta. At Toledo regular operating losses continued for 18 months; at Detroit for 11 months; and at Atlanta for 21 months. It was not until 1951 that our television operating statement showed black ink, and we believe our experience was fairly typical of the experienced radio broadcaster who then pioneered the new VHF television service.

I have here a table of losses sustained by the industry generally throughout the years 1948 through 1950, taken from FCC reports, which further illustrate the enormous cost of pioneering VHF television service.

Senator PORTER. It will be made a part of the record.
(Television station losses and profits are as follows:)

Television station losses and profits—1948-51 (stations not owned by networks)

Year	Number of stations	Broadcast revenues	Broadcast expenses	Earnings before Federal tax
1948.....	46	\$3,900,000	\$12,000,000	¹ (\$8,500,000)
1949.....	84	15,000,000	29,000,000	¹ (13,200,000)
1950.....	93	50,400,000	49,600,000	800,000
1951.....	93	107,300,000	76,700,000	30,600,000

¹ Parentheses denotes loss. Comparable data not available for years prior to 1948.

Source: Television Digest Factbook No. 18, Jan. 15, 1954, p. 370, summarized from FCC financial data reports.

Mr. STORER. During the freeze period, when television broadcasting achieved substantial success, it apparently became an accepted fact that anyone who could acquire a television grant anywhere automatically was assured of financial success. So naive a business judgment was bound to founder upon reality in many cases.

Since removal of the freeze, there have been 17 television stations which commenced operations and which subsequently terminated their service and surrendered their licenses. Three of these stations were in the VHF band, the remainder in UHF.

A table of these stations is submitted at this point, and I call the attention of the subcommittee to the fact that only 1 of the 17 operated

for as much as 12 months, and that the average abandoned operations after 5 or 6 months, and several of them after only 2 or 3 months.

Senator PORTER. That will be made a part of the record at this point.

(List of postfreeze stations terminating operations is as follows:)

List of postfreeze stations terminating operations

The following is a chronological list of postfreeze TV stations (both VHF and UHF) showing the date they commenced operation and the date they went off the air:

Call	City	Channel	Date of the air	Date on the air	Months on air
1. WROV-TV.....	Roanoke, Va.....	27	July 18, 1953	Feb. 15, 1953	5
2. KF XD.....	Nampa, Idaho.....	6	Aug. 12, 1953	June 18, 1953	2
3. WBES-TV.....	Buffalo, N. Y.....	59	Dec. 18, 1953	Sept. 5, 1953	3
4. KCTY.....	Kansas City, Mo.....	25	Mar. 1, 1954	June 6, 1953	9
5. KFOR-TV.....	Lincoln, Nebr.....	10	Mar. 13, 1954	May 25, 1953	10
6. WIFE.....	Dayton, Ohio.....	22	Mar. 13, 1954	Oct. 3, 1953	5
7. WOSH-TV.....	Oshkosh, Wis.....	48	Mar. 22, 1954	June 27, 1953	9
8. WACH.....	Newport News, Va.....	33	Mar. 26, 1954	Oct. 6, 1953	4½
9. KR TV.....	Little Rock, Ark.....	17	Mar. 31, 1954	Apr. 5, 1953	12
10. KACY.....	Pestus, Mo.....	14	Apr. 2, 1954	Oct. 31, 1953	5
11. WKLO-TV.....	Louisville, Ky.....	21	Apr. 20, 1954	Sep. 7, 1953	7½
12. KDZA-TV.....	Pueblo, Colo.....	3	Apr. 21, 1954	Mar. 16, 1953	11
13. WBKZ-TV.....	Battle Creek, Mich.....	64	Apr. 23, 1954	May 15, 1953	11
14. KFAZ-TV.....	Monroe, La.....	43	May 1, 1954	Aug. 11, 1953	8½
15. WTAC-TV.....	Flint, Mich.....	16	May 1, 1954	Oct. 28, 1953	7
16. WFPG-TV.....	Atlantic City, N. J.....	46	May 17, 1954	Dec. 31, 1953	5½
17. WECT.....	Elmira, N. Y.....	18	May 26, 1954	Sept. 30, 1953	8

Mr. STORER. I strongly suspect that lack of adequate financing for pioneering television service was responsible for most of these fatalities, and I think it fair to compare this experience with the average period of operating losses 18 months or more which most of us in VHF endured. I point out further that in some cities, notably New York and Los Angeles, the red ink still flows for certain pre-freeze VHF operators.

A number of assertions have been advanced in these hearings to date which our company feels should be most carefully examined in the light of economic reality. First, it is asserted that no television station can be assured of financial success unless it is affiliated with 1 of the 2 leading major networks. Second, that preservation of a nationwide competitive television system requires that a four-network system be assured.

It is also claimed that no network will affiliate with a UHF station in any market where VHF service is available, and unless this is in some way compelled by governmental edict, a 4-station, 4-network system is doomed, and a 2-station, 2-network system is inevitable. To assist this subcommittee in properly appraising these contentions, we have prepared an analysis of the 100 leading television markets in the United States, generally using the classification of markets made by Chairman Hyde of the FCC in this hearing.

This data is submitted herewith but may be generally summarized as follows: In 36 of the first 100 markets containing almost one-third of the country's population, 3 or more VHF stations are allocated and available for network affiliation.

Senator PORTER. That will be made a part of the record at this point.

726 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

(Classification of TV stations by number of VHF allocations per city (100 leading markets) is as follows:)

Classification of TV stations by number of VHF allocations per city (100 leading markets)

A. 4 VHF OR MORE (11 MARKETS)

City	Rank	1950 population ¹	TV households ²	Percent saturation ³	Number VHF
New York, N. Y.	1	12,831,914	3,358,269	83.3	7
Chicago, Ill.	2	5,475,535	1,531,197	85.3	4
Los Angeles, Calif.	3	4,339,225	1,372,029	78.5	7
Detroit, Mich. ⁴	5	2,973,019	776,869	80.1	4
San Francisco-Oakland, Calif.	7	2,214,249	536,896	61.0	4
Washington, D. C.	10	1,457,601	399,328	83.8	4
Minneapolis-St. Paul, Minn.	13	1,107,366	272,791	75.2	4
Dallas-Fort Worth, Tex. ⁵	24/51	970,098	177,187	48.7	4
Denver, Colo.	27	590,361	121,350	56.4	4
San Diego, Cal. ⁴	33	535,967	152,018	63.3	4
Total		32,463,335	8,697,964		

B. 3 VHF (25 MARKETS)

City	Rank	1950 population ¹	TV households ²	Percent saturation ³	Number VHF
Philadelphia, Pa.	4	3,660,676	1,025,730	90.0	3
Boston, Mass.	6	2,858,033	725,826	83.6	3
Pittsburgh, Pa.	8	2,205,544	554,182	84.6	3
St. Louis, Mo.	9	1,673,467	446,722	79.7	3
Cleveland, Ohio	11	1,453,556	420,521	89.8	3
Baltimore, Md.	12	1,320,754	360,461	86.5	3
Buffalo, N. Y.	14	1,085,606	306,889	89.0	3
Cincinnati, Ohio	15	898,031	272,316	89.9	3
Milwaukee, Wis.	16	863,937	245,881	89.5	3
Kansas City, Mo.	17	808,231	192,223	64.5	3
Seattle, Wash.	20	726,464	170,722	63.5	3
Portland, Oreg.	21	701,202	103,559	39.6	3
Atlanta, Ga.	23	664,033	178,656	84.2	3
Indianapolis, Ind.	30	549,047	171,090	90.0	3
Columbus, Ohio	37	501,882	147,510	90.0	3
San Antonio, Tex.	38	496,090	94,878	66.3	3
Miami, Fla.	39	488,689	130,100	63.9	3
Memphis, Tenn.	41	480,161	100,614	67.6	3
Omaha, Nebr.	50	362,203	102,236	85.0	3
Phoenix, Ariz.	55	329,296	60,862	50.2	3
Nashville, Tenn.	58	320,388	57,592	58.5	3
Salt Lake City, Utah	71	274,208	76,964	87.1	3
Des Moines, Iowa	85	224,920	50,493	65.2	3
Spokane, Wash.	87	220,119	41,987	53.4	3
El Paso, Tex.	92	197,934	33,860	59.8	3
Total		23,354,471	6,072,164		

¹ 1950 population is based on preliminary 1950 census, as compiled by J. Walter Thompson Co. in The 162 Most Important Markets of the U. S.

² TV households is taken from J. Walter Thompson Co. report on, TV Households in the U. S. as of Jan. 1, 1954. (4th edition.)

³ Percent of saturation indicates the percent of TV-owning families as compared to the total families in the area, as compiled by TV Households in the U. S. as of Jan 1, 1954.

⁴ Detroit, Mich., includes the VHF channel assigned to Windsor, Ontario, but only the United States population and set figures are included. Similarly, San Diego, Calif., includes the two VHF channels assigned to Tijuana, Mexico.

⁵ Dallas-Fort Worth, Tex., are combined, inasmuch as 2 VHF channels are assigned to each market and all 4 VHF channels will serve both markets.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 727

C. 2 VHF (29 MARKETS)

City	Rank	1950 population ¹	TV households ²	Percent saturation ³	Number VHF
Houston, Tex.	18	802,102	191,638	65.0	2
Providence, R. I.	19	733,681	189,088	82.0	2
New Orleans, La.	22	681,037	129,947	57.7	2
Louisville, Ky.	26	574,474	142,677	76.6	2
Birmingham, Ala.	28	554,186	108,316	63.2	2
Norfolk, Portsmouth, Newport News, Va.	29	553,619	140,752	74.0	2
Rochester, N. Y.	40	484,877	145,620	90.0	2
Dayton, Ohio.	43	453,181	133,520	88.2	2
Tampa, St. Petersburg, Fla.	46	406,176	44,379	28.1	2
Toledo, Ohio.	47	392,626	114,840	90.0	2
Wheeling, W. Va.-Stuebenville, Ohio.	52	352,924	63,848	62.7	2
Syracuse, N. Y.	53	340,874	99,720	90.0	2
Knoxville, Tenn.	54	335,664	21,198	21.8	2
Richmond, Va.	56	326,863	65,607	64.7	2
Oklahoma City, Okla.	57	322,520	80,887	68.9	2
Jacksonville, Fla.	60	302,711	64,183	64.1	2
Tacoma, Wash.	68	275,802	50,440	54.2	2
Sacramento, Calif.	69	275,659	52,816	49.5	2
Duluth, Minn.-Superior, Wis.	76	251,658	14,565	18.0	2
Tulsa, Okla.	78	248,658	63,614	71.7	2
Huntington, W. Va.-Ashland, Ky.	79	245,631	51,149	71.0	2
Chattanooga, Tenn.	80	245,499	19,306	26.1	2
Moline, Ill.	82	233,012	69,211	90.0	2
Mobile, Ala.	84	228,835	28,639	39.3	2
Wichita, Kans.	86	220,213	30,852	32.3	2
Beaumont, Port Arthur, Tex.	94	193,979	19,771	30.7	2
Little Rock, Ark.	95	192,879	17,276	27.0	2
Charlotte, N. C.	93	196,160	43,175	73.2	2
Shreveport, La.	100	174,679	7,722	14.1	2
Total		10,597,179	2,204,756		

D. 1 VHF (18 MARKETS)

Hartford, Conn.	25	603,360	150,766	78.6	1
New Haven-Waterbury, Conn.	32	541,994	154,440	90.0	1
Albany, Schenectady, Troy, N. Y.	35	512,527	152,314	89.0	1
Charleston, W. Va.	59	319,277	50,569	56.9	1
Johnstown, Pa.	62	209,551	67,879	86.0	1
San Jose, Calif.	63	288,938	73,129	67.4	1
Grand Rapids, Mich.	64	287,020	76,154	79.6	1
Utica-Rome, N. Y.	65	283,602	66,318	74.4	1
Fresno, Calif.	70	274,225	38,292	41.0	1
Flint, Mich.	72	270,034	63,623	72.8	1
Wilmington, Del.	73	267,220	76,590	90.0	1
Peoria, Ill.	77	249,918	46,146	55.3	1
Lancaster, Pa.	81	234,137	55,570	79.2	1
Eric, Pa.	88	218,407	61,740	90.0	1
Stockton, Calif.	91	200,535	42,456	61.0	1
Greensboro-High Point, N. C.	96	190,152	31,354	56.5	1
Binghamton, N. Y.	98	184,664	51,779	88.2	1
Lansing, Mich.	101	172,466	33,443	59.0	1
Total		5,308,027	1,292,562		

E. UHF ONLY (16 MARKETS)

Worcester, Mass.	31	543,094	141,405	85.2	0
Youngstown, Ohio	34	526,599	126,865	80.4	0
Bridgeport, Conn.	36	502,832	145,530	90.0	0
Springfield-Holyoke, Mass.	42	452,979	103,075	74.1	0
Allentown-Bethlehem, Pa.	44	434,857	118,507	89.6	0
Akron, Ohio.	45	407,981	116,240	87.5	0
Wilkes Barre-Hazleton, Pa.	48	391,226	54,567	54.7	0
Harrisburg, Pa.	61	291,119	67,200	73.1	0
Canton, Ohio.	66	282,060	69,271	77.0	0
San Bernardino, Calif.	67	280,252	57,327	52.5	0
Seranton, Pa.	74	256,208	39,096	54.1	0
Reading, Pa.	75	254,942	70,110	90.0	0
Trenton, N. J.	83	229,412	61,650	90.0	0
South Bend, Ind.	89	204,740	55,023	80.7	0
York, Pa.	90	202,440	57,780	90.0	0
Fort Wayne, Ind.	99	182,903	25,071	40.5	0
Total		5,444,644	1,308,717		

See footnotes on p. 726.
48550-54-47

728 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

First 50 TV markets in order of market rank

City	Market rank	4 VHF or more	3 VHF	2 VHF	1 VHF	UHF only
New York	1	X				
Chicago	2	X				
Los Angeles	3	X				
Philadelphia	4		X			
Detroit	5	X				
Boston	6		X			
San Francisco	7	X				
Pittsburgh	8		X			
St. Louis	9		X			
Washington	10	X				
Cleveland	11		X			
Baltimore	12		X			
Minneapolis	13	X				
Buffalo	14		X			
Cincinnati	15		X			
Milwaukee	16		X			
Kansas City	17		X			
Houston	18			X		
Providence	19			X		
Seattle	20		X			
Portland, Oreg	21		X			
New Orleans	22			X		
Atlanta	23		X			
Dallas-Fort Worth	24/51	X				
Hartford	25				X	
Louisville	26			X		
Denver	27	X				
Birmingham	28			X		
Norfolk-Portsmouth	29			X		
Indianapolis	30		X			
Worcester	31					X
New Haven-Waterbury	32				X	
San Diego	33	X				
Youngstown	34					X
Albany-Schenectady	35				X	
Bridgeport	36					X
Columbus, Ohio	37		X			
San Antonio	38		X			
Miami	39		X			
Rochester	40			X		
Memphis	41		X			
Springfield-Holyoke	42					X
Dayton	43			X		
Allentown-Bethlehem	44					X
Akron	45					X
Tampa-St. Petersburg	46			X		
Toledo	47			X		
Wilkes-Barre-Hazleton	48					X
Fall River-New Bedford	49	(1)	(1)	(1)	(1)	(1)
Omaha, Nebr.	50		X			
Total		10	19	10	3	7

1 Omitted from FCC list.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 729

Second 50 markets in order of market rank

City	Market rank	4 VHF or more	3 VHF	2 VHF	1 VHF	UHF only
Fort Worth.....	51	¹ X				
Wheeling-Steubenville.....	52			X		
Syracuse.....	53			X		
Knoxville.....	54			X		
Phoenix.....	55		X			
Richmond.....	56			X		
Oklahoma City.....	57			X		
Nashville.....	58		X			
Charleston, W. Va.....	59				X	
Jacksonville.....	60			X		
Harrisburg.....	61					X
Johnstown, Pa.....	62				X	
San Jose, Calif.....	63				X	
Grand Rapids.....	64				X	
Utica-Rome.....	65				X	
Canton, Ohio.....	66					X
San Bernardino.....	67					X
Tacoma.....	68			X		
Sacramento.....	69			X		
Fresno.....	70		X		X	
Salt Lake City.....	71		X			
Flint.....	72				X	
Wilmington, Del.....	73				X	
Scranton.....	74					X
Reading.....	75					X
Duluth-Superior.....	76			X		
Peoria.....	77				X	
Tulsa.....	78			X		
Huntington-Ashland.....	79			X		
Chattanooga.....	80			X		
Lancaster.....	81				X	
Moline.....	82			X		
Trenton.....	83			X		X
Mobile.....	84		X	X		
Des Moines.....	85		X	X		
Wichita.....	86		X	X		
Spokane.....	87		X			
Erie.....	88				X	
South Bend, Ind.....	89					X
York.....	90				X	X
Stockton.....	91				X	
El Paso.....	92		X			
Charlotte, N. C.....	93			X		
Beaumont-Point Arthur.....	94			X		
Little Rock.....	95			X		
Greensboro-High Point, N. C.....	96				X	
Brockton, Mass.....	97	(²)	(^{2})	(^{2})	(^{2})	(^{2})
Binghamton, N. Y.....	98				X	
Fort Wayne, Ind.....	99					X
Shreveport.....	100			X		
Lansing, Mich.....	101				X	
Total.....		1	6	19	15	9

¹ Fort Worth included under Dallas-Fort Worth.

² Omitted from FCC list.

First 100 markets—in groups of 10

Market rank	4 VHF	3 VHF	2 VHF	1 VHF	UHF only
1 to 10.....	6	4			
11 to 20.....	1	7	2		
21 to 30.....	2	3	4	1	
31 to 40.....	1	3	1	2	3
41 to 50.....	0	2	3	1	4
51 to 60.....	1	2	6	1	0
61 to 70.....	0	0	2	5	3
71 to 80.....	0	1	4	3	2
81 to 90.....	0	2	3	2	3
91 to 101.....	0	1	4	4	1
Total.....	11	25	29	18	16

¹ Fort Worth included in Dallas.

730 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

Mr. STORER. In another 35 of the first 100 markets, to which only UHF or no more than 1 VHF channel have been allocated, 3 or more services can likewise be available for network affiliation, provided economic support exists.

Only in the 29 2-VHF cities do the 2 major leading networks have a distinct temporary advantage, and if these cities are large enough to support 3 or more services, then, in our opinion, both UHF and VHF will be feasible and available for affiliation with the third and fourth networks.

It is to be noted that during the freeze years, only 63 television markets were available for network service, yet, with this limited circulation, all 4 network services were established and have developed. We fail to see why no opportunity exists for the third and fourth networks. What actually has been urged here is a plea, not for opportunity, but for economic and competitive parity.

Competitive parity in the free enterprise system, however, can only be achieved through attainment of comparable or better products and services. This is particularly true in radio and television where public acceptance of program service is the sole determining factor of success. As a matter of fact, the status of the 4 networks, as evidenced by a tabulation of their total billings for the years 1949 to 1954, which I have here submitted, indicates to the contrary, that a continuing growth of all 4 networks in each successive year has occurred.

Senator POTTER. That will be made a part of the record at this point.

(Network television billings, 1949-54, is as follows:)

Network television billings, 1949-54

Year	ABC	CBS	Du Mont	NBC
1949.....	\$1,391,991	\$3,446,893	\$995,525	\$6,500,104
1950.....	6,628,652	12,934,531	4,500,000	21,185,692
1951.....	18,585,911	42,470,844	7,761,503	59,171,452
1952.....	18,353,003	69,058,548	10,140,656	83,242,573
1953.....	21,110,680	97,463,809	12,374,350	96,658,551
1954 (January-April).....	10,478,129	42,980,081	4,827,665	41,642,160

Network radio billings, 1949-54

Year	ABC	CBS	Mutual	NBC
1949.....	\$42,342,854	\$63,473,583	\$18,040,568	\$64,013,296
1950.....	35,124,625	70,744,669	16,061,977	61,387,651
1951.....	33,708,846	68,784,773	17,900,978	54,324,017
1952.....	35,023,033	59,511,209	20,992,100	47,927,112
1953.....	29,826,123	62,381,207	23,158,000	45,151,077
1954 (January-April).....	10,457,574	20,416,680	7,598,134	13,170,839

Source: Publishers Information Bureau.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 731

Radio net time sales, 1952-53

	1952	Percent total	1953	Percent total
Local sales.....	\$239,631,000	50.6	\$257,254,000	51.6
National spot (nonnetwork).....	123,658,000	26.1	144,595,000	29.0
National network sales.....	102,528,000	21.7	89,528,000	18.0
Regional network sales.....	7,334,000	1.6	7,051,000	1.4
Total.....	473,151,000	100.0	498,426,000	100.0

Source: 1954 Broadcasting Yearbook—Marketbook Issue, p. 13. Figures for 1953 are estimates. All figures are net time sales, after all frequency and promotional discounts but before deduction of advertising and sales commissions. Figures represent amounts spent by advertisers on radio. Network figures do not represent the net amount received by the stations affiliated with the network, which generally amounts to about 30 percent of the network total.

Television net time sales, 1951-52

	1951	Percent total	1952	Percent total
Local sales.....	\$51,304,000	24.7	\$70,501,000	24.4
National spot (nonnetwork).....	59,733,000	28.7	82,711,000	28.6
Network sales.....	97,088,000	46.6	135,614,000	47.0
Total.....	208,125,000	100.0	288,826,000	100.0

Source: 1953 Telecasting Yearbook, p. 9. Figures for 1952 are estimates. All figures are net time sales, after all frequency and promotional discounts, but before deduction of advertising and sales commissions. Figures represent amounts spent by advertisers on television. Network figures do not represent the net amount received by the stations affiliated with the networks, which generally amounts to about 30 percent of the network total.

SOURCES OF STATION TELEVISION BILLINGS

The following is a tabulation of material shown in graph form in Annual Data Book for 1954 of Television magazine, page 81. Concerning this survey, Annual Data Book states:

“What share of station billings come from the networks—from national spot advertisers—from local accounts? Charted below are the results of a nationwide survey made by Television magazine. Based on reports from 200 stations, including all types of operations and markets, the percentages on the chart represent the share of billings averaged in each market-size category. Markets are grouped according to set circulation as of January 1, 1954. Since the billings picture in new markets differs considerably from that of the prefreeze stations, the two groups have been analyzed separately.”

Prefreeze stations

Set circulation	National spot	Network	Local
	Percent	Percent	Percent
500,000 to 1,000,000.....	37.0	28.0	35.0
300,000 to 500,000.....	45.0	25.0	30.0
200,000 to 300,000.....	39.0	31.0	30.0
100,000 to 200,000.....	45.0	29.0	26.0
Average.....	41.5	28.25	30.25

Postfreeze stations

Set circulation	National spot	Network	Local
	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
200,000 to 300,000.....	27.0	30.0	43.0
100,000 to 200,000.....	34.0	20.0	46.0
50,000 to 100,000.....	35.0	17.0	48.0
25,000 to 50,000.....	29.0	15.0	56.0
Under 25,000.....	28.0	9.0	63.0
Average.....	30.6	18.2	51.2

Mr. STORER. The controlling question in the development of the nationwide television service is how many stations can be operated profitably in each market. The answer to this question controls the future not only of UHF but of VHF as well, and in turn the future of nationwide networks and other program services. We think an analysis of several market situations is best calculated to illustrate the economic realities which basically control these questions.

In New York City, seven VHF stations were allocated and are now operating. Four of these are owned and operated by network organizations; three are independently owned and without network service. Five of the seven, including all four network stations, are, we understand, operating profitably in varying degrees. Two stations are still operating at a loss.

This situation simply illustrates that in areas of large concentrations of population, affiliation with 1 of the 2 major networks is not an absolute requirement for profitable operation. It illustrates also, that even in the country's most populous metropolitan area, seven VHF stations are beyond the present limits of economic support. As we drop down the line in the first 100 markets, the economic limitations become increasingly severe as the population in each successive market declines.

Currently, affiliation with 1 of the 2 major networks is a definite advantage in any market, but the third network right today is showing great signs of improvement and growth; and in our opinion, both the third and fourth networks will grow and develop just as rapidly as the economy will support a similar extension of the nationwide television service.

The experience of the third station in Atlanta, Ga., affords a good index of the problem facing new television stations—both VHF and UHF. Atlanta is the 23d city in population rank, with 664,033 persons in the metropolitan area. Our company operates WAGA-TV on channel 5 in Atlanta. The Atlanta Journal operates WSB-TV on channel 2. Crosley Broadcasting Corp. has operated WLWA on channel 11 in Atlanta since January 1953, taking it over from a group of local persons who had operated the station since September 1951.

As I have testified, WAGA-TV, our station, showed regular operating losses for 21 months before it got out of the red in September 1950.

Crosley is a capable and experienced radio and television station operator. It owns and operates three prefreeze television stations in Cincinnati, Columbus, and Dayton, Ohio. Nevertheless, Crosley is still operating in the red in Atlanta and we are informed has had only 2 months in which it showed a very small profit. I checked on that just recently as yesterday or the day before yesterday, and found those

small profits were on the order of \$294 one month and about \$2,000 the other month.

The obvious conclusion, borne out by our experience in other cities, is that Atlanta cannot profitably support more than three television stations at this time. We cannot predict the future. The advent of color television and the growth of television advertising generally may change this picture, but at the present time the 23d market in the Nation cannot support four television stations. UHF would be out of the question in this market, or in smaller markets. A fourth VHF station would also be in serious trouble.

In our opinion, the problem is not the absence of four nationwide networks serving Atlanta. The problem is that in a market the size of Atlanta, television revenues are limited due to the cost-per-thousand of serving the population involved. A division of the audience, due to the existence of 4 networks on 4 separate stations in Atlanta, would not assure the success of the fourth station. At the present time, the programs of all 4 networks are carried by the 3 stations. Our station and the Crosley station both carry Du Mont programs in addition to their regular CBS and ABC programs.

Large capital investments are required to build television stations and operating costs are comparably high. Mr. du Mont has suggested that a television station can be operated at a slight profit on an income of \$270,000 a year or \$22,500 per month. If this be true, then our company operations need an immediate overhauling, because the average cost of operation for each of our television stations for the current past month of April 1954 was more than 3 times Dr. du Mont's \$22,500 figure.

I might add, also, that in order to better serve the people in Detroit, Mich., and to give new rural service, we have just concluded building a new 1,000-foot tower and an installation to achieve maximum power of 100,000 watts on channel 2 at an approximate cost of \$750,000, and this is in addition to our original investment.

I might additionally say that we are currently equipping for color, building a new studio building to adequately present television programs of all kinds and color in particular, which will add another \$750,000 onto this investment. We are finding that the business of being in television is a constant reinvestment matter and is becoming more and more accentuated due to the technical problems of color.

Approximately 450,000 more television homes are now included within the coverage of our Detroit station in areas where service theretofore was at best, limited and inadequate, and in a substantial number of areas where no television service was previously available. We are making similar expenditures in other cities just as fast as the financial ability of our company will permit. Since 1927, the commencement of operations of our company, we have plowed back over 75 percent of our earnings in bringing better service to the public.

As long as investments of this size and operating costs of this magnitude exist, the number of stations which each individual area can support will be limited accordingly, but these present limitations are by no means the gage of the future, in my opinion. I look for a pattern of development much the same as that which attended the growth of radio.

I well remember the time when it was economic suicide for a local independent radio station to compete against major network affiliates with greater power and coverage in most markets. As radio became an increasingly important factor in the American home, the number of radio stations increased from approximately 600 to 2,700.

I look in television for technological developments which in time will reduce the cost of operating equipment and for new techniques and laborsaving devices in technical operations. I look also for new, diversified, and cheaper program sources and services on the one hand, and increased effectiveness of the television service as an advertising medium on the other.

All these factors, in my opinion, will in time permit the extension and expansion of a better television service, with increasing opportunity for more stations, both UHF and VHF, to serve and survive in each individual community. This probable expectancy will, in my opinion, however, only mature if the development of the television broadcasting art is left to evolve under a free competitive system where the ingenuity and creative ability of the broadcasting and related industries are given free play and opportunity, limited only by the "rules of the road" which the FCC has established and which it has effectively and fairly policed. This has been the pattern of development in the history of radio broadcasting and it will, I am sure, be the pattern for the future growth of television.

This brings me to the several suggestions which in the considered opinion of our company will be helpful to the development of the nationwide television service, both as to UHF and to VHF.

At the present time it is not possible for a television operator to remove the station which he operates from an overserved area to an underserved location. The past short period of television broadcasting has clearly demonstrated the fact that a concentration of television facilities in one geographical area, even as large as New York, may result in substantial loss, particularly for some independent non-network operations. Other areas close by, to which it would be practical to move the unprofitable service, are currently deprived of the service by the inflexible rules of the Federal Communications Commission.

As a case in point, I am personally acquainted with a television operator in New York City whose operating losses have run high into six figures each year to date, and this selfsame service could be moved to some other nearby area which is at present greatly underserved and both the public and the operator would profit. This would be a natural sequence of events based upon the economic law of supply and demand. Other instances of the same situation can be cited.

In the radio business, the Federal Communications Commission has permitted and even encouraged such improvement of service to the public by geographical changes of assignment, but in television such is not the case. We believe that the rules of the Federal Communications Commission should be amended forthwith to permit them to decide upon a case-by-case basis whether the public interest would be served by the adjustment of their allocation table. Presently, a television operator, such as my friend in New York, cannot remove his station to another area without being confronted with the necessity of first shutting down the service in New York and secondly, facing

a comparative hearing with other applicants for the proposed service elsewhere.

It may well be that a number of present UHF operators can improve their service by utilizing VHF facilities which will fit in their market and which may become available as a result of certain minor changes in the present allocation table.

The same inflexibility exists in licensing policy. Our company, for example, was denied the right to apply for a television channel in our hometown of Miami because we then owned five VHF stations, even though we represented and agreed that we would accept a grant upon condition that we first dispose of one of our other television stations to comply with the multiple ownership rules. This meant that even to become an applicant, we would have had to sell and dispose of one of our operating properties before we could apply for a "bird in the bush." Our ox was gored here, so possibly we are unreasonably prejudiced, but the same point is equally applicable to Mr. Poller's situation in Milwaukee, and in his case, we thoroughly agree that it is both unreasonable and inequitable that he should have been denied the right to apply for the new VHF channel at Whitefish Bay, which will well serve Milwaukee, without first disposing of his UHF station.

In terms of public interest, cessation of this UHF service to Milwaukee would have been unthinkable, yet Mr. Poller, under the Commission's rules, was denied the right to apply for the superior VHF service which, as he points out, may for this reason endanger the continuing successful operation of his present UHF station in this competitive market. Under the rules in radio, Mr. Poller would not only have had the right to apply for the VHF service to improve his existing service, but his effort to do so would have weighed heavily in his favor as an applicant.

We appreciate that the Commission's rule was designed to prevent "strike" applications, but here also we feel absolute inflexibility should not outweigh and foreclose consideration of a situation such as Mr. Poller's. I might explain that "strike" application is one which is put in primarily to prevent an applicant from obtaining a service in a community, sometimes at the instigation of people who already have the service in the community. I know of no way to avoid that, but usually the Commission can ferret out a strike application or a phony application, and I have to agree 100 percent with Mr. Poller that he should have been permitted to upgrade the service if he had the courage to commence.

We feel that the right of present UHF licensees to apply for new VHF facilities, and even to request reallocation of VHF channels where the same can be accomplished within the limits of the Commission's engineering standards, may well be a solution to the individual competitive problems of UHF broadcasters in a number of communities. Moreover, a switch from UHF to VHF wherever possible will inevitably result in an improvement of the television service to the public in every area.

The Commission for several years has been strongly attracted to the solution of its technical and licensing policies by inflexible rule. While the radio service prospered under a flexible policy in the administration of the radio rules, the television service is confined within relatively ironclad rules. In addition to the inflexibility in per-

mitting changes in the allocation plan, which I have mentioned above, the Commission presently has other rules which, in my opinion, hamper the development of the television service:

1. The rules do not permit the use of satellite or booster stations for the purpose of increasing the coverage of television stations, either VHF or UHF, where such additional coverage is needed by the public. Boosters or satellites can be designed in many areas as a means for equalizing the coverage of UHF and VHF stations, especially where they could be effective in filling in "shadow" areas caused by rough terrain. In case that has not been discussed in prior presentations by other witnesses, the boosters are very low-power television stations on the same channel, usually behind hilly areas, and satellites are very low-power stations on different channels which pick up the signal by means of a microwave arrangement, and in the case of very remote rural areas would be a great service to farms and ranches.

I happen to have spent a good deal of time and grew up part of the time out in Colorado. I feel that the addition of low-power boosters and/or satellites would be of immense value to the rural population.

2. The present multiple ownership rules preclude the grant of two television stations to the same person where the two stations serve "substantially the same area." In addition, the rules limit to five the total number of television stations owned by one person. If these rules are applied literally, as we must expect they will be, the Federal Communications Commission would not authorize satellite stations in conflict with the multiple ownership rules, because a satellite station operates on a separate frequency from the master station and might well be counted as a second station.

3. The rules also limit the use of directional antennas by television stations very strictly. The restrictions in the rules are so severe that as a practical matter directional antennas are not used in VHF television with one or two minor exceptions.

Finally, in the area of flexibility, there is the question of absolute numerical limitation upon the number of stations which may be owned by any one licensee or licensees under common control. Under the present Federal Communications Commission rule, the ownership of more than 7 AM and 5 television stations is absolutely prohibited and deemed by the Commission to be a concentration of control contrary to the public interest.

The Commission has pending, however, a notice of proposed rule making to extend the ownership from 5 to 7 television stations, no more than 5 of which can be in the VHF band. The Commission has stated that this proposal to relax the multiple ownership rule is intended as an incentive to multiple owners, including networks, to participate in the ownership and development of UHF television stations. Our company supports the proposed rule as a step in the right direction and is in complete agreement with the Commission that the proposal will result in more impetus and support to the UHF service in many markets. Comments filed to date in this rule making proceeding indicate that other multiple owners, including major networks, are of a like mind and will under take to build or otherwise acquire UHF stations in markets where the service is economically feasible.

Our company has already taken a major step in this direction and has pending before the Commission an application for the transfer of UHF station KPTV in Portland, Oreg. I might add, that if this application is approved, our company will pay upwards of \$2 million to the present licensee of KPTV, for the privilege of going forward with UHF service, and this is the most persuasive evidence we have to offer that we believe in the future of the UHF service and in its ability to compete against VHF, even in Portland where there will be three VHF services available.

It is very likely to be a long pull before all of the handicaps of the UHF service are fully equated, even in a market such as Portland, Oreg., where the UHF service came first in point of time, and the conversion problem is thus minimized. A substantial investment to improve the facilities of this station must be made at the earliest possible moment if it is to survive against present and anticipated VHF competition. We are willing to take the gamble and to risk our capital upon the outcome. We feel certain the networks and other multiple owners will make similar ventures as soon as they are permitted to do so.

Reverting to the multiple ownership rules, we originally had an unwritten limit of seven for radio. When FM came along the limit was fixed at six. In television the limit was first 3 and later increased to 5. The Commission's proposed rule is again to be 7 in television, no more than 5 of which can be in the VHF band.

Senator Johnson's bill, S. 3095, proposes a flexible rule of 5 VHF or in lieu of 1 VHF, that a licensee be granted 2 UHF stations on a graduated scale of 2 for 1 up to a maximum of 10 UHF stations. One witness here has proposed a limit of 5 VHF stations plus 50 percent interests in 5 additional UHF stations. One witness thinks no person should be allowed to own more than one radio or television station.

Dr. Du Mont urges that networks should be entitled to own more television stations than independent operators because, in his opinion, a network service makes a greater contribution in the public interest than do the independent broadcasters. Dr. Du Mont would peg the upper limit for network at 11 television stations. We and other independent broadcasters could as well urge that we should be entitled to own more television stations than networks for equally valid reasons.

Now, where do all these different opinions lead us?

We think they lead to the conclusion that only on an individual, case-by-case basis can these questions of multiple ownership be intelligently and effectively resolved in the public interest. We point to the Commission as eminently qualified to make these decisions and as a matter of basic licensing policy we feel that the Commission should accept and discharge this responsibility.

The inflexibility of television rules is a reversal of the policy which the Federal Communications Commission followed in radio for many years. The merits of flexible administration was proved conclusively by the growth and development of the radio broadcast service. In all fairness to the Commission, we recognize that this present policy of inflexibility has been borne of administrative convenience and, no doubt, the Commission would use the term "administrative necessity."

We fully appreciate the multiplicity and complexity of the problems which have confronted the Commission these past few years. The workload has been tremendous, but it is our considered opinion that the dynamics of the television broadcast service during this vital period of growth and development must not be subordinated to administrative convenience or even necessity.

Let me tell you also what these numerical limits have done to our company from a practical business point of view. We owned and operated 7 radio stations when the limit on television stations was fixed at 5. In each of our seven radio communities the public looked to us to go forward with the development of television and provide the same type of service in this new medium that we had rendered in radio. Moreover, our staff in each of these seven stations regarded television as a natural and necessary extension of our radio service. Because we were limited at the outset to 5 television stations, we had to decide which 2 of our 7 children would be denied this opportunity. In both Miami and in Wheeling where we have operated radio stations for 10 and 23 years, respectively, we have had cumulative reason to know that the public feels we let it down because our 5 television stations were acquired elsewhere. Our employees at these two radio stations feel equally resentful that they will be denied participation in the television broadcasting service, and this has been increasingly evidenced by a decline in morale and business at both stations.

Unless we sell these two radio stations to other persons who can qualify as television licensees, no combined radio and television operation is possible for these stations. From a business point of view, combined radio-television operation under the same management and control is a natural development. It permits and creates definite advantages in terms of cost duplication and integrated service to the community.

I might say also that radio and television are both in a period of transition. It is not unlike the silent motion-picture transition into the sound and sight movies. We hope and we anticipate that radio due to the fact that it has mobility can be used in automobiles, plus a large in-the-house audience away from the main television receiver, and the fact that you can also perform other functions in the home, particularly the ladies in their housework can follow radio whereas it is difficult to do that when they are looking at a television set. We do hope that radio will continue to be a strong service.

However, I must confess that latterly the impact of television in the markets that we operate has been most severe and we only hope that we can continue to give good radio service.

Truth to tell, in one of our operations television currently is supporting one of our radio operations which would otherwise be unprofitable.

We will never understand why it was in the public interest that we be permitted to serve 7 communities in radio, yet be limited to 5 cities in television. It is, of course, problematical whether or not we would have received grants or otherwise have acquired television stations at Miami and Wheeling.

Our complaint is—we were and are denied the opportunity to apply for or acquire television stations in these communities, and what our future business policy must be in respect of these two radio stations we have not as yet been able to determine.

Before I forget it, I would like to insert these two charts on the status of VHF educational television reservations.

Senator POTTER. It will be made a part of the record at this point. (Status of VHF educational television reservations is as follows:)

Status of VHF educational television reservations

A. EDUCATIONAL STATIONS ON THE AIR

City	Channel	Call
Houston, Tex.....	8	KUHT.
Pittsburgh, Pa.....	13	WQED.
St. Louis, Mo.....	9	KETC.

B. CONSTRUCTION PERMITS GRANTED FOR EDUCATIONAL STATIONS

City	Channel	Call or company
Mount Cheaha, Ala.....	7	Alabama Educational Television Committee.
Berkeley, Calif.....	9	KQED.
Denver, Colo.....	6	KRMA.
Miami, Fla.....	2	WTIS-TV.
Champaign-Urbana, Ill.....	12	WTLC.
Chicago, Ill.....	11	Chicago Educational Television Foundation.
Manhattan, Kans.....	8	KSAC-TV.
Boston, Mass.....	2	WGBH-TV.
St. Louis, Mo.....	9	KETC.
Chapel Hill, N. C.....	4	WUNC-TV.
Oklahoma City, Okla.....	13	Oklahoma Educational Television Authority.
Seattle, Wash.....	9	KUOW-TV.

C. APPLICATIONS PENDING FOR EDUCATIONAL STATIONS¹

City	Channel	Name of applicant
Birmingham, Ala.....	10	Birmingham Area Educational Television Association, Inc.
Sacramento, Calif.....	6	North Central California Association for Educational Television, Inc.
Denver, Colo.....	6	KRMA-TV, School District No. 1.
Gainesville, Fla.....	5	University of Florida, WRUF.
Jacksonville, Fla.....	7	Educational Television, Inc.
Savannah, Ga.....	9	Board of Public Education for the city of Savannah and county of Chatham.
Lawrence, Kans.....	11	University of Kansas, KFKU.
Nashville, Tenn.....	2	Nashville Educational Television Foundation.
San Antonio, Tex.....	9	San Antonio Council for Educational Television.
Milwaukee, Wis.....	10	Board of Vocational and Adult Education.
Do.....	10	Wisconsin State Radio Council.
Memphis, Tenn.....	10	Memphis Community Television Foundation.
Oklahoma City, Okla.....	11	Oklahoma Educational Television Authority.

¹ United States possessions and Territories not included.

Status of VHF educational television reservations—Continued

D. EDUCATIONAL CHANNELS FOR WHICH NO APPLICATION HAS BEEN FILED

City	Channel	City	Channel
Phoenix, Ariz.....	8	Gallup, N. Mex.....	8
Tucson, Ariz.....	6	Roswell, N. Mex.....	3
Fayetteville, Ark.....	13	Santa Fe, N. Mex.....	9
Little Rock, Ark.....	2	Silver City, N. Mex.....	10
Boulder, Colo.....	12	Grand Forks, N. Dak.....	2
Pueblo, Colo.....	8	Minot, N. Dak.....	6
Tallahassee, Fla.....	11	Tulsa, Okla.....	11
St. Petersburg-Tampa, Fla.....	3	Corvallis, Oreg.....	7
Athens, Ga.....	8	Eugene, Oreg.....	9
Boise, Idaho.....	4	Portland, Oreg.....	10
Des Moines, Iowa.....	11	Charleston, S. C.....	13
Iowa City, Iowa.....	12	Brookings, S. Dak.....	8
New Orleans, La.....	8	Vermillion, S. Dak.....	2
Orono, Maine.....	12	Lexington, Tenn.....	11
Duluth Superior, Wis.....	8	Sneedville, Tenn.....	2
Minneapolis-St. Paul, Minn.....	2	Amarillo, Tex.....	2
State College, Miss.....	2	College Station, Tex.....	3
Billings, Mont.....	11	Dallas, Tex.....	13
Bozeman, Mont.....	9	Denton, Tex.....	2
Butte, Mont.....	7	El Paso, Tex.....	7
Miles City, Mont.....	6	Salt Lake City, Utah.....	7
Missoula, Mont.....	11	Pullman, Wash.....	10
Las Vegas, Nev.....	10	Spokane, Wash.....	7
Durham, N. H.....	11	Weston, W. Va.....	5
Albuquerque, N. Mex.....	5	Laramie, Wyo.....	8

Source: TV Digest Factbook No. 18, Jan. 15, 1954, and weekly supplements.

Mr. STORER. We well recognize the fear and concern of both the Congress and the Commission that multiple ownership will achieve monopolistic proportions and wield an unreasonable power and influence over the dissemination of public intelligence through control of the radio and television medium.

From a practical point of view, the measure of this concern on the part of the Commission is evidenced by its present policy of inflexible limitation upon ownership. Not only do we think that this limitation is too extreme, but it fails to take into account the many diverse factors which might constitute unreasonable concentration of control or monopoly.

We fail to see, for example, why ownership of 10, 20 or even more local radio or television stations located in relatively small cities throughout the country poses a greater threat to the public interest as a concentration of control than does ownership of a lesser number of high power stations serving the great metropolitan population centers.

I want to emphasize in using the figure 10 or 20, we have no ambitions in our company along those lines. Our chief concern is to be allowed to parallel our radio with TV stations.

Somewhere the public interest will undoubtedly require that a line be drawn and an individual licensee told "this far and no further."

We feel that the Commission was intended, and should be required, to make this decision in each individual case and we would even urge, as a matter of policy, that this subcommittee give serious consideration to an amendment to the Communications Act which will preserve continuing flexibility in the exercise of the licensing power and vest responsibility for its administration in the Commission.

I think one other matter should be carefully reexamined if we are to achieve maximum utilization of all VH channels and this is the matter of the allocations for noncommercial educational use.

To date, only a limited number of educational institutions have either applied for or found it financially possible to go forward with educational television grants.

The educational groups throughout the country should be given every reasonable opportunity to utilize these allocations, but it is certainly not in the public interest that these channels reserved for education remain unused indefinitely.

The educational allocations were made in June 1952 and, although 2 years have already elapsed, many of these allocations remain unapplied for.

I might say, in passing, also, that our company in Birmingham, Ala., has agreed to turn over a transmitter and tower and some \$175,000 worth of equipment, plus the use of our studios, for 1½ hours per day, 5 days a week.

In San Antonio we have made a similar offer to the educational interests there. In fact, our policy, without enumerating every city, is substantially that.

We want to help. We feel the Commission and the radio and the television business have been good to us and we want to do our part; but we do feel that some cutoff date should be fixed beyond which these noncommercial educational channels, if not then utilized, will thereafter become available for commercial use.

Our company also supports Senator Johnson's proposal for the removal of the excise tax on UHF receivers and commends this subcommittee for its like support and recommendations to the Senate Finance Committee for its inclusion in the current revenue act.

Our company has no doubt that the inclusion of all channel tuners in home television receivers is the ultimate answer to the UHF conversion problem, and, however this result may be achieved, it is clearly of vital importance to the growth and development of the UHF service.

We join with this subcommittee in hoping that the manufacturers of UHF receiving equipment will resolve this question by voluntary action, and any tax or other incentive to achieve this result is, in our opinion, most desirable. It is the very crux of the present UHF situation, and we feel the only serious area of present concern.

In summation, I respectfully recall the following six points of observation to the attention of the subcommittee:

(1) The Federal Communications Commission has acted not only wisely but with a singular degree of understanding and intelligence in providing nationwide television service based upon 3½ years of study during the so-called freeze period—and I am not making this statement to butter up the FCC. It is a fact.

(2) The American public is the chief party in interest. They have billions of dollars invested in the present good and improving television service. Neither the Congress, the FCC, nor the broadcasters can now break faith with those millions of people who enjoy this wonderful source of intelligence and entertainment.

(3) Because the VHF television service is technically superior to UHF, the right of the public to receive the best possible service at all times must be the sole measure of the future growth and development of both the VHF and UHF service. The future of UHF can

only be determined by the need which exists for this service in each individual community and by the measure of economic support which is coexistent. The public must not be shortchanged to compensate or improve the economic problems of individual broadcasters.

(4) Flexibility in the application of the Commission's allocation rules and in its licensing policies will achieve more effective and diversified utilization of existing VHF and UHF channels. This policy of flexibility should be initiated at once.

(5) Limitations upon multiple ownership should be resolved on an individual basis in light of all of the circumstances which are material to the public interest and should not be determined by arbitrary numerical limitation.

(6) The allocation of VHF channels for noncommercial educational use should be reexamined in the light of present need and a cutoff date should be fixed, beyond which all educational channels not then utilized should be released for commercial purposes.

Again, our company wishes to express its appreciation for your courtesy in permitting us this opportunity to present our views.

Thank you.

Senator SCHOEPEL. Senator Bowring, do you have any questions?

Senator BOWRING. No. Thank you.

Senator SCHOEPEL. Thank you, Mr. Storer, for your statement.

Mr. STORER. Thank you.

Senator SCHOEPEL. We have a number of witnesses here, and we want to move on through; and I might say Senator Potter was compelled to leave, to be in attendance at another important committee function and he will return as soon as that is concluded, which looks like it might be today.

The next witness is Ted Pierson, of Pierson & Ball of this city.

STATEMENT OF W. THEODORE PIERSON, PIERSON & BALL, WASHINGTON, D. C., REPRESENTING 82 OPERATING VHF TELEVISION STATIONS AND 20 PERMITTEES FOR VHF TELEVISION STATIONS AND 33 APPLICANTS FOR VHF TELEVISION FACILITIES

Mr. PIERSON. Mr. Chairman, my name is W. Theodore Pierson. The last name is spelled P-i-e-r-s-o-n.

I am a member of the law firm of Pierson & Ball, in Washington, D. C.

I have been engaged in the practice of law for approximately 15 years before the Federal Communications Commission.

I appear here on behalf of 82 VHF operators, 20 VHF permittees who are in the process of building their stations but have not yet commenced operation, and 33 VHF applicants who are currently engaged in the course of hearings.

I would like to state this is an informal group that was formed for the sole purpose of presenting testimony to this committee.

I have circulated to the committee what we have marked "VHF Group Exhibit No. 1," so that the committee will have before it the basis for the composition of the group.

The exhibit contains telegrams sent to all VHF stations, to all VHF permittees, and to all VHF applicants. It then contains a list of the stations, the permittees, and the applicants who responded to the tele-

gram shown in the first part of the exhibit and stated their support for the position stated in the telegram.

There is a slight qualification on that. I believe in 1 or 2 instances a respondent did not approve the position we took in its entirety. We have indicated that by a footnote in the list.

I request that the exhibit be made a part of the hearing record.

Senator SCHOEPPLE. Without objection, that will be done.

(The exhibit referred to is as follows:)

(Telegram sent to all permittees of VHF stations not yet on the air:)

PIERSON & BALL,
Washington, D. C., May 28, 1954.

The undersigned informal group has determined to participate through its representatives in the Potter hearings—Senate subcommittee investigating UHF problems—and has retained the law firm of Pierson & Ball for this purpose. In general we will oppose the following proposals made by the UHF group and its advocates: The elimination of intermixture of VHF and UHF; the allocation of all television stations to the UHF band exclusively; the imposition of any freeze upon application proceedings or upon the issuance of operating authority covering permits already granted; and the reduction and limitation of the coverage areas of VHF stations. We propose to support the following proposals made in the hearings: All reasonable and proper steps to encourage production and distribution of receiving sets having all-channel tuners, and the use of booster stations to improve service inside a station's coverage area. We intend to make as many constructive suggestions as possible as to how the economic and program resources of the industry will be expanded, but intend to oppose those proposals that would have an adverse effect upon the whole medium in its attempt to get revenue and programs.

If you support these views will you please wire Pierson & Ball, 1007 Ring Building, Washington, D. C., to that effect, and authorize them to disclose your support to the Senate committee. In addition we believe it desirable to incorporate into the record any facts and views you individually may wish to express in a signed written statement, particularly with respect to the amount of money already spent and additional amounts obligated in performing the construction authorized in your permit, and the adverse effect upon the public should your authority be delayed or obstructed. It would be appreciated if such a statement would be limited to 1,000 words; and to be useful, it should be in possession of our counsel not later than June 2.

J. Leonard Reinsch, WEONAR

PAUL R. BARTLETT.
HUGH HALFF.
JACK HARRIS.
J. LEONARD REINSCH.
L. H. ROGERS.
P. A. SUGG.
H. W. SLAVICK.
ROBERT D. SWEZEY.

(Telegram sent to all VHF television stations on the air both licensed and STA:)

PIERSON & BALL,
Washington, D. C., May 28, 1954.

The undersigned informal group has determined to participate through its representatives in the Potter hearings—Senate subcommittee investigating UHF problems—and has retained the law firm of Pierson & Ball for this purpose. In general we will oppose the following proposals made by the UHF group and its advocates: The elimination of intermixture of VHF and UHF; the allocation of all television stations to the UHF band exclusively; the imposition of any freeze upon application proceedings or upon the issuance of operating authority covering permits already granted; the reduction and limitation of the coverage areas of VHF stations. We propose to support the following proposals made in the hearings: All reasonable and proper steps to encourage production and

distribution of receiving sets having all-channel tuners, and the use of booster stations to improve service inside a station's coverage area. We intend to make as many constructive suggestions as possible as to how the economic and program resources of the industry will be expanded, but intend to oppose those proposals that would have an adverse effect upon the whole medium in its attempt to get revenue and programs.

If you support these views will you please wire Pierson & Ball, 1007 Ring Building, Washington, D. C., to that effect and authorize them to disclose your support to the Senate committee. In addition we believe it desirable to incorporate into the record any facts and views you individually may wish to express in a signed written statement, particularly with respect to difficulties experienced by your station in early stages of operation with respect to set circulation, program resources, and economic support, together with a statement of the money risked and the losses incurred. It would be desirable to include in such a statement an estimate of the number of unconverted receiving sets in your community that would be made obsolete in the event of the elimination of VHF in your area. It would be appreciated if such a statement would be limited to 1,000 words and, to be useful, it should be in the possession of our counsel no later than June 2.

PAUL R. BARTLETT.
HUGH HALFF.
JACK HARRIS.
J. LEONARD REINSCH.
L. H. ROGERS.
P. A. SUGG.
H. W. SLAVICK.
ROBERT D. SWEZEY.

(Telegram sent to all VHF applicants for television stations:)

PIERSON AND BALL,
May 28, 1954.

The undersigned informal group has determined to participate through its representatives in the Potter hearings—Senate subcommittee investigating UHF problems—and has retained the law firm of Pierson and Ball for this purpose. In general, we will oppose the following proposals made by the UHF group and its advocates: The elimination of intermixture of VHF and UHF; the allocation of all television stations to the UHF band exclusively; the imposition of any freeze upon application proceedings or upon the issuance of operating authority covering permits already granted; the reduction and limitation of the coverage areas of VHF stations. We propose to support the following proposals made in the hearings: All reasonable and proper steps to encourage production and distribution of receiving sets having all-channel tuners, and the use of booster stations to improve service inside a station's coverage area. We intend to make as many constructive suggestions as possible as to how the economic and program resources of the industry will be expanded, but intend to oppose those proposals that would have an adverse effect upon the whole medium in its attempt to get revenue and programs.

If you support these views, will you please wire Pierson and Ball, 1007 Ring Building, Washington, D. C., to that effect and authorize them to disclose your support to the Senate committee. In addition, we believe it desirable to incorporate into the record any facts and views you individually may wish to express in a signed written statement, particularly with respect to the history of your interest in television, the circumstances of your decision to apply for VHF instead of UHF, the amount of the cost or estimated cost of prosecuting your application, and the amount of money already spent on application proceedings with an estimate of the total cost to a final decision. It would be appreciated if such a written statement would be limited to 1,000 words, and to be useful, it should be in possession of our counsel no later than June 2.

PAUL R. BARTLETT.
HUGH HALFF.
JACK HARRIS.
J. LEONARD REINSCH.
L. H. ROGERS.
P. A. SUGG.
H. W. SLAVICK.
ROBERT D. SWEZEY.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 745

OPERATING VHF TELEVISION STATIONS, AND PERMITTEES AND APPLICANTS FOR VHF
TELEVISION STATIONS WHICH ARE SUPPORTING THE POSITION TAKEN BY THE
INFORMAL VHF GROUP

OPERATING STATIONS

Station WABT-TV, P. O. Box 2553, Birmingham, Ala.
 Station WALA-TV, Mobile, Ala.
 Station KPHO-TV, Phoenix, Ariz.
 Station KERO-TV, Bakersfield, Calif.
 Station KSBW-TV, Salinas, Calif.
 Station KRDO-TV, Colorado Springs, Colo.
 Station KFJX-TV, Grand Junction, Colo.
 Station WNHC-TV, New Haven, Conn.
 Station WMAL-TV, Washington, D. C.
 Station WDEL-TV, Wilmington, Del.
 Station WSB-TV, Atlanta, Ga.
 Station WMAZ-TV, Macon, Ga.
 Station WTOG-TV, Savannah, Ga.
 Station KID-TV, Idaho Falls, Idaho.
 Station WHBF-TV, Rock Island, Ill.
 Station WOC-TV, Davenport, Iowa.
 KTVD-TV, KBIZ, Inc., Ottumwa, Iowa.
 Television Station KTVH Hutchinson, Kans.
 Station WAVE-TV, Louisville, Ky.
 Station WHAS-TV, New Orleans, La.
 Station WMAR-TV, Baltimore, Md.
 Station SBZ-TV, Boston, Mass.
 Station WNEM-TV, Bay City, Mich.
 Station WWJ-TV, Detroit, Mich.
 Station WKZO-TV, Kalamazoo, Mich.
 Station WJIM-TV, Lansing, Mich.
 KDAL-TV, Red River Broadcasting Co., Duluth, Minn.
 Station WCCO-TV, St. Paul, Minn.
 Station WSLI-TV, Jackson, Miss.
 Station WTOK-TV, Meridian, Miss.
 Station KCMO-TV, Kansas City, Mo.
 Station KOOK-TV, Billings, Mont.
 Station KOLN-TV, Lincoln, Nebr.
 Station KSWB-TV, Roswell, N. Mex.
 Station WBNF-TV, Binghamton, N. Y.
 Station WBEN-TV, Buffalo, N. Y.
 Station WVET-TV, Rochester, N. Y.
 Television Station WRGB, Schenectady, N. Y.
 Television Station WHEN, Syracuse, N. Y.
 Television Station WNCT, Greenville, N. C.
 Station WSJS-TV, Winston-Salem, N. C.
 Station WDAY-TV, Fargo, N. Dak.
 Station WKRC-TV, Cincinnati, Ohio.
 Television Station WLW-TV, Cincinnati, Ohio.
 Station WLW-C, Columbus, Ohio.
 Station WLW-D, Dayton, Ohio.
 Station WHIO-TV, Dayton, Ohio
 Television Station KWTW, Oklahoma City, Okla.
 Television Station KVAL, Eugene, Oreg.
 Station WJAC-TV, Johnstown, Pa.
 Station WGAL-TV, Lancaster, Pa.
 Station WCAU-TV, Philadelphia, Pa.
 Station WFIL-TV, Philadelphia, Pa.
 Television Station WPTZ, Philadelphia, Pa.
 Station WCSC-TV, Charleston, S. C.
 Station KELO-TV, Sioux Falls, S. Dak.
 Station WDEF-TV, Chattanooga, Tenn.
 Television Station WMCT, Memphis, Tenn.
 Station KRBC-TV, Abilene, Tex.
 Station KFDA-TV, Amarillo, Tex.
 Station WBAP-TV, Fort Worth, Tex.
 Station KGBT-TV, Harlingen, Tex.
 Station KPRC-TV, Houston, Tex.

746 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

OPERATING VHF TELEVISION STATIONS, AND PERMITTEES AND APPLICANTS FOR VHF TELEVISION STATIONS WHICH ARE SUPPORTING THE POSITION TAKEN BY THE INFORMAL VHF GROUP—Continued

OPERATING STATIONS—continued

Station KDUB-TV, Lubbock, Tex.
Station WOAI-TV, San Antonio, Tex.
Station KCEN-TV, Temple, Tex.
Station KFDX-TV, Wichita Falls, Tex.
Station KWFT-TV, Wichita Falls, Tex.
Station KDYL-TV, Salt Lake City, Utah
Station KSL-TV, Salt Lake City, Utah
Station WTAR-TV, Norfolk, Va.
Station WSLS-TV, Roanoke, Va.
Station KOMO-TV, Seattle, Wash.
Station KTNT-TV, Tacoma, Wash.
Station WSAZ-TV, Charleston, W. Va.
Station WDSM-TV, Superior, Wis.
Station WLW-A, Atlanta, Ga.
Station WOW-TV, Omaha, Nebr.

APPLICANTS

The Mobile Television Corp., P. O. Box 1609, Mobile, Ala.
WKRK-TV, Inc., Downtown Theater Building, Mobile, Ala.
California Inland Broadcasting Co., KFRE, Fresno, Calif.
Sacramento Broadcasters, Inc., Box 94, Sacramento, Calif.
Sacramento Telecasters, Inc.,¹ California State Life Building, Sacramento, Calif.
Hartford Telecasting Co., Inc., 780 Windsor Street, Hartford, Conn.
North Dade Video, Inc., Biscayne Building, Miami, Fla.
WIRL Television Co., 115 North Jefferson Street, Peoria, Ill.
On the Air, Inc., 1001 Diamond Avenue, Evansville, Ind.
Radio Station WIRE, Indianapolis, Ind.
Radio Station KFH Co., KFH Building, Wichita, Kans.
International Broadcasting Corp., Shreveport, La.
KTBS, Inc., 312 East Kings Highway, Shreveport, La.
Murray Carpenter & Associates, 35 Howard Street, Bangor, Maine
Massachusetts Bay Telecasters, Inc., 10 Post Office Square, Boston, Mass.
Triad Television Corp., Parma, Mich.
Capitol Broadcasting Co., Inc., 130 South Salisbury Street, Raleigh, N. C.
Tulsa Broadcasting Co., 1850 South Boulder Street, Tulsa, Okla.
Westinghouse Radio Stations, Portland, Ore.
Irwin Community Television, Co., 407 Oak Street, Irwin, Pa.
Allegheny Broadcasting Corp., Grant Building, Pittsburgh, Pa.
Westinghouse Broadcasting Co., Pittsburgh, Pa.
Pittsburgh Radio Supply House, Inc., Chamber of Commerce Building, Pittsburgh, Pa.
Tri-Cities Television Corp., 310 State Street, Bristol, Tenn.
Mountain City Television, Inc., care of Read House, Chattanooga, Tenn.
Radio Station WBIR, Inc., 618 South Gay Street, Knoxville, Tenn.
Tennessee Television, Inc., box 1390, Knoxville, Tenn.
WREC Broadcasting Service, Hotel Peabody Building, Memphis, Tenn.
Appalachian Broadcasting Corp., Cumberland and Front Streets, Bristol, Va.
Huntington Broadcasting Corp., 1105 Fourth Avenue Huntington, W. Va.
Badger Television, Inc., 110 East Main Street, Madison, Wis.
Cream City Broadcasting, Inc., 2625 West Wisconsin Avenue, Milwaukee, Wis.
WMBD, Inc., 212 South Jefferson Street, Peoria, Ill.

PERMITTEES

Alabama-Florida-Georgia Television, Inc., Dothan, Ala.
Deep South Broadcasting Co. (WSLA), box 1447, Montgomery, Ala.
Montgomery Broadcasting Co., Inc. (WFSB), Montgomery, Ala.
South Arkansas Television Co., Inc., Magnolia, Ark.

¹ Approves all views stated in wire except use of booster stations.

OPERATING VHF TELEVISION STATIONS, AND PERMITTEES AND APPLICANTS FOR VHF TELEVISION STATIONS WHICH ARE SUPPORTING THE POSITION TAKEN BY THE INFORMAL VHF GROUP—Continued

PERMITTEES—continued

Standard Radio & Television Co., 702 Commercial Building, San Jose, Calif.
 KHOF, Radio Diablo, Inc., 798 Mateo Avenue, Stockton, Calif.
 WEAT-TV, Inc., box 610, West Palm Beach, Fla.
 KPLC-TV, Calcasieu Broadcasting Co., Lake Charles, La.
 WJR, The Goodwill Station, Inc. Fisher Building, Flint, Mich.
 Mount Washington TV, Inc., Poland Spring, Maine.
 KGVO-TV, Mosby's Inc., 127 East Main Street, Missoula, Mont.
 WGR Corp., 70 Niagara Street., Buffalo, N. Y.
 Great Northern Television, Inc. (WIRY-TV), 301 Cornelia Street, Plattsburg, N. Y.
 Skyway Broadcasting Co. (WLOS-TV), box 2389, Battery Park Hotel, Asheville, N. C.
 Durham Broadcasting Enterprises, Inc. (WTIK), box 2009, Durham, N. C.
 Southern Broadcasting Co., Inc., 42 Tenth Avenue, Charleston, S. C.
 Louis Wasmer, Davenport Hotel, Spokane, Wash.
 WKBH Television, Inc., 409 Main Street, La Crosse, Wis.
 M. & M. Broadcasting Co., Inc., Radio Park, Marinette, Wis.
 WAGE-TV, Peninsula Television, Inc., 2625 West Wisconsin Avenue, Milwaukee, Wis.
 Tierney Co., 1111 Virginia Street East, Charleston, W. Va.

Mr. PIERSON. Of those who support the views of this group, 65 of them desired themselves to present information and express their views to this committee. Obviously, such a large number of witnesses would have been a tremendous burden upon this committee and we had no desire to offend to that extent. What we have done, therefore, is to suggest to those 65 interests that they prepare written statements, from which we have selected a list of 7 witnesses to present testimony which we hope fairly reflects the positions taken in the 65 written statements.

The job has been assigned to me to give the background for the opinions we here express and to generally explain the position of the group with respect to each proposal made to this subcommittee—I should say with respect to each principal proposal.

Six other witnesses will follow my testimony and will address themselves to particular situations which we believe are somewhat typical of the problems presented by the proposals made here.

I have not reduced all of my testimony to writing but only that portion that covers the background material of a legal and business nature.

I wish to read that statement first and then proceed with an extemporaneous discussion of the proposals that have been made here by some UHF stations and their advocates.

I would like then to call the other six witnesses, after which I would like the opportunity to offer the written statements into the record.

Senator SCHOEPEL. Those are the written statements that you have had forwarded to the committee?

Mr. PIERSON. As I understand, the committee has copies of the written statements, which will not be read here. I don't wish to alarm the committee, but we will ask they be copied into the record at the conclusion of our last witness, who is Mr. Reinsch.

I don't know whether Mr. Zapple has changed the listing. There was one of our witnesses omitted from the list this morning, and that

is Mr. John W. Guider, of Mount Washington Television, Inc., and if our order works satisfactorily, he will appear after Mayor David Lawrence.

The 70th Congress of the United States established the legal framework of a system of broadcasting for this Nation by the passage of the Radio Act of 1927, which legal framework was incorporated by the 74th Congress in the Communications Act of 1934.

I believe we might say in view of that that the Communications Act is a rather nonpartisan effort.

These legislative actions placed in legal focus the part that was to be played by each social force that is a factor in the success or the failure of the system. These social forces are the public, the Government, and private enterprise. The powers, the rights, and the functions of each are clearly established by this law.

It would seem that in considering further legislative action or legislative persuasion in connection with this system of mass communication, we should have clearly in mind the elements, the purposes, and the modus operandi of this concept with which we are dealing.

The only proper purpose and objective of any system of broadcasting is to provide the means by which the public need will be satisfied. Not only the American system, but any such system has certain essential elements which can be rather accurately characterized as consisting of technical capacity, programs, and money.

By technical capacity, we mean that it requires that radio waves be made available that are free of interference and that equipment be supplied that can transmit and receive the signals carried by these waves.

The element of programs embraces a public need for information via broadcasting and the ability to satisfy this need from our program resources.

The element of money covers the requirement of economic resources sufficient to finance the broadcasting plant and the job of obtaining and transmitting the information the public needs and demands.

The task of creating and supplying these various elements is one that might be assumed by government alone, by private enterprise alone, or by a division of function between the two.

There have been a number of systems of broadcasting adopted throughout the world which might be classified generally as consisting of:

(1) A government monopoly—that is, government ownership and operation of all of the facilities;

(2) Private monopoly protected and regulated by government after the fashion of common carriers and public utilities; and

(3) The operation of the system by private enterprises with government performing only those functions that it alone can perform.

The method adopted by this country to create and compound these elements of technical capacity, programs, and money into a system of broadcasting can be classified under a third category mentioned above; that is, free enterprise was assigned the function of operating the system of broadcasting, with government performing only those functions that it alone could perform.

The government allocates the frequencies; it checks to make certain that they are used for the public purposes intended, and main-

tains a watchful eye to make certain that monopolistic obstacles do not raise that limit the potential capacity of the system to serve the public.

Private enterprise with government encouragement develops, produces, and distributes the equipment that is necessary to complete the technical capacity to communicate.

The public demand for programs is voluntarily asserted by the public without restriction or mandate from government.

The money—that is, the economic resources that are necessary to establish all elements of the system—is left to private enterprise to voluntarily supply. This includes the manufacture and distribution of equipment, the building and operation of broadcasting plants, and the suppliers of the services and products needed by each. Stations' operating costs are offset by revenue from those advertisers who voluntarily find the medium useful.

It is important to remember that, under this method of providing a broadcast service to the public, government requires no person to engage in any facet of this business and exercises the power in a few areas of permitting private persons to engage themselves if they, of their own volition, decide so to do.

Government does not supply the programs or the capital; it does not order manufacturers to produce equipment, the public to buy it or tune it in, persons to build and operate stations, or others to produce and supply programs. It does not regulate programs, rates, profits, or lawful business practices, but leaves this to competition, within and without the medium, to be the natural regulator of the quantity and quality of service that is furnished to the public and furnished to those who otherwise rely upon it as a means of communication, such as advertisers.

The motives for the adoption of such a system would seem to lie both in the devotion of our people to the principle that free enterprise, with only necessary governmental interference, is the soundest system for providing the public with the services and the products it requires; and also, in certain constitutional limitations upon the power of the United States Government.

Whatever the motive, experience to date has clearly established that there is great genius in this system. It is the most free and the most comprehensive system of broadcasting in the world. Our television broadcasting is the most advanced in the world. It has accomplished in its short life fabulous achievements in terms of satisfying the needs of our national community for rapid and accurate communication of information.

We assume, therefore, that any solutions to the problems that have been posed here are to be found within the framework of this system and in consonance with its concept of the division of function between the public, government, and private enterprise; and that it will not be found by substituting a new and different system. In any event, the presentation of the VHF group is based upon this assumption.

As in the case of our whole economic system, there are certain unhappy incidents that frequently occur and excite the sympathy of all but the most mean.

I would like to add that the group of stations supporting this presentation finds it easy to sympathize with somebody who is in distress since many of them have been through the same experience and all the

applicants and permittees that support this statement are now confronted with the same possibility. They are doing nothing but spending money, and nothing is coming in.

Persons engaged in any phase of this industry, whether it be in the manufacture of equipment, broadcast station operation, program supply, or advertising, may make or lose money in widely varying degrees as the result of voluntary business decisions that they make or the particular economic and social conditions they encounter; but we believe this is a necessary concomitant of being free to make the decision in the first place.

If one asserts the right to voluntarily go into the business and to keep the profits he makes therefrom, he cannot at the same time insist that government has responsibility for his failures.

We believe it is not the part of government to deprive or relieve these people of the freedom or the fruits of their voluntary decisions.

On the other hand, we hasten to make clear that we believe government should take care that its action or inaction in the performance of its proper duties is not the unnecessary cause of failures and distress. Fickle and arbitrary action could destroy the confidence of free enterprise in the industry and its voluntary engagement in the essential facets of the business would not be forthcoming. This obviously would tend to reduce the economic support, the ingenuity and the competition that are necessary if the public is to obtain the maximum of service from the use of its channels.

Government action that is not required by public considerations and that harm private interests is wholly unwarranted; but, on the other hand, we believe that government should take such action, as is within its proper power and within its proper sphere, which tends to encourage, foster, and develop the system without, however, destroying it or taking it over in the process.

This hearing was brought on by the financial distress of certain television operators who have lost money in television or, as in the case of Mr. Poller, who are now making money and fear they will suffer losses unless the Government acts to prevent, obstruct, or hinder others from engaging in the same business.

I do not mean that all of the many persons who have lost many millions of dollars in one facet or another of this industry are organized here and in unison demanding that government save them from their losses. As a matter of fact, those who have here complained are but a minute portion of the persons who have lost money in this business.

We believe it of primary importance to inquire whether their distress endangers the success of the whole system and its capacity to serve the public, and, if so, what action, if any, can be taken by government to better secure the ultimate success of this industry's achievement of its public goals.

We have the view that no action can be justified that would constitute a greater danger to the system or that would merely shift the distress from one private party to another without improving the system.

Before attempting to give the views of the VHF group on these questions, a general understanding with respect to the terms we employ would be desirable, as well as a brief reference to certain practicalities of industry operation.

During the course of this hearing the predictions of an earlier witness that certain phrases would be much hackneyed have come true. There has been constant reference in this record to a "national competitive television system" and to a "national allocation plan." At times during the course of the presentation of views here it seems that these two terms are treated as synonymous and coextensive, which we believe is completely erroneous.

A national competitive television system in our view is that system which is required at any given time to satisfy the needs of our national community and that is within our technical, economic, and program capacities to supply.

The public need or demand, the economic capacity and the program capacity are all dynamic, not static, facets of this system. On the other hand, because of limited spectrum space and the inflexibilities imposed by priorities in use of channels, our technical capacity to supply channels tends to be static.

The national allocation plan represents an attempt by the Commission to assign spectrum space in a manner and quantity that over a substantially long period in the future will accommodate the system required from time to time by public need and that it is hoped will ultimately be enabled by our program and economic capacities.

Senator SCHOEPEL. You do not mean to imply by that they never should be under control if it becomes necessary to get the greatest service to the greatest number of people or to prevent it from getting into a few hands so that it might become unreasonable in the advertising media, expenses, or something like that?

Mr. PIERSON. You are referring, I take it, Senator, to economic capacity and program capacity?

Senator SCHOEPEL. That is right.

Mr. PIERSON. I believe if free enterprise is unable to provide the capacities available to support this system another system must be substituted, but not within the framework of our present concept. We must go to the common carrier or public utility concept or we must go to government ownership and operation, and I hope I made clear in the earlier part of my statement that one of the definite functions of government under the concept that we are now pursuing is that they shall take care that monopolistic tendencies do not develop because that is necessary if free enterprise is to function and to render the service that is expected of it.

The Commission did not, in considering its national allocation plan, make any substantial attempt to determine with exactness the system that our economic and social capacities and requirements would support or permit at all times or at any given time in the future. It made what could have been no more than an educated guess as to what these factors that defy accurate prediction and that are completely beyond the control of government would ultimately require in terms of frequencies or spectrum space.

The Commission could have done nothing else because it cannot be imagined that government could attempt a more futile thing than to try to predict over a long period in the future what our social and economic fates will dictate in the way of a national television system.

This national allocation plan, therefore, is not the national television system itself; it is merely the most static and predictable facet thereof. It does not mean that if at any given time we have fewer

stations than the plan will technically accommodate we do not have a national television system. The national allocation plan is merely the maximum technical capacity of the system insofar as present technology indicates. It is the technical horizon within which the national television system must grow.

We wish to emphasize that if the public demand at any given time is less than the allocation plan will accommodate there is nothing the Commission or Congress can do about it without changing the whole concept of the function of and relationship of government in and to this essential industry and without depriving our people of their constitutional freedom to choose how they will occupy their time.

I would like to explain that point further by adding that what I mean is that if people are not interested in tuning in or buying sets and cannot, therefore, be caught with an advertiser's message, our Government, with its present constitutional limitations, cannot order them to do so.

If the economic resources and program capacity at any given time are less than those required to completely use the facilities provided in the allocation plan, the help the Government can give it is limited unless we are to adopt a system of Government ownership and operation.

Within the limits of the allocation plan, this national television system is a dynamic thing, not static; it will be ever changing. It is affected by the growth and location of our population, which is ever changing. It is affected by the changing tastes and interests of our people in information, entertainment, and diversion, which are never constant. It is affected by the economic condition of the Nation and all facets of this industry, which are far from static.

It would seem clear, therefore, we cannot take a month or 6 months, or a year, or any short period of time in the short history of this industry and say that this truly represents either the public requirements or the private capabilities of the industry. It is no more correct to take the first 3 months of 1954 as indicating the constant and insoluble problems of the industry than it would be to take the first 3 months of any year from 1946 to the present date.

The only thing that is constant, looking back over the short life of the television industry, is that at each stage of its development there have been serious problems that have constantly changed from time to time.

We hold that it is remarkable and almost beyond belief that in the short period of 8 years so many solutions have been found by an industry beset with so many different problems.

Problems in the spring of 1954 may be different in some respects than those of the spring of 1946, 1949, or 1952, but we believe that the system itself has demonstrated the vigor and capacity to solve them.

The industry is in its infancy and its ability to provide this dynamic national system, we think, is quite promising. Just a short 8 years ago there were only 5 television stations in the United States and, in spite of a deadening 4-year freeze imposed by the Government, there are now 384 stations.

We should take some lesson from the clear fact that this accomplishment of free enterprise was much limited by the Government's imposition of a freeze over approximately one-half of this period.

By the end of 1953 nearly \$200 million had been invested in tangible broadcast property alone. The advertising revenue of the television industry increased from \$8,700,000 in 1948 to \$430,800,000 in 1953.

It is estimated that the public has invested \$12 billion in receiving equipment, though I heard an estimate this morning of six billion. In any event, it is more money than I can imagine.

The program resources of the industry were increased from practically zero in the year 1946 to a relatively great multiplicity of program hours at the end of 1953.

The testimony of those engaged in the development and manufacture of technical equipment, who have already appeared in this proceeding, gives eloquent evidence of the tremendous advances in the equipment and technology of the industry.

These accomplishments by the industry in its infancy hardly indicate a child with a congenital illness that can never grow up to achieve the goals of its maturity. One of the legs of this infant might be said to be suffering from some rather painful sores; but this, on the basis of current diagnosis and experience with similar ulcers in the past, would hardly seem to justify the amputation of the good leg to save the bad. We believe that these sores, painful as they are to the leg that bears them, will disappear and leave only faint scars if we allow the health and vigor of this infant to overcome the infection with probably no more than the application of some hot packs and a substantial amount of loving care. In any event, such a drastic remedy as radical surgery or such despair as calling for the undertaker hardly seems justified.

I would like to point out there that the elimination of intermixture, the elimination of VHF, the reduction in the coverage of VHF stations, is what we call radical surgery.

The freeze is a numbing anesthetic and the Du Mont proposals are the call for the undertaker.

Senator SCHOEPEL. What do you say about requiring some kinds of arrangements, voluntary or otherwise, that these sets be developed so that they might take both types of service?

Mr. PIERSON. We fully support and urge Government to take every step within its proper power, including the exercise of the taxing power, to encourage VHF-UHF sets.

Senator HUNT. Don't you think that is primarily the business of the industry and that they should apply themselves very energetically to getting that job done and not make the Government compel them to do it?

Mr. PIERSON. I believe so: and I suppose if we had the concept, Senator Hunt, that the taxing power should be used only for the purpose of raising revenue we would not want to use it for the purpose of regulating or encouraging the private industry; but it is my impression that concept of the taxing power only for revenue has long since been deserted. I, therefore, think if the Government can find, by use of its taxing power, it can encourage the result devoutly desired by the public, then it should do that.

I have been informed by people to whom I have talked in the manufacturing industry that the probable result from the lifting of the 10-percent excise tax, which has been proposed, would be that all television sets, of whatever price classification, would have UHF capabilities.

At least, that seems to be the view of some of the larger manufacturers in the field.

We would like to touch briefly upon the practical aspects of operation in the television industry to the extent of inquiring what it sells and how it acquires the thing it sells.

As has been pointed out on numerous occasions in this record, a television station sells circulation. We would define this as being people equipped with receivers and the wonderful habit of tuning in. People become equipped with receivers and develop the habit of tuning in only if the station is prepared to furnish them with the programs they need or desire through an electrical signal that is strong enough to activate the receiver.

Except for an attractive program delivered by a signal that will activate a receiver, the public is not going to buy sets, or, having them, will not tune them in.

This is a basic condition and the great challenge that has faced all pioneers in radio, AM and FM, and all pioneers in television, VHF and UHF.

Getting the public to tune in is now, and always will be, the fundamental task of every TV station, new or old, VHF or UHF, operating in small or large markets.

This is the ultimate task that our concept of the service left to private enterprise. The elimination of the risk of this task by Government would cut deeply into the very heart of the American concept of free, competitive, commercial broadcasting.

Let us briefly consider how a station goes about procuring the programs that will meet this challenge and defeat this risk.

Program sources are generally divided into two categories as to origin—local and national.

At the local level the station can produce and perform programs either live or on film. In order to do this, a local station operator must risk money.

The national suppliers of programs again are divided into two principal categories: There are what are called the national networks, which for the purpose of our understanding of that term we suggest be defined as companies supplying programs to a multiplicity of stations by way of physical interconnection through wire or microwave relays.

The programs that the network transmits over its fixed system of electrical communication may be originated either in the form of live or in the form of film.

To conduct this type of program supply requires the risk of money by both the network and the station.

We do not mean to imply that money alone is sufficient to insure success, because the job of producing something that will be attractive to the public is an art and not an exact science; but the fact remains that with all the ingenuity and artistic talent in the world it cannot be accomplished without the risk of money.

The other principal category of national program supply is what we shall call film syndication. In this category all programs are on film, but are not delivered to stations simultaneously over wire or microwave relay; rather, they are delivered by mail or express to a multiplicity of stations. An undertaking in this type of program

supply likewise requires money as well as ingenuity, and the money must be risked by both the stations and the film distributors.

It would seem clear that the basic weapon for defeating the problem that confronts every broadcaster at every moment of his existence is the willingness to risk money on programs. This is a joint risk to be undertaken by the producer of the programs, by the distributor of the programs, and by the broadcaster himself.

We would next like to pass to a brief consideration of the persons to whom a broadcaster sells this circulation he strives to acquire. Under the present development of our industry his buyers are advertisers, wherever they are—local advertisers, regional advertisers, and national advertisers.

The advertiser may patronize the station in a variety of ways. He may buy time on a program already being broadcast, and that program may be from a national or a local source of supply. He may buy the time only and supply his own program, or he may buy time or the program or both through a network or film syndicate, or buy it directly from the station. If the national advertiser buys it through the network, it is what the industry calls a network sale. If a national advertiser buys directly from the station and not through a network, it is called a national spot sale.

We believe it will further clarify the issues here to attempt briefly to place in their proper sphere these national agencies for programs and revenue.

First, there are currently operating in this country four national networks. The function they serve in this industry is dual—they are a national program source and an agency for the sale of stations' time to national advertisers. Since their programs are used over a multiplicity of stations, the cost per program per station is less than where use is by a single station, and, of course, this furnishes an economic base for higher-quality programs. The network, in addition, serves the advertiser by clearing time over the stations in the markets the advertiser desires to buy. Its functions can be summarized then as program supply, national selling, and clearance of station time.

The measure of the extent to which any given network satisfactorily fulfills these functions is ultimately based upon the quality and quantity of their programs and the effectiveness of their selling and clearance operations. This, in turn, is based in substantial part upon the money the network has been willing to risk, upon the ingenuity of its program producers, and upon the effectiveness of its salesmen.

But it is not the networks alone that risk money. A station that affiliates with a network also risks money or its equivalent in substantial but varying degrees.

The cases are numerous in the past or present where a station in order to obtain a network affiliation must guarantee the network the cost of the line connecting the station with the network.

There are instances where the network delivers its programs by film and the station must bear the cost of processing and delivering the film.

There have been numerous instances in the past and there are some at the present where a station must pay a fixed affiliation fee before it can even get the affiliation.

It is a very usual and standard provision that a station give up a substantial part of the normal revenue from its time to the network in order to obtain the network affiliation.

It might be desirable to note in passing that from a revenue standpoint the quantity of programs a station takes from a network reaches a point of diminishing return. Because of the compensation that a station must give to a network, a station generally receives substantially less from time sold by the network than it receives from time sold directly to national advertisers, or in some instances to local advertisers. The reason, however, that a station will nevertheless seek and accept a network affiliation is that the quality of the programs it is thus enabled to broadcast increases the circulation of its station and, therefore, the value of its nonnetwork time and spots. Since the station is in effect selling a portion of its time to the network at wholesale rates and frequently at less than cost, it obviously reaches the point in the volume of its network broadcasts where it would be poor business for it to take.

We believe this is important because there definitely is a limit to the volume of network programing that a station can normally take.

Let us turn now to a consideration of the functions that normally are or can be performed by an organization engaged in film syndication.

Like the network, the film syndicate constitutes a source of programs that can be less costly and generally of higher quality than local originations because of their use by a multiplicity of stations. In addition, a film syndicate can if it chooses provide national salesmen for the stations with which it deals, and can if it chooses provide a station time clearance service to national advertisers. It is directly competitive with networks in terms of talent procurement, program production, and program distribution. It can if it chooses be competitive with the network in selling national advertisers and in providing a clearance service to national advertisers.

The only real and necessary difference between the two is not so much in the services they do or can perform, but in the manner by which they deliver the programs they supply. A network delivers them principally by wire or microwave; a film syndicate by parcel post or express.

I should point out, however, that some networks or perhaps all of them—I am not certain—also engage in film syndication to some degree and that, pending the development of the means of physical interconnection, all of them have used film deliveries to nonconnected markets.

There would appear to be certain advantages and disadvantages in both of these principal methods of performing the function of national program supply and commercial selling. First, the networks were established much earlier in point of time and had fixed relationships with a number of broadcasters throughout the country, so that when the supply of stations was short they had a tremendous clearance advantage by virtue of that position alone. This advantage decreases as the number of stations and the number of hours of programing demanded by the public increase, and as contractual arrangements run out.

It is obvious that a program of value produced live can only be performed once without duplicating cost, whereas a program per-

formed on film can have any number of runs over any period of time that may be demanded.

This is not an advantage, however, that is exclusive to film syndication because the networks more and more have been placing the programs they originate on film so that after they have been performed on the networks they will be available for subsequent broadcast by any number of stations. This is what is called the residual value of a program and can only be preserved by recording the program.

There are those who believe, although I am not certain it has been or can be established, that the cost of film delivery by way of land or air transportation will be substantially less than the cost of a fixed circuit of coaxial cable and microwave relay. It does clearly appear, however, that while fixed wire or microwave relay connection with the top markets of the country may be economically feasible, such fixed connections with the 200 or more markets in this country that may ultimately have television stations raise questions of economic feasibility.

This suggests that, while networks may have advantages in the economics of their delivery in the early stages of television operations when the markets or number of stations were relatively small, the advantage may turn to film syndication as markets and stations become more numerous.

The progress of film syndication as a national source of supply of programs and as an agency to perform national selling and station clearance has lagged substantially behind the progress of the development of network performance of this function. A number of explanations are at once manifest.

First, all but one of the networks were established in radio and thus possessed the potential energy of a going business consisting not only of revenue, but established relationships with stations, advertisers, and program sources.

While those networks enjoyed a competitive advantage from this potential, it also supplied us with daring pioneers who might have been long in coming from less well-situated sources.

Each of the networks has owned from 1 to 5 stations in the principal markets of the country and thus had not only an individual use for the programs it originated, but had the economic support of such local operations.

Those interested in establishing themselves in film syndication, however, did not to any substantial extent, enjoy these advantages possessed by the networks. When the number of stations was few and the supply of air time, therefore, was short, the networks were in a vastly superior competitive position.

First, there was little time that a newcomer could hope to clear for advertisers who might want to use the program material in stations over the country.

Second, the stations' time was almost saturated with network program material and they had little use for film program material; and what use they had for it was in the low-rated periods of time that could not economically support substantial charges for program material.

The recording of any program on film substantially adds to the cost of the program and can only be justified economically if there is a substantial demand for subsequent performances or runs.

Some idea of this cost is indicated by the fact that a fair-to-good quality half-hour dramatic film program will average about \$25,000 to produce. This means then that, for a film producer to provide 1 half-hour program per week for a period of 1 year, he has to underwrite a cost of about \$1,300,000.

With station operations averaging about 100 hours per week each, it is easy to see that substantial amounts of money must be risked by anyone undertaking to be a substantial source of film supply.

During the period of the Commission's freeze when the number of markets and the number of stations were limited, when many stations were oversupplied with program material, no prudent investor would have set out to establish himself as a substantial source of quality film supply.

No prudent person would risk such vast amounts of capital just to put inventory on the shelf against some indefinite future date when there might be a demand for it.

The real development of film syndication as a national program source naturally awaited the termination of the Commission's freeze, but the tremendous increase in the number of persons venturing into this field in the short time since the lifting of the freeze is, I believe, one of the most phenomenal developments in the industry.

We can expect many persons who venture into this field of program supply to lose very substantial sums of money and we know there are a host of problems inherent in this facet of the industry, but the growing public demand for programs and the growing demand caused by the increase in the number of television stations and markets will support no other belief than that this form of national program and selling service will become an important factor in the industry, provided we are patient and give free enterprise an opportunity to develop its full potential and provided we give it the freedom to succeed or fail.

A certain concern has been stated in the course of these hearings that under its present framework there is great danger that competition in the various areas of the television industry is or will be nonexistent, and there have even been assertions that a monopoly now exists. We have been unable to learn from the record or to apprehend from the statements therein the precise nature of this trend toward monopoly that seems to be feared. Perhaps, therefore, our understanding of the competitive conditions, existing or potential, in the industry will tend to explain our failure to be impressed with these statements of alarm.

As we have previously stated, the facets of this industry involve the production and distribution of equipment, the national production and distribution of programs, the national sale of advertising, the local production of programs, and the local sale of advertising. Let us examine each one of these areas with respect to existing and potential competition.

We are aware of no substantial showing that has been made by any person, public or private, that in the business of manufacturing and producing transmitting and receiving equipment in the television industry there exists anything but the keenest and most vigorous competition.

In the field of national program production and distribution all of the four national networks compete with each other; the film syndicates compete with each other; and the networks as a whole and film syndicates as a whole compete with each other.

In the area of national advertising sales there would seem to be no doubt that the networks compete vigorously with each other and also compete with the national representatives who are attempting to make spot sales as distinguished from network sales. These national selling agencies for stations compete with each other and the markets they represent do also. Furthermore, all who are engaged in attempting to sell television time to national advertisers are competing with all other national advertising media—newspapers, radio, periodicals, billboards, and direct mail.

In the area of local program production, all stations in the area compete with each other and, by Commission regulation, two stations in the same market cannot be owned by a single interest. If a community now has only one station and a monopoly, therefore, exists, it generally arises from 1 of 2 causes.

The first cause is that, while the Commission may have allocated more stations to the community, the Commission's freeze, the redtape, and the procedures that have been necessary have delayed the establishment of a competitive station.

In other instances, we undoubtedly have and will have situations where the community will not support more than one station. In these situations it seems that, in order to avoid a monopoly, two courses could be adopted: First, we could hope that community growth, lower cost of operation, and increased revenue potentials may at some future time economically justify the establishment of a competing station in the community. The alternative, which we would not recommend, is to say that since the community can have only one station, it will be denied any in order to avoid this monopoly forced by natural laws.

In the area of local advertising sales, all television stations providing a signal to the listeners in the locality compete with each other and they in turn each compete with other media—the radio, newspaper, billboards, and direct mail.

We are unable to find one bit of evidence in the existing or reasonably foreseeable situation in the television industry that forms any basis for the belief that monopolistic control over program sources and advertising revenue either at the national or local lever is the remotest possibility.

There is another area that involves a somewhat different concern than the concern about economic competition. This is a social factor that the Commission has recognized over the years and involves the desirability of avoiding a concentration of control of the media available for mass communication of news and views to the people of the Nation or to the people of any community. It expresses a proposition with which we can all agree: That it would be highly dangerous to this country, our form of government, and our political, social, and economic institutions if one interest or a very few controlled all channels for mass communication of ideas and information.

We think a brief consideration of our present circumstances in this connection devastates any cause for alarm.

Information, ideas, news, and views are presented to the people of this country by a variety of sources, which include television, radio, newspapers, periodicals, theaters, and direct mail. The barrage of words and pictures that assail the American public is so tremendous and stems from such a multitude and variety of sources that it is possible to say that no single interest or small group of persons has anything remotely approaching control of the many channels of communications now employed with various degrees of effectiveness in this country.

We are unable to find any facet of this industry in which a monopoly now exists or is threatened.

Since I completed this statement I have not stopped my attempt to apprehend the dangers that have been stated in the record.

Under my most recent understanding, it seems that the monopoly of which they speak is what they call a VHF monopoly; and, if I understand the contentions, they go substantially beyond my concept of a monopoly, although I may have a narrow, legalistic view of that, because one fact that is clear is that the VHF stations are not owned by a small group of people. Their ownership is widely diversified. The fact also is that these VHF stations compete with each other wherever the circumstance of economics and social factors calls upon them to do it.

Senator SCHOEPEL. But they are limited to a rather small group, that is, small range?

What is it—13 or 14 channels?

Mr. PIERSON. Yes, but there are 500, Senator Schoepel, stations possible, as I understand it.

Now, 500 stations, assuming that the ownership and control of those stations is not concentrated in the hands of a few, certainly will provide substantial competition because, bear in mind, under the Commission's licensing policies and practices, no two of them could be owned by the same interest in any market. That means that all of them that cover the same area will be in competition with each other. It also means, under the Commission's policies, that only a small group, five in number, can be owned by any single or connected interest.

Now, I submit that in the VHF operations there is now and there is great potential for very substantial competition, and there exists no basis for contention that there is a VHF monopoly.

VHF itself is a means. It is an element of nature. It has no capacity to form a monopoly. So long as the ownership of those stations are diversified and not concentrated in a few people, I do not see how, under my understanding of the term "monopoly," one could be said to exist.

To summarize, we have under this Nation's concept of broadcasting the Government performing the limited function of laying out the rights-of-way, keeping them clear of technical and monopolistic obstacles, and leaving it to private enterprise under competitive conditions to venture money, time, and ingenuity, free of governmental interference, pampering, or management, to provide the mass communication service the Nation needs or wants. Thus far, no other concept of broadcasting in the world can even approach its achievements. In its television operations, its phenomenal infant growth can only confirm the genius inherent in this system.

There is no justification now to interrupt its growth, to degrade the concept, or to weaken it by governmental tampering with the natural laws that regulate free competitive enterprise. Above all, to give free enterprise its full chance, we must avoid fickleness in government regulation and instability in the means that are provided by government.

The dynamic potential of private enterprise is inversely proportioned by the extent of fickle, arbitrary, and unstable actions and positions by government.

This, then, we believe to be the American concept of broadcasting which is incorporated in present law. If we are wrong in our understanding of that concept, then the views we express here with respect to the proposals already made will have no validity. If we are right or substantially right in the concept we have here described, then we believe that the views we here express are most compelling and should be given substantial weight by this committee.

We would like now to state and discuss our position with respect to the principal proposals made by those who express fear for our system because of the difficulties of some UHF station operators. Our position with respect to these matters can be summarized as follows:

1. We oppose the elimination of the intermixture of UHF and VHF in the same market.
2. We oppose the allocation of all television broadcast service to the UHF frequencies.
3. We oppose any reduction or limitation upon the coverage of VHF stations beyond that now imposed by the Commission's rules.
4. We oppose a freeze on the further issuance of permits and of authorizations to operate pursuant to outstanding permits.
5. We oppose the so-called Du Mont proposals.
6. We approve the encouragement of the production and distribution of UHF-VHF receivers by the lifting of the excise tax on such receivers.
7. We approve the use of booster stations within a television station's own area where it can be found by the Commission to be technically feasible.
8. With respect to proposals made to the subcommittee that involve highly complex, technical, social, or economic considerations, or that cannot be fully evaluated at this point because of the lack of empirical knowledge, or that require much more careful study and research than is possible in these proceedings, we recommend that such proposals be referred to the Commission by the subcommittee without recommendation.
9. We favor the adoption and continuance by the Commission of lawful procedures that are designed to establish at the earliest possible date a comprehensive national television system by the elimination of time-consuming procedures and redtape.

That concludes the written part of the statement.

I would like now to extemporaneously explain the reasons that we have for the positions that I have just recited.

Senator SCHOEPEL. Might I ask you, sir, about how long do you anticipate that might be?

Mr. PIERSON. I suspect it will take about an hour or an hour and a half.

Senator SCHOEPEL. In that event, what we better do, because I think this is an excellent place to conclude this part of your presentation, is recess this hearing until 2 o'clock, at which time we will then hear you.

We will reconvene at 2 o'clock in this room.

Mr. PIERSON. Thank you, sir.

(Whereupon, at 12:02 p. m., the hearing was recessed, to reconvene at 2 p. m. of the same day.)

AFTERNOON SESSION

(The hearing reconvened at 2 p. m., Senator Potter presiding.)

Senator POTTER. The subcommittee will come to order. I first wish to apologize for leaving this morning, but there is another committee that I happen to have membership on, and we hope that this is the last day of their sessions. I was informed when I went over there this morning to make a final statement that they hoped to finish it today. However, I think they will be going on this afternoon, and I still think they will conclude today, and I apologize for having missed some of the testimony here this morning, but I hope to be able to devote my full attention this afternoon.

I understand that Mr. Pierson had made his statement and you have some further observations you would like to make, is that correct?

Mr. PIERSON. That is correct. What I had done was really to state our background.

Senator POTTER. It might be well to announce at this time that after the conclusion of the witnesses tomorrow, we will allow a half hour for one of the representatives of the UHF people to make rebuttal statements, and also a half hour for persons representing the VHF people, to make rebuttal statements if they care to, and also a half hour for representatives of the Federal Communications Commission to make rebuttal statements.

I would appreciate it if in your rebuttal statement that you limit it to rebuttal statements. I think that it will be fairly complete as to the arguments that you have used, and if there is conflict in testimony or conflict in observations, you can use that rebuttal period for making those corrections.

Proceed, Mr. Pierson.

STATEMENT OF W. THEODORE PIERSON—Continued

Mr. PIERSON. Before the noon recess, I had completed a statement with respect to the background upon which we base the views that we entertain with respect to the proposals made here by the UHF advocates.

I had also completed the summary of our position with respect to each principal proposal that has been made. Before passing to the consideration of the principal proposals that have been made thus far in the record, we would like to disagree with certain basic assumptions that seem to us to be implicit in the arguments and proposals of the UHF proponents—I should say the UHF stations that are here making the proposals. There is implicit in their arguments and proposals an assumption that our population and our economy

is static. We hold that this assumption is wholly invalid for reasons that I have stated in my presentation this morning.

There is also implicit in their arguments and proposals the assumption that we must have four national networks, all operating at a profit.

For the reasons indicated in my presentation that I have already made, we believe that this contention is wholly invalid, particularly in view of the multiplicity of alternative sources, existing and potential with respect to program and revenue supply on a national basis.

There is also implicit in their proposals and argument the assumption that revenue capacity of television has leveled off or is now predictable. We hold that this assumption is wholly invalid.

One need only to turn back to the economic and social predictions that were made in 1946, 1948, and 1950 and 1952 to readily come to the conclusion that these prognosticators of boom or bust, whichever they were, have not perfected an exact science for prediction so that we should base our legal system of broadcasting or television upon their predictions at any given moment.

There is implicit in their arguments and proposals the assumption that program production and distribution sources are static and subject to no further growth. We believe this assumption invalid. Every indication is precisely to the contrary.

There is also implicit in their argument and proposal the assumption that if present UHF fails in any particular enterprise, no one else in the future, after the industry has grown or population has grown and many problems have been solved, will be able to succeed where our contemporaries have failed.

I think the history of the broadcasting industry itself particularly and AM radio in particular and the history thus far of television shows that that is indeed an invalid assumption.

The first four proposals that I recited in my presentation this morning, namely, the elimination of intermixture of UHF and VHF, our opposition to their proposal that all television be moved to UHF, reduction and limitation of VHF stations, and their proposal for a freeze, I would like to treat for the most part together.

These four proposals all have a common purpose. They all seek to reduce the coverage or delay the establishment of a large number of television stations for one single purpose, to eliminate competition of the people who propose it.

Now the thing that rather strikes me about these proposals on their part is the temerity of a group of people who can come here and excite this committee about the threat of a monopoly or lack of competition, and then make proposals designed to prevent anyone from competing with them.

I would like to illustrate that with the Greenville situation.

In Greenville there are two stations, a VHF and a UHF station. A representative of the UHF station appeared here and asked this committee or the Commission, or both, to take action to prevent a station that was allocated to Spartanburg, a few miles away, from rendering service to the people of Greenville. They also went on to say that they did not want any stations outside of Greenville to render a service to the people of Greenville.

Now I can understand the private interests that would dictate a desire of that kind. I can understand why these two operators would like to have this cozy and comfortable situation for themselves, but I am wholly incapable of understanding how they can say that that promotes competition, or how they can say that that is in the public interest of the people of Greenville for this committee or the Commission to say to them you can never have more than two signals.

Now another quite astounding thing to me was the people who joined in the advocacy of these proposals and point out that one of the reasons we are likely not to have four national networks is that there are not enough stations upon which time can be cleared to be sold by the networks.

If the Greenvilles, the Atlantic Cities, and the other markets in the same situation have only two stations operating in their area, by law or by Commission regulation no station outside of those markets can serve it, I want someone to tell me how under those circumstances we have more than two national networks.

Now, if we assume that all the hoped-for technological improvements in the service to be rendered by UHF operators are accomplished, I believe that the technical evidence in this record clearly demonstrates, as well as the admission of our opponents, there will not in any event be facilities existing in this country able to reach the many remote or gulley areas of the country that have no reasonable hope of ever obtaining television service except through VHF.

There can be no gainsaying that there is a tremendous need on the part of these isolated rural areas for television, a need that I believe exceeds the need of any person located in an urban area.

The possibility of obtaining information, the means of communication and the means of entertainment, and the diversion for these people are much less. It is unfortunate that nature did not equalize the coverage potential of all parts of the spectrum, but it did not.

The lower part of the spectrum will serve relatively long distances and reach into remote rural areas. It also has the facility that the upper part of the spectrum does not have, and that is a folding into the gulley areas of our country. It has the disadvantage in the fact that we have not enough spectrum space there to provide for the number of stations that are needed in the principal markets of the country, particularly those that are crowded together in the northeast section of it.

So you have the capacity of VHF to serve the remote and gulley areas, but an incapacity to provide the right number of stations for heavy populations and towns.

Senator POTTER. How small a community can a VHF station serve successfully?

Mr. PIERSON. I think that all depends upon the coverage that the VHF station is able to fold in from its hinterlands.

Senator POTTER. How many receivers would you have to have to get your signal?

Mr. PIERSON. I do not pretend to be an expert, but I have heard the statement made that to be economically sound, they should have access to 100,000 receivers. I believe that that is at best a guess, because obviously all of that is affected by a multitude of factors. It depends upon the cost of operation which we hope will go down. It depends on the cost of obtaining programs which we hope will go

down. It depends on the attitude of the public toward television and its interest in tuning it in. It also depends upon how effective television is with other media with which it must compete.

All those factors are not static. They are dynamic. I believe it is impossible for anyone to say now what is possible and what is impossible in terms of the future economy because our population will not stop its growth. Our economy will not stand still. People are moving from one place to another, and we will probably have something in the nature of ghost towns and boom towns.

Senator POTTER. Do you contend that in order to have a nationwide competitive system that we must have UHF?

Mr. PIERSON. Indeed, I do; and I also contend, by the same token, that we must have VHF.

Senator POTTER. There is quite a bit of this discussion and it has been a little difficult for me to know just where you feel that UHF could live. Is it right in the rural areas? Should it provide a service in the remote areas, or can it live in a metropolitan area, particularly where there is competition from the VHF's?

Mr. PIERSON. I think I would find it difficult to build a pigeonhole on the basis of what we now know. They have one disability in a rural area. Let us say there is a town of 30,000 people, and let us assume that it is a mountain area of the United States or out in the Great Plains. Since they cannot reach over long distances, they have trouble in obtaining within their service areas a large enough potential audience to become a successful factor.

That is with respect to national advertising sales. So I would think they would experience difficulty in those kinds of areas. It seems to me that they are most likely to have their earliest successes in the more concentrated areas such as we have in the eastern part of the country; and in the eastern part of the Midwest, where towns of 20,000 and 30,000 and 40,000 and 50,000 people are located 5 and 10 and 15 miles apart, and the distances to which you have to serve to obtain a substantial number of people are relatively short.

Senator POTTER. We have been confronted with this main problem, and I think the UHF people who have testified have said that they have had successful operations, and that has been in the areas where they have not had to compete with the VHF's.

I was wondering if it was your testimony that they should be relegated to areas outside the signal of the VHF?

Mr. PIERSON. No, indeed. I think the problem as they have stated it is a problem that results from going into markets where VHF has obtained set circulation and until there are conversions they are going to have that problem. That was a clear problem when the Commission adopted its sixth order. It should have been a problem clear to to anyone who applied for a UHF permit, but rather than be disturbed about the lack of progress by the UHF people in getting conversions, I have been tremendously impressed in what has been accomplished in a period of less than a year. To me the set conversions and things that these people have been able to do, some of them at least, to promote their operations to induce people to buy sets, doesn't show that they are going to fail. It may mean and it most certainly will mean that they will have to underwrite losses for a longer period of time than some of them have, and it might be an underwriting that would exceed the amount that they had originally hoped for.

But I believe that the fact that they are now having those difficulties does not mean any permanent disability or require any permanent reallocation. It requires some patience with the length of time it takes the free enterprise to develop an industry and some patience with the people being informed and becoming aware of the services that are made available, and it takes selling to national advertisers, also.

Senator POTTER. What experience have you had with, and what knowledge do you have as to the effectiveness of the all-channel tuner, that is, the receiver?

Mr. PIERSON. My knowledge is only second hand in that respect, Senator Potter, as I stated. That was in response to a question of Senator Hunt this morning, and the information that I have been given has been that if the 10 percent excise tax is lifted, the tendency will be, the result will be that most large manufacturers will produce nothing but sets with UHF capabilities, and that being true, I think it would tend greatly to aid in the earliest solution of this problem of circulation.

The technical problem involved in these tuners—I can operate a knob, but what is inside of it I haven't the slightest idea.

Senator BOWRING. Might I ask a question?

Senator POTTER. Yes, surely.

Senator BOWRING. Do you think that the Federal Communications Commission needs more legislation to undo the mess that they seem to have made by mixing UHF? Do they not have the authority to straighten out the mess they made?

Mr. PIERSON. I do not believe they made a mess.

Senator BOWRING. You think it is a mess for them to be in direct competition? VHF seems to be blanketing out the UHF. Please, if you will be patient with me, I want to tell you that I know very little about this business. I have watched the map and if you will be patient with me I would like to ask you a few questions.

Mr. PIERSON. I would love to have the questions asked.

First, the problem confronting the Commission was this, and it was well known at that time, that if they used VHF only, they could not get sufficient stations so that they could have allocations for these cities in the northeastern part of the United States located close together. If they had gone to UHF, they had a substantially greater amount of spectrum space with the result that they could get many more stations, but if they used UHF only, they would not be able or could not reasonably expect that a lot of rural areas in the country and a lot of people living in the gullies of the country would ever receive service from UHF.

Under section 307(b) of the statute, the Commission is instructed to make a fair, efficient, and equitable distribution of service to the various communities and States in the United States.

It seems to me that it was clear that the statute required that they adopt an allocation plan that would give a reasonable assurance that every person in this country had the technical possibility of receiving a signal.

Now the difficulties of these remote areas are actually best demonstrated in the Great Plains of our country and the Rocky Mountain area or the northern New England area, where they have towns fairly far apart. If you go through Nebraska, west of Omaha, I suspect

you have difficulty finding anything but Lincoln that is above 50,000 people.

Senator BOWRING. We have no difficulty in finding our towns. We just haven't multiplied as fast as you have in New York. Our towns were set out as being 12 miles apart. We haven't filled them up yet.

Mr. PIERSON. Senator Bowring, I am particularly appreciative of that, because I am not from New York. I lived for 21 years across the river from Nebraska.

The problems there are that the concentrations of population that would be needed to support a station are spread out over long distances. I suspect that you have become acquainted with the problems in a city such as Lincoln. Therefore, a station located, for instance, in the city of Lincoln, in order to become a factor so that it will compete with other markets for national revenue and can compete for networks, has to get a reasonable number of people within its service area or a competitive area. In order to do it, it has got to reach out much farther than if the station was located in New Jersey or Pennsylvania. It has got to transmit its signal over a very long distance.

If you reduce the coverage potential of a station in Lincoln, Nebr., or Hastings or Grand Island or whatever, and if you say, can you serve 20 miles from your area, or you must go to UHF, because you are serving more area than you are capable of, and you must do that in order that we can level off competitive opportunity, then you have prevented the stations in that area from being able ever to assemble a sufficient number of listeners to attract national advertising and to become self-supporting.

As a matter of fact, the thing that has been difficult for me to understand is how in the name of heaven a UHF station that could not compete with a VHF station because the VHF station had greater coverage, so you say that the VHF station must cut down its coverage to be the equal of the UHF station, and then neither one of them will be able to attract national advertising, and then the newspapers and the radio, of course, will pick up the business. You have by that move made both of the stations, the UHF and the VHF failures.

Senator BOWRING. You do not think it was a mistake to mix the stations?

Mr. PIERSON. I do not think it was a mistake, but it was dictated by the statute. The Commission had to be certain that the rural areas had service which could be assured only with VHF, and they had to be certain that they had a proper number of stations in order that they could make assignments in the crowded areas in the East, and one part of the spectrum would do one thing, but not both.

Senator POTTER. Along that line, how many receivers would you have to have to receive your signal in order to be a profitable operation, and I believe you said it is more or less a rule of thumb, of about 100,000. It seems to me that whether it be UHF or VHF, that the Commission should be more flexible in granting licenses and conditions to operate, and I assume that in some areas these booster stations might be an answer to both UHF and VHF.

Mr. PIERSON. That is correct.

Senator POTTER. If we are going to be able to cover the area and make it that no one will operate unless he can make a profit out of it, then it has got to be a successful operation irrespective of whether it

is UHF or VHF, and I am thinking of northern Michigan for example, and I think we have an allocation of a couple of VHF stations in the Upper Peninsula. I think Marquette is the largest city of about 30,000.

Mr. PIERSON. I think there have been some applications of Bay City or Saginaw.

Senator POTTER. That is not the Upper Peninsula.

Mr. PIERSON. Oh. For example, Escanaba.

Senator POTTER. For anyone to be successful, they would either have to have a lot of power or else possibly some booster stations to reach out into the area where people would like to have the television service, and also so that the company could be able to have a successful operation.

Mr. PIERSON. I think the Upper Peninsula of Michigan offers an excellent example or possibility of extending coverage sufficiently far to obtain enough listeners to make it economically sound, and it is much greater on VHF than on UHF and with respect to the question of flexibility and the Commission's rulings on allocation, that would involve a several-hour argument itself, and I can only speak for myself and can't speak for the VHF companies because they have not been queried on this point, but I do have some agreement with the contentions that the rules on allocation tend to be much more inflexible to meet these needs as they appear.

I must confess, however, that I realize the tremendous problem that the Commission had at the onset, that they had to have some basis from which to proceed. I am hopeful that, as we progress, we will lose that inflexibility to a substantial extent.

Senator POTTER. My suggestion was not made, by any means, to criticize the Commission, because, I think, probably, at the time of the allocation they had no way of knowing at that time just where the gaps would be, but I do think we are reaching a point now where that should be given serious consideration.

Mr. PIERSON. I think that the other problem of the Commission was that there were poised about 1,000 applications to be filed and the Commission had to indicate to each applicant of a channel just what channel he might be able to apply for in that community. Otherwise, there would have been complete chaos. I think the inflexibility has primarily resulted from that problem, and that problem, we hope, if the Commission is not instructed to impose a freeze, will be solved because they are getting pretty well to the end of their processing problems.

Senator BOWRING. We have heard a lot about making the sets so that they can receive both signals, and they have talked about every type of converter from the small and inexpensive type that I can afford, up to the larger and better type of the kind that you can afford.

We had a witness testify that it would cost \$6.50 for an 82-channel tuner to cover all the channels. Is there any reason why the Federal Communications Commission or this committee cannot ask these licensees of these valuable stations to produce these sets, and wouldn't that force the manufacturers to make them? If you can make them for \$6.50, it seems to me we are worrying about something unnecessarily.

Mr. PIERSON. In the first place, I think it would be desirable for you to ask them.

Senator BOWRING. I am asking your opinion, sir, not theirs.

Mr. PIERSON. And I am giving my opinion. I think it would be desirable for them to do that.

Secondly, I think they will do it if the proposal to lift the excise tax is done.

Thirdly, I think it is of doubtful propriety without a tremendous amount of study for Congress to instruct anyone to build anything in a particular way. I think the best you can do is to try to set up the climate under which they will do the things you hope they will do.

Senator BOWRING. It seems to me if they can make these for \$6.50, that it would be most helpful to the people if the sets were able to receive all these signals. It seems to me that the manufacturers are cutting about 85 percent of the television channels.

Mr. PIERSON. I am afraid I am probably in an area with respect to the problem, an area of lack of knowledge that I should probably pass over the question.

While \$6.50 seems to be a relatively small sum of money, it is my understanding that the average radio manufacturer has a margin, or is deemed to be an efficient operator if he has a margin in terms of gross income of 6 percent above his costs.

In other words, if you take all the money that they take in, and if he efficiently operates and is successful in the business, the amount of profit he now gets out of his total gross is about 6 percent in a good year.

Well, \$6.50 may not seem like a lot of money, to put the \$6.50 in the set without changing the price, or to put the \$6.50 in the set and boost the price, and therefore not sell as many, or to put them in and increase substantially inventories that cannot be sold, you easily turn your business from a profit to a loss. The \$6.50 is not such an incidental figure.

Senator BOWRING. It seems to me, as a buyer and not as a manufacturer, that if I were buying a set that cost \$400 that in order to receive more channels I would be very happy to add \$6 to receive more than one signal.

Mr. PIERSON. That would not be the result. The \$6 figure, as I understand it, was the bench cost to the manufacturer. That is what it costs him. From the time the set leaves the factory bench and it gets in the hands of the public, the price multiplies somewhere between 4 to 8 times. In other words, in terms of final retail price, that \$6 could be \$48 or \$24, whatever the factor is.

Senator BOWRING. If the excise tax were taken off, it would take care of that, and with the taking off of the excise tax, then if they had the direction that all these sets be made that they could receive all channels, and I recall someone said yesterdayer it is like having two different types of railroads with the different widths of the track, and I am not insistent that they make 6 percent. As a matter of fact, the cattlemen have not made 6 percent, but if we could sell twice as many cattle as we did before, we thought that was pretty good business.

Mr. PIERSON. If cattlemen started losing money——

Senator BOWRING. We did lose money, and we stayed in business, and we keep losing it.

Mr. PIERSON. We think that if they fail to earn a profit, they generally do not continue long in business.

Senator BOWRING. I would hate to think that they would fail in this business. It seems to me that the manufacturers could broaden the field there. It seems to me that some requirement should be made that the sets could receive all these signals. It is not much benefit if you cannot receive them.

Senator POTTER. It seems to me that is the core of the whole thing. If all sets could receive the UHF as well as the VHF signal, there would be no problem.

Mr. PIERSON. That is right, and I do not want to be misunderstood. The VHF group that I represent are very much in favor of lifting the excise tax on the basis or belief that that will result in the manufacturers making all sets that have full UHF capability.

Senator POTTER. I can imagine if you did for television sets, there might be manufacturers in other businesses who might think it might be helpful for them.

Mr. PIERSON. I think that is probable.

Senator POTTER. I think some of them have received relief, and as a matter of fact, I understand it is in the rumor stage that in this present tax bill the committee will resist any effort to have any excise tax included in the tax bill, but I understand they will receive a promise that the next tax bill that will come up in this session, and there will be others, that this will definitely be considered.

Mr. PIERSON. I think that is very encouraging.

Senator POTTER. And I am hopeful that that will happen.

I would like to ask this further question: Take for example the city of Philadelphia, where you have 3 VHF stations, or St. Louis where they will have 3 VHF stations—do you believe a UHF operator can operate successfully in either one of those communities and, if so, how can they?

Mr. PIERSON. If it were my money, I wouldn't invest in a fourth VHF station in Philadelphia, and therefore I would have to say that I do not think UHF would have a substantial opportunity at the present time.

But perhaps a long-range answer is by comparison to the AM version in radio, and I think there is a singular analogy. In AM radio they had a very similar problem. They needed a large number of stations so that they could have sufficient stations for the concentrated cities of the East, and yet in the Far West and the Middle West they needed stations that would reach out long distances. The Commission adopted an allocation plan when AM radio was about the same age as television was in 1952, and here is what they did. They set aside certain frequencies upon which a large number of stations would operate, but with low powers and low coverage, and those stations would generally serve only the cities in which they were located.

They set aside other channels, what they called regional channels, with regard to which a fewer number of stations could operate, and those stations served large urban areas and regional areas.

Then they set aside I believe at that time about 40 frequencies upon which only 1 station in the country or at least a very few would be permitted to operate. They called those clear-channel stations.

They therefore adopted an allocation plan that would give a sufficient number of stations in the crowded areas, and at the same time give wide rural coverage in the areas in which the people's only hope for service is to obtain it over long distances.

The reason that I think that experience is particularly encouraging here is because today we have many markets in this country in which a 250-watt local station, a 5,000-watt regional station, and a 50,000-watt clear-channel station are operating in the same market and competing with each other.

Many stations in each class are very, very successful. Now what was not done in AM was to say that in order to equalize competitive opportunity, we are going to prevent people in the remote rural areas from getting service. Rather, we are going to adopt an allocation plan that will technically assure them a service and hope that private enterprise can find the means of making them wrong. I submit that it is the concept of the present act. It was the proper thing for the Commission to do and I submit that free enterprise has made it work and if given the opportunity, if given the opportunity in television, we are satisfied that it will make it work here.

Senator POTTER. However, if you did that as you did in AM, if the same receivers can receive the same signal—

Mr. PIERSON. We did not always have that. In AM some of the receivers would not take the top part of the band and there was, as Mr. Storer related this morning, a conversion problem in their sets, their receivers, which did not all have the same fidelity and the same characteristics.

The one thing that I think is important to remember is that the Commission did not decide that in order to equalize the opportunity for private investors, they would adopt a system that would forever preclude certain people in our country because of their location of getting service, and I think that was a sound approach.

Senator BOWRING. Mr. Cullum yesterday said that ultra high frequency was for rural areas. If that was so, why did the Federal Communications Commission mix up VHF and UHF in the large cities?

Mr. PIERSON. I believe his testimony was that VHF was for rural areas.

Senator BOWRING. Maybe I misunderstood him. Where there is a big circle and a concentration of population then it looks to me when you get into this area where you have the larger cities and you enlarge these big circles, you seem to block out the little ones.

Mr. PIERSON. When this big circle blocks out the little circles, we must remember that while you are furnishing competition to the people operating in the little circle, which may be good, they are also blanketing in people who might not otherwise get service, and one difficulty in our country is that you cannot say that all the rural areas are entirely out in the Great Plains or the Rocky Mountains, although being from there I sort of tend to think so.

Senator BOWRING. You can understand that I might be interested in that area, also, slightly.

Mr. PIERSON. Oh, yes, indeed. But there are rural areas in the northern part of Pennsylvania, rural areas in the northern part of New England that have great difficulty in even getting radio service, and greater difficulty in getting television, and for that reason you can hardly take any part of the country where there is not some necessity for long-distance service.

Senator BOWRING. As an engineer, do you think that the Federal Communications Commission, if they thought it was desirable to

unscramble this thing, do you think they can do that? Do you think they have the authority to do that?

Mr. PIERSON. I do not want to be traveling under false colors. I am not an engineer. I am a lawyer.

Secondly, I think they have full authority to modify their allocation plan if they find that the public interest will be served. I have serious doubt that the public interest—and I thoroughly believe that it would not be served by such an attempted unscrambling at the time.

Senator BOWRING. I am awfully sorry to have called an attorney an engineer. I saw so many things that you said here that I thought maybe you missed your calling.

Mr. PIERSON. I think there has been substantial representation already made in the record with regard to the tremendous costs to the public in the obsolescence of the sets that would result from a shift of all stations to UHF or from the eliminating of intermixture.

There was some contention that this might have been solved by extending the period over which this would be accomplished, over a period of 5 years or so.

One difficulty is that we have no evidence to show how long it takes the public to junk their sets. We do not know that there have been any positive results on that. We do know that there have been very few trade-ins and there are very few used sets on the market.

Mr. Roberts gave some testimony to the effect that they buy a new set and then they move the old set to the bedroom or the back porch.

Senator BOWRING. Might I ask another question, Senator Potter?

Senator POTTER. Certainly.

Senator BOWRING. While I did not take it that 5 years was the point on which they had definitely set upon which they had come to a conclusion, I thought perhaps it was something which could be worked from.

Mr. PIERSON. I do not think they have any basis now to determine what that period would be.

Senator POTTER. The Commission just put out some data, and the answer to the question "How long do television set owners keep their sets before buying a new one?" was that it is estimated that the average television set is turned in for a new set, average 6 or 7 years. I would assume one way to get a new set is to have an increase in the size of the screen. At least, that is the way my wife looks at it.

Mr. PIERSON. I want to turn now to the question of the effect of the elimination of intermixture, the effect that it would have upon those who have made investments in existing VHF operations. I believe there is a factor involved in what would seem to be the results from that change. The investment in the plants that have been made to date on VHF were made in prospect of specific VHF channels, and the business decision of each one of those people was based on what they figured was the economic potentiality of the specific VHF channel that they applied for.

I believe it is quite clear from the record that the economic potentials of VHF and UHF are different. I believe the record also shows that generally UHF investors risk less money on plant, which obviously reflects the general judgment that UHF justifies a lower risk, risk of money.

Now these UHF investors having had the rules of allocation of the Commission, and it took them 4 years to decide them, in which the Government said, "Here are the channels that will be used in this town, and then decide that they are going to go ahead upon a basis of the channel that the Government says is available and spend a substantial amount of money on the economic potential of that channel, I believe it is highly injurious and unfair to those investors to now adopt ex post factor Government action that substantially decreases the value of their investment and may well turn what was a profitable investment into a loss.

I do not think that they took any risk that Government would, within less than 2 years after it stated its allocation plan, would change the thing around completely. I have read testimony in the record by some of the UHF advocates that they felt that they had an equity in the fact that they did not expect the Commission to cut through the redtape and give the public this service as fast as it did, and therefore this was changing the rules of the game because they thought Government delays would be so extensive that they could operate for several years without fear of competition.

Now if they have an equity in that, I submit that the VHF investors have a greater equity in the fact that they invested money on a very deliberate plan promulgated by the Government that had every appearance of being final.

Senator BOWRING. I hope you understand, Mr. Pierson, that I am interested in both of the "theys," and including "they" the people. I am interested in "they" the UHF and "they" the VHF, but the people also.

Mr. PIERSON. I would like to address myself for the moment to the effect upon "they" the people of what I would think would be a highly unstable Government position in this business, if we change it now.

It is said that under our present concept tremendous sums of capital are required from the private free enterprise if the system is going to work. The potential, the capital potentially available from free enterprise is inversely proportionate to the fickleness and instability of Government in whatever regulatory position it must assume in the industry.

It has always been true in the history of both radio and television that the principal money markets have not been easy for broadcast operations to tap and one of the most frequently given reasons is that they have only temporary licenses and that they are subject to changeable Government regulations, and we as prudent investors do not want to invest in a business with those hazards.

Now if the Government makes another change—and this has been going on since 1946, changes for the third time the basic means with which the industry does business, I submit that most prudent and conservative investors are going to decide that other industries are a better place to put their capital.

In my opinion, they will tend definitely to leave us to the fringe investors who, I think, are not participants in this business, desirable participants. I believe, therefore, that if the subcommittee agrees that private enterprise must furnish tremendous sums of capital in purchasing equipment and purchasing programs and in building stations, the Government can best serve it by taking a stable position, and

not changing it from month to month or year to year. I believe that it would tend ultimately to destroy the confidence of capital in the business, and since the business depends upon that, it would be in derogation of servicing the public.

Senator BOWRING. And I presume you mean that a stable position should be taken, and in respect to that do you think it was stabilized as of now?

Mr. PIERSON. The last 9 years of history is this, that immediately after the war the Commission set out to make a study of the frequencies with which to start at the earliest possible moment a television system, and they came out with an allocation plan in 1946.

On the basis of that plan, a number of people applied. In 1948 Government said they thought they might have made a mistake, and now they were sure. So they said they were holding everything up in the industry. No more stations until we have completed this allocation plan.

Senator BOWRING. That was beneficial to some people, was it not?

Mr. PIERSON. I am merely reciting now without attempting to criticize the instability of the Government that takes this position up to date. They took 4 years to decide what kind of an allocation plan they would adopt, and they finally adopted one and put it into effect in July of 1952.

Now 18 months later the proposal is that we overhaul the whole thing and go back and change the means by which these things are to be accomplished under a completely different means, and at the same time not only harming a lot of private investors who based their investment upon that plan, but changing an industry, having a tremendously adverse effect upon the business in its investment in receiving means and that is what I mean, that after 9 years of instability it seemed it might be a desirable thing to give free enterprise a chance to work this thing out for a period of a few years, before we start overhauling the whole thing all over again.

Senator BOWRING. I presume the people who objected to the Federal Communications Commission plans, are doing what they were doing at that time, are they not, Mr. Pierson?

Mr. PIERSON. I think that is true. I suspect that this is also true, and the Commission can scarcely take any action but that someone doesn't object.

Senator BOWRING. Do you think that the lawyers and the engineers were keeping the Federal Communications Commission informed at the time they took this action? They messed up about 85 percent of our television channels, although I take it you do not think it is messed up.

Mr. PIERSON. No, I do not think there is any mess. I think that the Commission did a wonderful job with the very difficult problems.

Senator BOWRING. And with the very best information that they could have gotten out of the lawyers and engineers at that time?

Mr. PIERSON. Well, the Commission has a large staff of its own upon which they principally rely. Engineers testified before them with respect to the plan, and lawyers were in there representing business interests that had some information to give to the Commission, and it is fair to say that all the lawyers were not in agreement with each other, no more than they are now, nor were the engineers.

Senator POTTER. That makes for good lawyers.

Senator BOWRING. Thank you for your patience.

Mr. PIERSON. Thank you for your patience. I am afraid I have not completely covered the point.

I would like to speak more specifically with regard to the proposals to freeze the issuance of further construction permits and authorizations to cover outstanding permits. The adverse effect of such a proposal upon both public and private interests is appalling.

The public investment in receivers has already been stated in the record, and we must remember that every one of those receivers has a limited use so long as they are stations that the Commission has allocated, and the people are willing to build but not actually to put into operation.

There are 22 cities in the top 100 markets that only have 1 VHF station. The proposal there, and I should add that in each 1 of those markets there are either applications pending for 1 or 2 other VHF stations, or there have been applications granted and the VHF stations are in the course of construction.

The freeze, so far as the listeners in this area are concerned, would mean that from 1948 to whatever date in the future this freeze would be lifted, those people would be left without the use of their channels. The receivers would have limited value.

They propose that this freeze should be imposed, for the benefit of people who took a risk in free enterprise and now desire to avoid the competition that would be established if the freeze is not imposed.

In other words, as much as we might fear for the people who are experiencing losses in television, the fact remains that the freeze proposal is nothing more or less than a proposal to pass the injury that they are suffering from their own voluntary decisions onto the public and to their potential competitors.

I do not believe that this is in accord with the concept that has been adopted in the present legislation regulating the industry, and I believe also that during the period of the freeze, the freeze itself tends to promote monopoly. It must promote that, because the very purpose of the freeze is to prevent competition with the people who proposed it.

I would like now to consider the case of the applicants. An applicant was generally confronted with certain problems when he decided to file an application. He first could decide whether he wanted to get into the business or not.

Secondly, the Commission gave him notice of the facilities available and various communities so he could pick his community. And if it was an intermixed market, he could apply for either VHF or UHF.

If he applied for VHF, the prospect was that because of the greater number of applications for VHF channels, he would have to go through a comparative hearing. These comparative hearings are tremendously complex, and time-consuming. I have seen estimates varying from \$10,000 to \$200,000 per applicant in the cost of prosecution, and I believe the record to date in one comparative hearing case was 62 days actually spent in hearing. The hearing started in the fall of 1952, and there is not yet an initial decision of the examiner.

Most of the persons who applied for VHF realized that this cost and this gamble were there. Those in UHF who got in the market.

earlier, they knew they would have the advantage to be established earlier and have the advantage of established relationships with all the elements in the industry that make up a going business.

But they knew, or at least it was generally thought and believed and now proven, that the economic potential of VHF would be greater, so that the one who decided to go for VHF felt he would take the gamble and the disadvantages with the hope of ultimately prevailing as one of the applicants.

The applicant for UHF had the same information before him. He realized that in most cases if he filed his application for UHF there would be practically no prosecution costs at all.

The lawyers and engineers would make practically nothing. His money could be spent for actual productive purposes, that is, building the station instead of wasting it on litigation. He knew that there was a good chance that he would probably get on the air earlier. He also should have known since these were things that were bruited about from one end of the country to another, that there were problems in connection with circulation, programs, and revenue for UHF.

I think we must realize that by and large everyone had the same opportunity to make his choice. I submit that the tremendous amount of money that is now invested by those who took the VHF route of application proceedings before the Commission certainly justifies the contention that they should not be delayed further, and further injured because somebody else decided to take another risk, the UHF people, that they now have decided it is bad.

The injuries upon permittees who have gotten applications granted after spending much money in prosecuting their applications and now have committed many thousands of dollars to get their permit and go ahead and construct the station are even greater in my opinion.

They say we will have only a 90- or 180-day freeze. In 1948, when the Commission instituted the freeze to do a similar reallocation job as has been suggested here, it was predicted it would be concluded within 3 to 6 months. It lasted 4 years, and I believe the job that the Commission would have to do in determining this matter would take substantially longer than 90 or 180 days.

I submit that not only would the freeze injure those applicants and the permittees who are partially built, but that it would deny to the public the use of the facilities of the applicant that the Commission is ready to grant, and which the free enterprise is ready to support. It would harm the public by reducing the competition in every market where it had any effect whatsoever.

Senator BOWRING. I have over a long time interested myself in highways and I am thinking about people putting up hamburger stands and gas stations and all that type of thing that go along the highways. I do not recall the highway department ever saying anything to those people when they desired to put the highway some place else. I don't know whether they said anything to you or not, but I thought you might be interested in what is going on in my mind.

Mr. PIERSON. I am first aware of the fact that roads are located generally for getting the public with the most facility to where they want to go.

Senator BOWRING. And we want to do that with this medium also.

Mr. PIERSON. And persons who invest with the hope that a road will stay are never insured, I assume, against when a road will be

moved. I know they are not in my State of Iowa, and I assume not in the other States of the Union.

But I think the comparison ends there, because the State does not hold out to people whom it invites to file applications to locate filling stations or grocery stores where they are going to locate the roads.

Here we have the Government performing a permissive function. You cannot, like in the case of a filling station, go out and build one if you can buy the land and have the capital. First you have to go to the Government and you have to apply for the right to use the space along the road.

Now the roads are laid out by the Government as a basis for attracting free enterprise to use the space on them and along them to render a public service, and I think the responsibility of Government there is vastly greater than in the case of the fellow who builds the filling station along a highway.

Senator BOWRING. I go along with you that there may be a different degree.

Mr. PIERSON. Actually I want to make sure that it is understood. I think this case must be based upon the public equities and perhaps our emphasis on private equities is primarily brought about by the fact that those who testified before us placed great emphasis upon their private equities, and it is an effort to show that even if it were to be decided on private equities, the equities are at least even or I, obviously with the bias of advocacy, think that they are on our side, but to continue, the public equity must control and there are no private equities here that can override the public interest.

There has been an attack upon the Commission's effort to reduce red tape to a minimum in its attempt to give the public its earliest possible use of channels that had been denied the public as a result of more than four years of a freeze period.

To understand what the Commission did and how well it did its job in this connection we should have an appreciation for the tremendous processing task with which it was faced in 1952. As of July of 1952 there were only 108 stations in the country located in 63 markets and 40 of those markets were single-station markets.

Because of this scarcity in facilities, the development of the whole industry was delayed, the development of the program, the development of networks, the development of revenue sources were more or less held in abeyance as a result of the lack of physical means to establish a full system that could be a medium of mass communications and an attractive medium to advertisers. There was the public demand for service which grew louder and louder.

Free enterprise was poised with tremendous amounts of capital ready to go into business as soon as the Commission would issue the means by which the business could be done. We had then a situation where everyone that was an essential element and prepared to make this system work was ready to go except the Government.

Under these circumstances, I do not see how anyone can possibly criticize the public's representatives in Congress for urging upon the Commission the need for all deliberate speed in meeting this public demand.

Why should Government take longer than necessary to perform its functions in this system, and what evil, I submit, is greater than Government red tape that prevents people from getting the produc-

tion and the services that they demand? I submit no Congressman or Senator need apologize for urging the Commission, staying within the lawful processes set out by the act, to cut the red tape to the maximum possible if it gets television to the people that they so much demanded, and that free enterprise was willing to furnish.

Senator POTTER. Along those lines, I believe that the Congress last year appropriated additional funds, \$300,000, for 25 extra examining teams, I believe, to expedite and clean up the backlog.

Mr. PIERSON. That is correct. I would like to spend a small amount of time on what the Commission did next, after it lifted the freeze.

First, a tremendous volume of applications were filed, and the Commission had to examine the applications to determine whether or not each applicant had the qualifications required by law.

Now, if upon examination of the application, they found that the applicant did have such qualifications, then they could grant the application under the law without a hearing, providing there was no application pending that was in conflict with it.

If there was an application in conflict with it, the Commission, as a matter of law and as a matter of due process, had to give the applicant, who ultimately will be denied, an opportunity to be heard before he is denied. This is what resulted in the comparative hearings, which, as I have stated before, were tremendously complex, tremendously long, tremendously costly to the public in loss of service and to private litigants and the Government in the cost of litigation.

One other think, I think, should be borne in mind; that it is a rare exception in these comparative cases where the Commission has not found all the applicants who were applying fully qualified under the requirements of the law in which the only necessity for a hearing resulted primarily from giving the one to be denied his day in court.

The Commission adopted procedures that were designed to expedite to the maximum possible extent the time spent in these hearings, and to procedures that would accommodate settlement as between private parties.

It has been a characteristic of our advanced judicial system in this country to do everything they can to encourage settlement of private controversies without the use of court processes. We have had provisions all the time that frivolous actions and cases that were not really controversies were not entitled to use the processes of the court.

Now, the people who have criticized the Commission's procedures that were designed to make earlier the date when the public would receive service and were designed to eliminate the financial, economic, and social waste of litigation, have said that one of the primary duties of the Commission is to encourage comparative proceedings because it is through comparative proceedings that you can find an applicant who is better qualified.

I submit that is not the principal function of the Commission, nor even an important function of the Commission if we look at the realities of the situation.

As I have said before, these applicants are equally well qualified under the law, so the Commission must decide which one of them will render the best public service and the Commission does that by drawing inferences from the proposals that they make or inferences from their background qualifications.

Because of the practicalities of the situation, both of these qualifications tend to equivalence. When a person files an application that will go through a comparative proceeding, he knows that to succeed he must present proposals that will be superior to those of the people with whom he is competing, or at least equal. Generally, in all these comparative cases, all the applicants propose about the same number of hours of operation, the applicants proposing about the same staff and the same plant.

The same is true in connection with their background qualifications. A lot of these television applicants are newly formed enterprises, and they very carefully pick their constituents so that they will present the best posture that they can in terms of background qualifications.

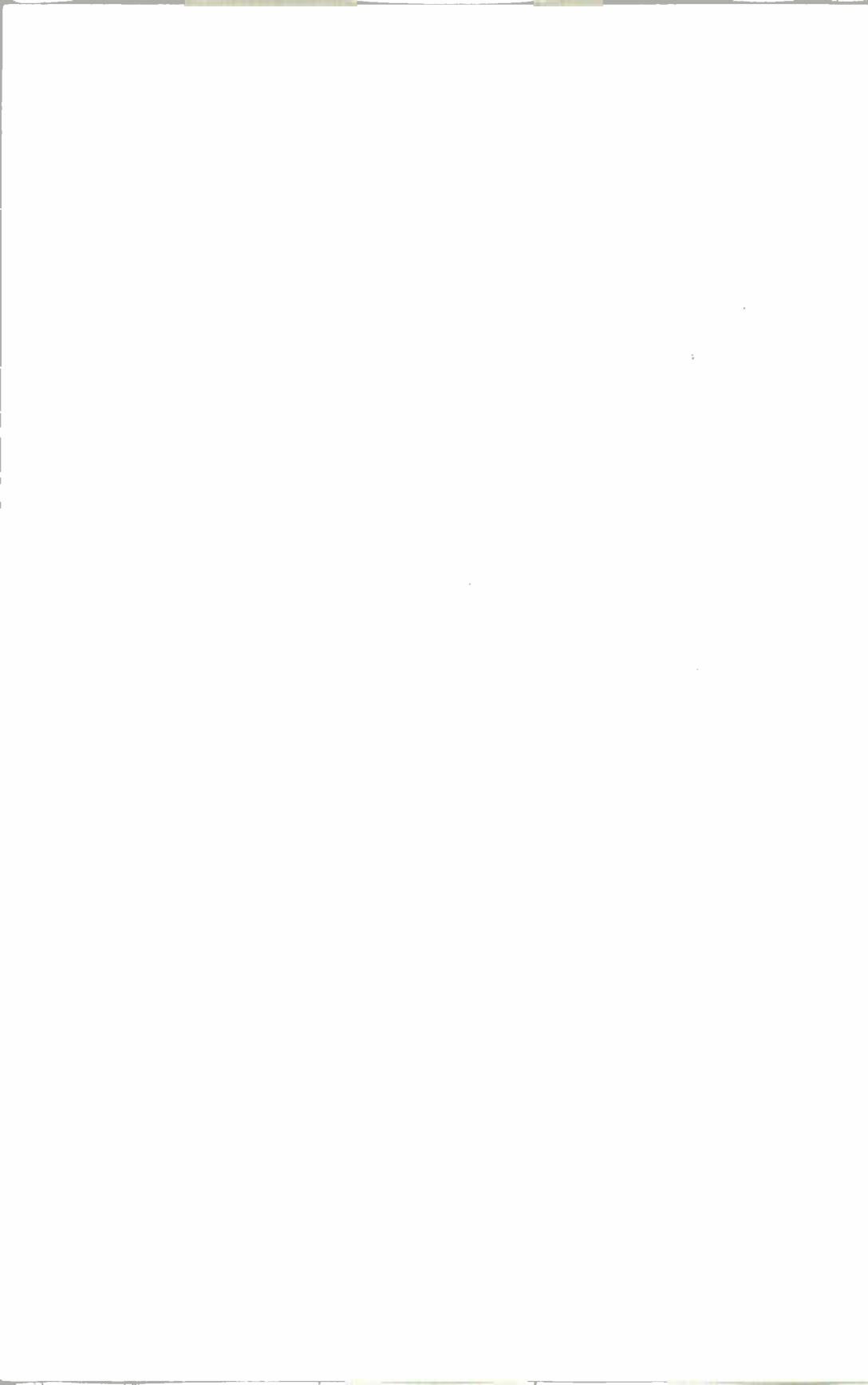
The net result is that—

Senator POTTER. I am going to have to break into your testimony and declare a recess for 10 minutes.

(A short recess was taken.)

Senator BOWRING. I am sorry to have to tell you this, Mr. Pierson, but a matter has come up on the floor of the Senate and we have to attend. We will be in recess until 9:30 tomorrow morning, when we will continue with your testimony.

(Thereupon, at 3:32 p. m., the committee took a recess until tomorrow, Friday, June 18, 1954, at 9:30 a. m.)



STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

FRIDAY, JUNE 18, 1954

UNITED STATES SENATE,
SUBCOMMITTEE No. 2 ON COMMUNICATIONS OF THE
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D. C.

The subcommittee met at 9:38, pursuant to recess, in room G-16 of the Capitol, Senator Charles E. Potter (chairman of the subcommittee) presiding.

Present: Senators Potter (chairman of the subcommittee), Schoepel, Bowring, and Hunt.

Also present: Bertram O. Wissman, chief clerk; and Nick Zapple, counsel for the subcommittee.

Senator POTTER. The subcommittee will come to order.

The chairman would like to announce that, unfortunately, while the curtain has gone down on the other show, we have an important executive session at 10:30. I will have to leave at 10:30, and I probably will not be able to be back until the beginning of the afternoon session.

I have talked with Senator Schoepel. Senator Schoepel will be here and, in order to expedite the hearings, I would suggest we continue with the hearings. I can assure you, however, any testimony that is given in my absence will be read thoroughly by me as soon as time permits, which will be this weekend.

I regret, however, it will be impossible for me to be here during the full day, but you can well appreciate we have to divide ourselves in many parts in order to do our work here in the Senate.

We have a statement from Mr. Ansel E. Gridley, vice president of the Salisbury Broadcasting Corp., which I would like to submit for the record.

(The statement referred to is as follows:)

STATEMENT OF ANSEL E. GRIDLEY

Television station WWOR-TV operates on channel 14 in Worcester, Mass., having commenced operation on November 16, 1953. I make the following statement on behalf of Salisbury Broadcasting Corp., licensee of WWOR-TV.

A. TRANSMITTER POWER

I personally consider the transmitter power problem to be a lesser problem, and one on which generalization is dangerous. As in AM radio certain 250-watt stations are giving excellent coverage of their markets while some 5-kilowatt directionalized stations are producing substandard market coverage, so in television the same principles may obtain. With proper site selection and antenna height, especially on the lower UHF channels, many stations are delivering excellent market coverage with 1-kilowatt transmitters. Obviously, this depends

on terrain, size of market, etc. Many secondary market stations do not need maximum area coverage properly to serve their markets and to have no in-market VHF competition. In large markets, and especially markets with direct VHF competition, power becomes much more important, in order to convince clients of comparable coverage. I believe that higher power UHF transmitting equipment will be available in most cases as early as sensible economic feasibility dictates its use by growing UHF operators.

B. THE RECEIVER PROBLEM

Of the technical problems, I believe the receiver problem is perhaps the most acute.

1. The cost of converting VHF receivers for UHF reception are in general too high, although they have been materially reduced in the past year.

2. Continued sale of VHF-only receivers in new UHF areas is a real problem. It is my belief that anyone in a UHF market who purchases a VHF-only set has been sold an obsolete receiver. If the FCC, perhaps in conjunction with manufacturers, better business bureaus and others could require all VHF-only sets in such areas to be advertised and plainly marked as tuning only part of the TV stations it would be helpful. Over a period of time, if all-channel receivers were sold almost exclusively in the area as a result of this, even stations not fortunate enough to be able to program excitingly enough to cause fast conversion, would build a sizable audience.

3. Price differential for all-channel versus VHF-only receivers has been greatly narrowed and further mass production, induced by greater percentage all-channel sales, should enable even further reduction in differential.

4. Standardization of IF frequencies and radiation reduction and quality control in manufacture should be of great concern to the Commission as well as the telecaster, to insure maximum consistent service to the public.

5. RF amplifier tubes capable of operating at UHF frequencies are now in production. However, few all channel receiver or UHF converter manufacturers are using these as yet. While these tubes do provide some gain and a better noise figure than many crystal mixers, this is still one of the weakest links in really good UHF coverage. It is imperative that designers attempt as quickly as possible to design UHF receivers which will obtain noise figures more nearly comparable to present-day VHF front ends, and that manufacturers place them into production as soon as possible. This is doubly important when considering the fact that the tendency is to use physically small antennas for UHF reception, providing comparably small capture area and far less voltage at the antenna terminals of the UHF receiver. It appears that most UHF antennas used are single bow-tie reflector combinations, and seldom is anything as large as even a 4-stacked unit seen. Even a full 32-element colinear antenna for UHF provides less capture area than the widely used stacked VHF arrays.

6. Poor installation techniques are a major problem. Installation crews, used to working with large VHF arrays and flat line, install haphazardly small UHF antennas, poor lead-in lines, high-loss lightning arresters, substandard converters, etc., and if the picture is less than perfect, blame it on UHF, low station power or anything except their own deficiencies. This problem is most acute in brandnew markets, and as the competent crews install good operating equipment it becomes more difficult for the fly-by-night installer to convince customers of supposed UHF or station difficulties, especially when neighbors are obtaining excellent reception.

C. ECONOMIC CONSEQUENCES OF PRESENT ALLOCATION SYSTEMS

Stations cannot obtain necessary operating revenues without sufficient public acceptance to provide enough viewers to attract advertisers. Yet insufficient viewers cause advertiser reluctance to provide the very programs which are necessary to build this audience.

Programming and promotion are the keys to building audience. Both are very expensive. Thus, when a UHF broadcaster finds himself blocked from obtaining network programs because of a VHF station, he not only loses a chance for audience development, but must provide additional costly film or local programming.

It would seem that in the long run the networks have a major stake in the development of a nationwide competitive television system, of which UHF is a necessary part. So far, in general, I do not believe the networks have rec-

ognized this responsibility. They should not be allowed to sit by and wait until the station builds audience and then affiliate when they feel the selling job will be easy. Since both the network and station stand to make money in a market where substantial audience is obtained, I believe that the networks should take an active part in development of new television stations, whether VHF or UHF by affiliating at an early date and working together with the station to develop a profitable operation and to deliver maximum service to the public. Most stations cannot do this job without network support. Eventually, the network may also need these stations who need them so desperately now. With proper cooperation, there is no reason to assume that even in mixed UHF-VHF markets, ultimately a well-managed, aggressive UHF station may not be a more valuable affiliate, delivering a larger audience, than many VHF stations. Thus, something definitely should be done to obviate the situation where existing VHF stations carry the choice of network programs, even on a delayed basis, rather than allow the UHF station to provide live clearance at the time of broadcast.

It seems quite apparent that existing VHF stations are loath to give up even a small portion of their fringe coverage, even though their billings could scarcely be affected because of the importance of their own markets. Because of their present importance to the networks and advertisers, in many cases the influence of these stations is great enough to sway network affiliation thinking and to discourage advertisers from buying new TV stations in their fringe areas.

In our own case during the period when our application was pending before the FCC, NBC through its stations relations vice president, Harry Bannister, indicated they were prepared to offer Salisbury a full NBC affiliation on a basic "must buy" basis as soon as the CP was forthcoming. A full discussion among the principals was had as to the exact meaning of "must buy," proposed network rates and other details of the proposed affiliation.

By the time the construction permit was actually received however, the reception of NBC had become quite cool and Salisbury was subsequently informed that NBC was not further interested in affiliating in Worcester at that time. Copies of correspondence concerning this point are attached hereto (exhibits A-E).

We cannot help but believe that in large measure this complete about-face of thinking at NBC was largely due to the power and influence of Westinghouse, whose WBZ-TV was delivering a fringe signal to Worcester and contemplated and has since received further power boosts improving this fringe coverage. Worcester is a proud and autonomous market with few if any Boston ties and geographically lies nearly as far from Boston as does Providence, R. I. Worcester is the 32d most important market in the United States. We submit that Worcester is an important enough market to warrant NBC coverage from its own local station and that support of such a network would have been of great value in building audience and prestige for the station. NBC is currently reexamining the possibility of affiliation.

Because the ABC television network has no regular outlet in Boston, Salisbury was able to obtain a primary affiliation with that network and also a supplementary agreement with the Du Mont television network which also presently has no full time Boston affiliate. Just what will happen to this picture if and when a further VHF permit is granted for the city of Boston is problematical.

Presumably the same sort of fringe coverage for CBS from Boston's WNAC-TV and the necessity for maintaining good relations with that station as well as CBS's own application for Boston had something to do with CBS's attitude of noninterest in affiliating in the Worcester market.

From the advertisers' standpoint a specific example is here cited. Soon after Salisbury commenced operation on channel 14 in Worcester, a client in Boston wanted the Salisbury facilities for one of its programs. This program was being carried by WBZ-TV and the client offered to pay them a fee for allowing channel 14 to pick up the program from their station and retransmit it for increased Worcester coverage. Permission for this off-the-air pick up was denied by WBZ-TV on the basis that they felt they were covering the Worcester market adequately. Thus even though the sponsor desired coverage from the Worcester station, the VHF station did not see fit to allow the pickup. Correspondence concerning the above incident is attached hereto (exhibits F-G).

More liberal terms on equipment purchases would be very helpful to new UHF stations, who must go through a prolonged loss period. Insured loans or more liberal credit availability from normal banking sources as a result of sensible action insuring UHF's orderly growth, would also be helpful to many operators.

Program costs, most particularly feature and syndicated film costs, are also prohibitive in many cases. Suppliers, used to extracting high prices from the "fat cat" VHF operators find it difficult to get realistic, especially in intermixed markets. Since advertisers buy largely on cost-per-thousand and thus most UHF rate cards are comparatively very low and sales hard to come by, it would seem only fair that program suppliers also adjust their costs to reflect the number of sets in a market capable of receiving the station, rather than on a total market population. Few stations will object to paying increasing prices with audience increase, as presumably commercial commitments will increase commensurately.

The way things stand today, I agree that unless adequate measures are instituted, the extinction of many additional UHF stations is threatened by quick assignment of additional VHF channels through merger or otherwise in intermixed markets or by granting of further high-power VHF stations in UHF markets or with towers situated to cover these markets from outside.

The UHF Industry Coordinating Committee has made certain suggestions. My reaction to these follow:

1. The public, UHF broadcasters, UHF station personnel, television dealers, distributors, servicemen, and manufacturers should be considered by the Senate subcommittee and the Commission in its recommendations and action.

2. The whole allocation plan, and most especially that portion providing for intermixture of UHF and VHF in the same market should be studied and revised where indicated.

3. Further grants, either VHF or UHF should be suspended, pending results of the overall study and especially a detailed study of the allocation plan.

EXHIBIT A

JUNE 24, 1953.

Mr. PAUL RITTENHOUSE,
Station Relations Department,
National Broadcasting Co., New York 20, N. Y.

DEAR PAUL: It was a pleasure to talk to you again.

I shall be anxious to hear of the outcome of your field engineering study in the Worcester market.

Here are a few points which I should like to reemphasize:

(1) It is my opinion that regardless of field intensity of outside signals, once Worcester is served by local UHF television, viewership will rapidly swing to the local station. Worcester has always demonstrated itself to be a very proud and autonomous market with no outside ties. Its reading and listening habits in newspaper and radio have demonstrated this, and local interest in the forthcoming local television service is extremely high. This pattern will repeat itself, I am sure, and in very short order to sell Worcester by television, it will be necessary to utilize a local television station. Since Worcester is 32d most important market in the United States (JWT), it would seem to me that NBC would want to be certain in the future to be able to deliver this important market to its television clients.

(2) I have personally observed the comparable quality of UHF signals versus VHF signals in several markets, and the superiority of the UHF picture is startling. We believe that this superiority is really something salable, and that with proper promotional effort, conversions will be quite rapid throughout the Worcester market area.

(3) We plan to do a careful, comprehensive, and complete job of promotion of UHF as a medium, and of programs, including network, film, and local. We also plan a well-integrated additional campaign directed to dealers, jobbers, and wholesalers of television receiving equipment.

We are of course anxious to set our network affiliation plans as quickly as feasible so that we will be in a position to start promotion and sales activities at the earliest possible date. I shall keep in touch with you from time to time, and, in the meantime, should you come to any conclusions one way or the other, or have any further questions to ask or further information to impart to us, we trust that we shall hear from you.

Kind personal regards.

Sincerely,

ANSEL E. GRIDLEY, *Vice President.*

EXHIBIT B

JUNE 24, 1953.

Mr. HARRY BANNISTER,
Vice President in Charge of Station Relations,
National Broadcasting Co., New York 20, N. Y.

DEAR Mr. BANNISTER: When I was in New York this week I had a further discussion with Paul Rittenhouse. I am sorry that it was impossible to see you at that time.

I was rather disappointed, however, and not a little surprised that the NBC attitude toward Worcester has apparently been somewhat changed since our talk with you.

It would seem to me that the desirability of including Worcester for NBC is becoming more important rather than less important now that the demonstrated superiority of UHF television signals has been so dramatically documented. We expect to deliver large viewership in the Worcester market very quickly and are preparing careful plans to that end. Since Worcester has always demonstrated itself to be a very autonomous market, it would seem to me that NBC would be very interested in being able to deliver this market now and in the future to its clients.

I should appreciate the opportunity at your earliest convenience to talk to you further personally.

Kind personal regards.

Sincerely,

ANSEL E. GRIDLEY, *Vice President.*

EXHIBIT C

NATIONAL BROADCASTING CO., INC.
New York 20, N. Y., July 2, 1953.

Mr. ANSEL E. GRIDLEY,
Vice President, Salisbury Broadcasting Corp.,
Worcester 8, Mass.

DEAR Mr. GRIDLEY: Thank you for your letter of June 24 concerning a possible affiliation for the Salisbury Broadcasting Corp., with the NBC television network.

The report received from our fieldman who recently spent some time in Worcester indicates that we have considerable and desirable service in this market and therefore we do not believe it feasible from a sales point of view to affiliate with your organization at this time.

Sincerely yours,

HARRY BANNISTER,
Vice President, Station Relations.

EXHIBIT D

JULY 16, 1953.

Mr. HARRY BANNISTER
Vice President, Station Relations,
National Broadcasting Co., Inc., New York 20, N. Y.

DEAR Mr. BANNISTER: This will acknowledge your letter of July 2 in which you advised that you do not believe it feasible from a sales point of view to affiliate with us at this time.

From a sales point of view at present, we shall agree that selling Worcester for NBC will not be easy. Before that becomes easy, it will require considerable audited circulation in the form of UHF converted receivers. We intend to do our full part to see that this occurs as rapidly as possible. We submit that NBC should do its part to help us achieve this objective, because once this is accomplished, both NBC and ourselves stand to make substantial money from the Worcester market for years to come. We plan a careful campaign of cooperation with dealers and distributors, sensible promotion locally and nationally and program development locally to supplement network to build audience as rapidly as possible. This effort would obviously be aided by an affiliation with NBC at this time.

Here are some important facts for consideration :

1. Worcester is the Nation's 32d most important market. (JWT)
2. Worcester is a completely proud and autonomous market, and cannot be effectively reached from outside. Check newspaper circulation from outside, Hooper ratings of WBZ in Worcester.
3. Signal strength from outside is not important. Worcester has demonstrated a strong desire for its own television service, and will look at perfect local UHF pictures in preference to any sort of coverage from outside.
4. National advertisers are now educated to buying Worcester as a market on its own merits. Thus Worcester supports 4 AM stations; WTAG has 1 of the highest grosses of any station in its class in the United States, and WNEB is one of the best 250-watt independents in the Nation. Potential of the market for NBC is very excellent.
5. Salisbury plans excellent sales staff with full-time New York representative to aid in network and national spot sales. Paul Raymer Co. will also aid in network sales. We believe we can together with the NBC sales staff deliver a minimum of 15 hours of network programing in class A time to start the station off.
6. Because of intense interest in Salisbury in the Worcester area, and complete local acceptance of the group and its plans, we expect set conversions to channel 14 to move very rapidly. If you have not studied carefully the make-up of the group and their individual positions, it might be well to do so. Information is in a brochure in NBC station relations' hands now and in the enclosed newspaper article. This should answer why local acceptance is so complete, and why these stockholders are so important not only locally but nationally and internationally. Many sit regularly on the boards of some of the Nation's largest corporations.
7. The promised and demonstrated cooperation from the Worcester Telegram and Gazette will be very helpful in promotion locally.
8. An adequate budget for promotion is planned, to cover: dealer meetings; talks to clubs and groups; local newspaper, radio, car-cards, billboards, and other advertising; trade journal advertising of station and programs, local and network; contests; organization of dealer group; "conversion clubs" in cooperation with local banks for financing retail sales of UHF receivers and converters; sales brochures and material for use by network and national spot sales representatives; surveys and audited figures on UHF receiver status constantly, etc.
9. If the network works with us, we shall work with it in promoting and selling network shows in any way possible.
10. Salisbury has faith in UHF-TV and its ability to build audience with proper programing and promotion. We know the importance of the Worcester market, and its desire for its own television service.
11. We believe it is a matter of time only until NBC will need Worcester TV to deliver any appreciable audience in the area.
12. If NBC feels it desires to deliver the Worcester market in the future, we believe NBC should not expect Salisbury or any other group to carry the entire burden of building the audience and then expect affiliation only when sales are relatively easy. If NBC considers Worcester important, and believes in UHF, we submit it should be willing to do its share to establish this service and potential profit by affiliation now, and working with Salisbury as a team to achieve a mutually satisfactory and profitable association as quickly as possible.
13. While the importance of WBZ-TV and Westinghouse to NBC is obvious, it would seem to be unrealistic to let them dictate to NBC regarding Worcester. The same would apply, of course, to WJAR-TV if it were a factor. Worcester is going to be served by local TV anyway, and eventually WBZ-TV must face loss of audience there. It would seem that NBC should be willing to acknowledge that, and make the move now, in the interest of sensible and orderly growth of high-quality television service to Worcester which can be offered to NBC clients now and in the future.
14. If it would be helpful in minimizing overlap at present and if we can adequately thus service the Worcester market area, we would consider commencing operations with an RCA 1-kilowatt transmitter.
15. I should like to call your attention to the letter from Ralph McKinnie dated June 29 and addressed to you, and the coverage maps which were forwarded to you with that letter. The coverage of the outside stations is based on measurements and definitely shows no grade A coverage in metropolitan Worcester and the western half of Worcester County. Incidentally, much of the western half of Worcester County, because of topography, does not even receive satisfactory

fringe area VHF reception. This entire area will receive its first satisfactory television coverage from our station.

16. Continuing a realistic approach, if at present a basic affiliation is considered unwise by NBC, we should be glad to consider a supplementary agreement with NBC.

I hope that you will give careful reconsideration to an affiliation for Salisbury and that we may hear from you in the very near future.

Sincerely,

ANSEL E. GRIDLEY, *Vice President.*

EXHIBIT E

NATIONAL BROADCASTING Co.,
New York, N. Y., July 21, 1953.

ANSEL E. GRIDLEY,
*Vice President, Salisbury Broadcasting Corp.,
Worcester, Mass.*

DEAR MR. GRIDLEY: Thank you for your letter of July 16, reopening the question of a television affiliation for the Salisbury Broadcasting Corp. with the NBC network.

We have given the matter of a television station located in Worcester our serious consideration, and quite frankly we feel that the market is being adequately served. If the present situation should change, making it desirable from a sales and network standpoint to add a station in Worcester to our television network, we will certainly get in touch with you.

We appreciate your continued interest in NBC service and wish you success with your proposed operation.

Sincerely,

HARRY BANNISTER.

EXHIBIT F

JANUARY 20, 1954.

JOHN STEEN,
*Westinghouse Radio Stations, Inc.,
Washington, D. C.*

DEAR MR. STEEN: We are counsel for Salisbury Broadcasting Corp., permittee of UHF station WWOR-TV, Worcester, Mass., which recently commenced operation.

I am informed by Ansel E. Gridley, vice president of Salisbury Broadcasting Corp., that the Massachusetts Hospital Service, Inc., through the Sutherland Abbott Agency, contracted with WWOR-TV to have the program, You and Your Health, broadcast by WWOR-TV on Tuesday evenings for 23 weeks between 7 and 7:15 p. m., the first telecast to commence December 29, 1953. The contract provides that the program was to be picked off the air from WBZ-TV, Boston, and rebroadcast over the facilities of WWOR-TV. The order was made expressly subject to the approval of WBZ-TV to the rebroadcast and WBZ-TV was to be paid the sum of \$50 for pickup charges.

On December 22, 1953, Mr. Gridley wrote Mr. W. C. Swartley, station manager of WBZ-TV, advising of the program and requesting permission for the off-the-air rebroadcast. Mr. Gridley's letter indicated that it was his understanding that "any charges you may assess for this privilege, I am sure will be absorbed by the client." Subsequently, on December 28, 1953, Mr. Gridley sent a telegram to Mr. Swartley stating that no reply had as yet been received and asking Mr. Swartley to indicate his reply by return wire. On December 28, 1953, Mr. Swartley replied stating that he was unable to grant the permission and that a fuller explanation would be set forth in a letter to follow. Subsequently, Mr. Gridley received from Mr. Swartley a letter dated December 28, 1953, stating as follows:

"We have recently completed a measurement study of our television signal which, in addition to our own audience studies, indicates that we are rendering a very good service to the residents of Worcester, Mass. Your letter of December 22, 1953, requests our permission to pick up the Blue Cross program, You and Your Health, and rebroadcast the same over WWOR-TV. This is a regular commercial program scheduled by WBZ-TV on Tuesday evenings, 7 to 7:15 p. m.

With the exception of occasional programs of outstanding national interest, it has consistently been a policy of this station not to grant the right to rebroadcast its programs by other stations serving substantially the same audience. Consistent with this past practice, it is our decision not to issue the permission you have requested since this program is generally available to the public in the Worcester area direct from the signal of WBZ-TV."

As you are aware, the rules of the FCC covering rebroadcasting were recently the subject of an investigation (docket No. 9808), following which the Commission issued a report and order on May 15, 1952, and a memorandum opinion and order on October 30, 1952. In the latter of the two documents the Commission considered circumstances under which refusal of rebroadcasting permission may be justified or unjustified, and stated as follows:

"Such determinations will obviously depend upon the facts of particular cases and upon an evaluation of such factors as whether licensee or stations, through express or implied agreements or understandings, act in concert with each other or with other interests in refusing rebroadcast requests, whether requesting stations serve the same or a different area as the station whose program they wish to rebroadcast, whether the request is for permission to carry a simultaneous rebroadcast or to rebroadcast a program at some subsequent date, whether the requesting station has indicated a willingness to pay a reasonable share of the legitimate costs of the originating station, whether or not other persons having interests in the program have requested or agreed to the rebroadcast, and whether the program concerned has public-service aspects that make its wide dissemination to the public clearly desirable."

Boston and Worcester, of course, are distinct cities, each with its separate interests. Each has been classified by the 1950 United States census as a metropolitan area. The population of the Worcester standard metropolitan area in 1950 was 276,336, of which 203,486 resided within the city of Worcester. Further evidence of the distinct and separate existence of Worcester apart from Boston may be found in the fact that there are 4 AM and 2 FM stations in Worcester (3 of the AM stations are affiliated with ABC, NBC, and CBS respectively) and by the fact that the Federal Communications Commission has allocated 2 UHF channels to Worcester, each of which has been granted.

An additional factor to be considered is that, I am informed, WBZ-TV has authorized the rebroadcast of the program, which is of a public-service nature, by a station serving the Springfield-Holyoke area, thereby recognizing that the program has an appeal beyond that of the Boston audience.

In the opinion of Salisbury Broadcasting Corp., the refusal to permit WWOR-TV to pick up WBZ-TV and rebroadcast this program is contrary to the public interest. On behalf of the Salisbury Broadcasting Corp., I am making this request of Westinghouse Radio Stations, Inc., to reconsider its denial and to authorize the rebroadcast.

Very truly yours,

JAMES A. MCKENNA, Jr.

EXHIBIT G

WESTINGHOUSE BROADCASTING CO., INC.,
January 25, 1954.

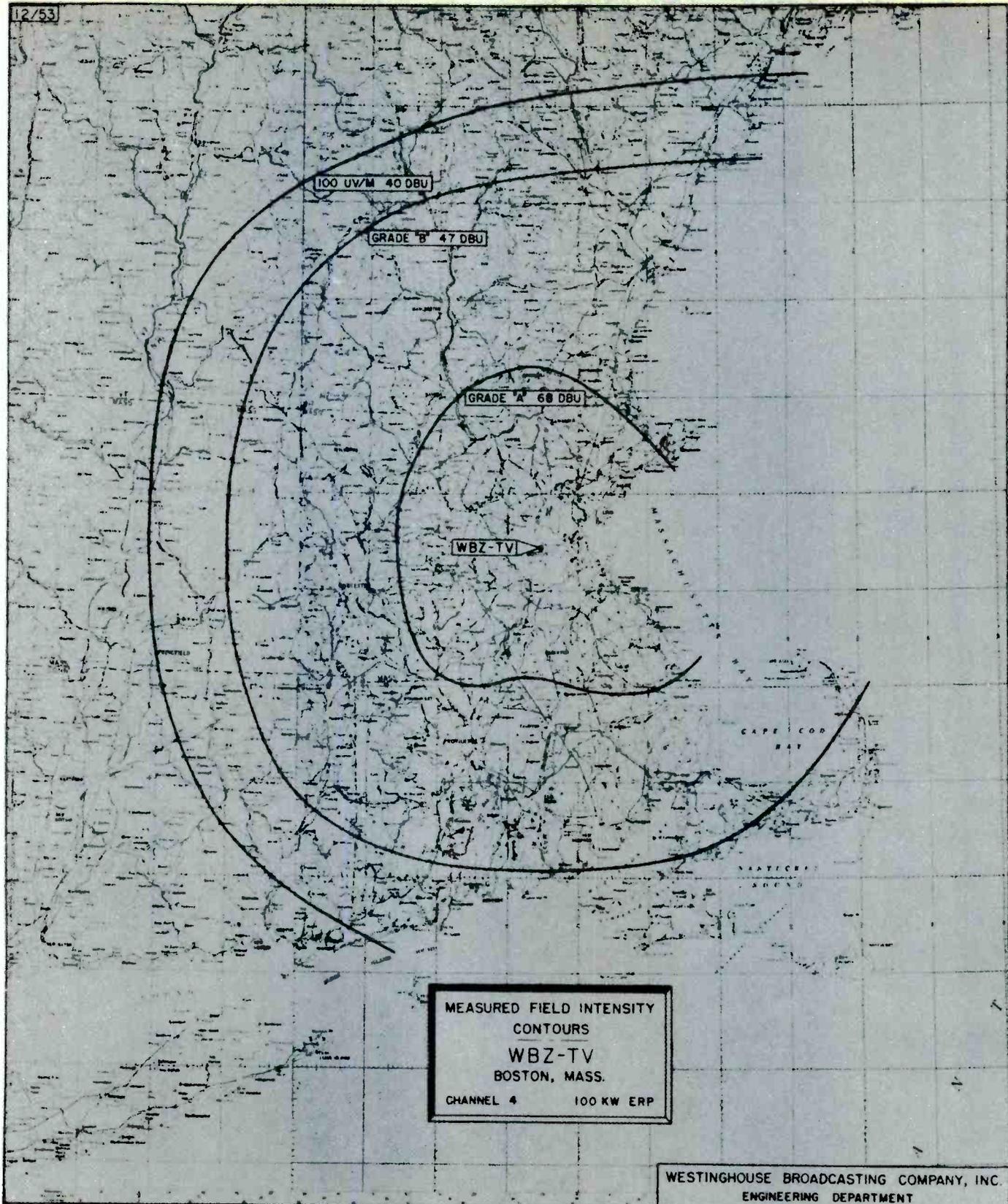
JAMES A. MCKENNA, Esquire,
McKenna & Wilkinson, Washington, D. C.

DEAR MR. MCKENNA: I wish to reply to your letter of January the 20th in reference to the request of the Salisbury Broadcasting Corp., permittee of UHF Station WWOR-TV, Worcester, Mass., to pick up the signal of WBZ-TV, Boston, and rebroadcast the program, You and Your Health, on Tuesday evenings, from 7 to 7:15 p. m. You ask that this decision be reviewed and it has been.

The original decision of Westinghouse in this instance was reached after careful study which also took into consideration the memorandum opinion and order of October 30, 1952, issued by the FCC (docket No. 9808) from which you quoted at length in your referenced letter.

Contrary to the statement in your letter, I am advised by NBC that it has no radio affiliate in Worcester. This area is adequately served by WBZ. As to television, our network contract provides that WBZ-TV "shall have the right of first refusal, good for 72 hours, as against any other television station serving substantially the same area as the station, etc." This network provision has been approved by the FCC. I am also sure that, as a result of your years of

12/53



experience as counsel for the ABC network, you are aware of the economic necessity for, and public interest in, the FCC's approval of such network arrangements and the right of a station to have exclusive rights to its normal programs within its service area.

Attached hereto is a photostatic copy of a map showing the measured field intensity contours of WBZ-TV. These measurements were recently completed by our engineering department and clearly show that Worcester lies not only within the grade B contour but is immediately adjacent to the grade A contour. This study, together with the personal observations we have made in Worcester and the mail count received from that city, conclusively proves that station WBZ-TV adequately serves the city of Worcester. To permit station WWOR-TV, under these circumstances, to pick-up and rebroadcast the signal of WBZ-TV would not be in the public interest since the audience in that area would then be denied the choice of a second program which would otherwise be broadcast by WWOR-TV. We concur in the announced policy of the FCC that a diversification of program material permitting the public freedom of choice is in the public interest.

It is true that the right to rebroadcast this program was granted to a station serving the Springfield-Holyoke area. You will note from the attached map, however, that this area is not only outside of the grade B contour of WBZ-TV but is actually outside of the 100 uv/m contour line. Since WBZ-TV does not serve this area with an adequate signal the request to rebroadcast in that case was granted. I am further advised that rebroadcast privileges have been granted to a television station in Portland, Maine (involving other programs), for similar reasons.

I would like to point out further that the refusal of Westinghouse to grant the rebroadcast privileges requested does not in any way prevent WWOR-TV from bringing this program, or a similar one, to its audience if it so desires, at least insofar as the rights of Westinghouse are concerned. This program originates at the studios of WBZ-TV in Boston. It is sponsored by the Blue Cross. However, the rights to the program and its format are not owned by Westinghouse and therefore, insofar as Westinghouse is concerned, we see no reason why WWOR-TV cannot make similar arrangements with the owners of the format to originate the same or a similar program at WWOR-TV at the same or at a different time.

The program You and Your Health, like many other programs originating at WBZ-TV, is of a public-service nature, as you stated. However, it is not in the classification of programs that are of immediate national interest, such as a speech by the President of the United States, news of a major event, announcements of vital concern to public safety, etc. In the latter case it has always been the policy of Westinghouse to freely grant rebroadcast privileges to any requesting station.

Therefore, since the choice of two programs in Worcester is in the public interest and since the refusal of the rebroadcast request, of itself, does not prevent WWOR-TV from broadcasting the same or a similar program if it so desires, it is the decision of Westinghouse that the right to rebroadcast this program under these circumstances will not be granted at this time.

Very truly yours,

JOHN W. STEEN, *Counsel.*

Senator POTTER. I have also an addendum to the testimony given by Mr. Raymond M. Wilmotte to miscellaneous inquiries raised during his testimony, and I would like to make that a part of the record at this point.

(The addendum to Mr. Wilmotte's testimony is as follows:)

ADDENDUM TO THE TESTIMONY GIVEN BY RAYMOND M. WILMOTTE, CONSULTING ENGINEER, ON JUNE 16, 1954

Mr. WILMOTTE. There were two questions that I was asked that I feel should be amplified.

1. The Senator from Nebraska asked whether a sparsely populated area such as is found in the State of Nebraska could be served economically by polycasting. In reply I referred to my calculations on a 4-station polycasting arrangement which I had calculated would serve a population of 66,000 in the State of Nebraska. Such an arrangement of stations it is estimated can serve about 5,500 square miles. I should have explained that such is not the limit of poly-

casting. More than four stations can be used. Earlier in my testimony I explained the possible use of 12 stations, each radiating 2 kilowatts of power at 300 feet. That arrangement is estimated to serve an area of 19,000 square miles, which in Nebraska would contain a population of over 200,000. No practical single station could possibly cover such a big area; calculations indicate that to cover this area, the power required with a single station is 200 million kilowatts.

While there are at this time no reliable figures of cost for each station in a polycasting system, it is estimated that each station transmitting 2 kilowatts of power would cost about \$25,000. This price would undoubtedly drop considerably if a substantial number of such stations were to be installed.

2. The chairman asked why the Federal Communications Commission had not permitted the use of multistation operation and polycasting in particular. In answer I explained the official findings of the Federal Communications Commission given after the "freeze" hearings. I should have added that earlier an operator approached me to set up a polycasting system, to try the system out. It was an ideal area where there had been no VHF service and many UHF receivers were in the hands of the public and where there were many unused UHF channels. The answer was along the lines of long-established FCC policy. The Commission, they indicated, would be unlikely to grant the use of another UHF channel except 1 in the 800-megacycle band. When it was pointed out that no commercial UHF receiver could tune to such a high frequency, the reply was that that was one of the principal reasons why such a frequency was selected. The FCC insists that experimental work be carried out without any tinge of commercialism, particularly on a channel different from the one commercially licensed. That concept, of course, killed the proposal, because it would not be practicable or valuable to broadcast over a vacuum of receivers, and the cost of distributing specially designed receivers was out of the question.

I recommended against making an official request to the Commission because of the cost of such a process and the likelihood of months or even years of delay.

Some experiments are being carried out, I understand, on satellite operation. The areas selected have been such that the population density near the satellite and lying between the satellite and the main station is small. These areas are not very valuable to the advertiser, but it is nevertheless in the public interest to serve these areas. The economic interest is to forget them. The policy of the FCC should be to insure that they are served well, if it is possible to do so, and to stimulate the development of techniques which make this possible. There are numerous and large areas of this kind in the country and it should be the responsibility of the Federal Communications Commission to see, even if there are relatively few families in them, that they are properly served if it is economically and engineeringly possible to do so.

It is my contention that such service is economic and can be engineered in almost every case. It is my further contention that trying to serve any large area with a single station is the worst technique that can be devised and is the only one permitted by the FCC.

3. I would like to take this opportunity to emphasize again:

(a) That when something goes wrong, as has happened to the UHF band, there is a tendency to meet the problem by "patching up" the trouble. Such "patching up" tends to bring up new problems which later in their turn have also to be patched up. The eventual result is a lot of work, an unwieldy administration and generally damage to the service to the public.

(b) It is possible to force unwilling producers of programs to put them on UHF stations; it is possible to subsidize the public into buying UHF sets; it is possible to have only UHF stations competing with each other in an area; but all these schemes merely lead to the public having poorer service, or in additional burdens to the taxpayer. Moreover, if such "favoritism" type of legislation is enacted, there will be no end to the pressure groups who will seek all kinds of favored legislation. This turns our free-enterprise economic system, not to remunerate the least operator, but the one who has the most persistent and persuasive lobby.

(c) There is only one basic solution in the long run, in my opinion. It is to carve out areas which have large enough populations that they can be served economically, and to give the operator sufficient frequency space to serve that area well and to leave him free to do so in the most economical manner, provided he carries out his contract to provide good service with no more than a specified amount of interference.

(d) It is usual for man to solve the immediate needs and leave the more difficult fundamental issues for later. I sincerely request that this committee tackle and solve the fundamental issues.

Senator POTTER. I have also a letter from Mr. William L. Putnam, of the Springfield Television Broadcasting Corp., which I would like to make a part of the record at this time.

(The letter referred to is as follows:)

SPRINGFIELD TELEVISION BROADCASTING CORP.,
Springfield, Mass., June 14, 1954.

Hon. CHARLES E. POTTER,
*Chairman, Subcommittee on Communication,
Senate Office Building, Washington, D. C.*

DEAR SENATOR POTTER: I spent several days in Washington, a while ago, with other UHF people before your subcommittee. While I did not testify I did submit, for the record, our position.

I realize that you are a busy man and may never get to see this material, however, I hope you will have time to read the enclosed copy of a letter we just sent out to the FCC. I am sure that you have gotten the general trend of remarks from the UHF broadcasters, to the effect that we just aren't able to compete with VHF. This enclosed letter should give you further proof of what we are all up against.

The VHF people can increase power and cover vastly more territory than they are assigned to and thus put us out of business. It's that simple.

I am sure that you will find some solution, which despite all the ballyhoo, will be fair.

Very sincerely yours,

WILLIAM L. PUTNAM, *Treasurer.*

Senator POTTER. Unfortunately, with many interruptions yesterday, we were not able to conclude with as many witnesses as we had expected. Therefore, I think it only fair to announce that probably we will have to have sessions tomorrow, on Saturday. I hope that won't inconvenience any of the participants. If it will, I wish you would notify Mr. Zappel here, and possibly we could continue on Monday rather than Saturday, if you so desire; but we will leave that to your judgment. If you will contact Mr. Zappel during the noon recess, we will have a pretty good idea by that time what witnesses will be left over.

When we recessed yesterday, Mr. Pierson was on the stand. He is still on the stand.

I am sorry we have had so many interruptions during the course of your testimony, Mr. Pierson. We have many witnesses left, and your statement is well thought out and we are pleased to receive what further information you have.

STATEMENT OF W. THEODORE PIERSON—Continued

Mr. PIERSON. Mr. Chairman, I think you, unfortunately, could not be here yesterday when I commenced my statement, and I would like to repeat some of the introductory remarks that I made so that you will understand the somewhat difficult position we have been in, in attempting to present the views of the people who have retained us. We represent 82 VHF licensees, 20 permittees who have not completed construction, and 33 applicants for VHF facilities.

Now, I stated yesterday that 65 of them wanted to present their views and information to the subcommittee.

Senator POTTER. Surely.

Mr. PIERSON. Actually, the accurate count was 71. We knew that would be too great a burden upon the committee. So, what we attempted to do was to extract from them the general views which I have attempted to state and then to reduce or to take typical examples from six witnesses.

I stated yesterday that six witnesses would follow me, the testimony of each of whom would be substantially less than mine. That number as of today has been reduced.

We had intended to present the testimony of Mr. Hulbert Taft and Mr. J. Leonard Reinsch. In view of the fact that material they will present will be somewhat repetitious of that that will be presented by Mr. Murdock and others, we have decided, in order to aid this problem of time that the committee has, to ask that their testimony be written into the record as though orally given at the conclusion of the testimony of Mr. Murdock, or Mr. Tierney.

Now, there is another problem in respect to Mr. Tierney. He had to return last night to Charleston because of an engagement that he could not cancel. His statement, I believe, is important in the fact that he is the only permittee under construction who is appearing; and I, therefore, ask to substitute the name of his attorney, Mr. Tom Wilson, who will read his statement into the record.

Senator POTTER. That will be perfectly all right.

Who was the other one?

Mr. Taft will not testify?

Mr. PIERSON. Mr. Taft will not testify, and Mr. Reinsch will not testify.

Senator POTTER. Yes.

Mr. PIERSON. The result is we have four more witnesses besides myself and the total length of time they will take will be about 1 hour.

At the recess yesterday I was discussing the problem the Commission had in terms of processing applications.

I referred to the fact that these procedures had to be concluded before the public could get the use of the facilities that had been frozen for 4 years and that there was a tremendous flood of applications.

The Commission, I think, was woefully understaffed for the peak job that then confronted it.

I referred to the fact that their first job was to examine the applications to be certain if they had the qualifications required by law, and I think the Commission did a very excellent job in a short period of time in getting that done. I think it was an outstanding achievement on the part of the Commission.

In the event they found that an applicant had the qualifications required by law, they could then grant the application unless there there was a conflict; and if there was a conflict they had, as a matter of due process and as a matter of statutory requirement, to go through a hearing.

Now, there have been contentions made here that one of the principal purposes and functions of the Commission is to encourage comparative proceedings because in that manner they presumably get a better qualified applicant.

I have stated I believe in the face of realities it was not a principal function of the Commission; I didn't believe it was important, for

this reason: That competing applicants tend to make proposals that are substantially equivalent to all others.

Bear in mind they voluntarily decide to go in business. They sit down and prepare their proposals well knowing they have got to outmatch or at least equal their opponents.

The same thing tends to be true with respect to background qualifications. The result is in comparative proceedings, instead of there being really important, significant differences between applicants, in many instances the differences tend to be insignificant. Therefore, the comparative proceedings, so far as finding a better qualified applicant in the practicalities of the situation, rarely result in that effect.

Now, this is not merely a theory that we present. I think that if anyone will take the time to read the few initial and final decisions the Commission has issued since the lifting of the freeze, they will find that one of the principal problems that obviously has confronted the Commission is to find a basis of superiority on the part of any one of the applicants that would be a substantial difference and, therefore, would justify their decision in the selection of one applicant. In other words, I have heard a lot of comment that some of the final decisions or initial decisions seem to rest on small, insignificant matters.

Senator POTTER. Small differences?

Mr. PIERSON. Like a parking lot, or parking space, or something like that.

Senator POTTER. If you didn't use the comparative hearing to determine who should receive the license, what criteria would you use? The first person who applied, who was qualified?

Mr. PIERSON. I think the comparative hearings must be used where the parties who are applicants insist that they be given a hearing. I am not suggesting any substitute for that.

I am suggesting this: That where it is possible for the parties applicant to make an agreement with respect to dropouts or mergers and thus leave surviving only one application, the Commission should not, nevertheless, go ahead and require a hearing. They should not at that point say, "Well, we invite somebody else to come in and put us to the necessity of going through this expensive litigation in a comparative case for the purpose of finding an applicant whose qualification is very likely to be insignificantly different than the one that they have before them."

I am suggesting, therefore, that the Commission acted properly when they decided upon the procedure. On the one hand, there were two factors in favor of expeditious proceedings. One factor was a need of the public for the establishment of a service and the other was the fact that the whole industry was being retarded in the development of programs and in the development of advertising revenue, until more stations were established.

They had against that the theoretical possibility of a better applicant through a comparative hearing.

Now, wherever they could make a choice, wherever the applicants were reduced to one, I think the Commission made the right choice in deciding that the public would not benefit, the industry would not benefit, by expensive and extravagant litigation.

The Commission had another problem at this same time, in what has been referred to as strike applications that have been filed.

A strike application, as I understand it, is one that is filed not primarily for the purpose of getting a facility but primarily for the purpose of causing delay in the establishment of the facility.

Obviously, there are many people who do not want competition with them any sooner than they have to be confronted with it.

One can examine the files of the Commission and come to at least the suspicion that in a lot of cases applications were in the nature of a strike application. However, they are not easy to prove because you are really dealing with the bona fides of an applicant.

Senator POTTER. Isn't it also true that certain strike applications are made in an effort to get bought off?

Mr. PIERSON. That is correct.

There are two reasons for a strike application:

1. A person who has no intention of building and hopes that by filing the application somebody will pay him to get out.

2. The second reason—

Senator POTTER. That is where nuisance value is a value?

Mr. PIERSON. That is right.

The second reason is that someone files an application or talks somebody else into filing one, if he cannot appear directly, in order to prevent or delay the establishment of a competing facility.

Now, you can examine the Commission files and easily come to the conclusion that a lot of suspicion exists in some cases with respect to both types of action.

Senator POTTER. There has been information to the effect that in many of the mergers that have taken place either stock has been granted to a strike applicant or a payoff has been made.

Now, to me that is a vicious practice and the Commission, I hope, can remedy that.

Do you have any suggestions as to how that can be remedied?

I wouldn't grant an application, if I were a Commissioner, to any merger, where they paid off a striker.

Mr. PIERSON. Well, I would suppose, Mr. Chairman, if you could prove he was a striker in the first instance that this would be a very easy matter to remedy.

The problem is—and I might try to give an example: Let's assume there are four applications pending before the Commission, for a specific channel, and the applications were filed at various times. Finally they are getting close to designation or they have been designated for hearing.

Now, it is a rather usual thing that those competing with each other at this point, as is usual in litigation, always tend to suspect the motives of the opposing applicant because they are in the process then of showing that the opposing applicant is no good and this is an easy attitude to develop. However, if you attempt to prove that any one applicant did not file its application with the idea of building the station, if granted, certainly I think you will have to concede that they can readily say, "If we get this grant, we're going to build it."

Let's assume it is one of these valuable facilities that we have heard about. Now, how in God's name you are going to prove his mental processes, I don't know, how you are going to prove whether he, in good faith, intended to prosecute the application to completion, whether he, in good faith, intends to build the station if he is granted

It is one of those things that is almost impossible of proof.

Now, obviously, you are never going to get admissions or confessions out of these people. What you have to do is try to build up a circumstantial case. You have to have a hearing for that purpose.

Now, the Commission says, "We have some suspicion that this application was a strike application that was involved in this merger and got an option on stock, or was paid cash," then presumably they will say, "We will go ahead and have a hearing to determine it."

Now, you don't go ahead and have a hearing unless you feel there is a reasonable opportunity of proving it was a strike application, and I say it is one of the most difficult cases in the world to make. It is just like trying to prove by the proffer of evidence that someone has good or bad intentions, I think, therefore, while I have got no impression that the Commission condones this practice of strike applications, it has been very much alarmed about it, but the question is whether they should delay the proceedings through long and what I think in most cases would be futile hearings to try to establish what they probably can't establish, or shall they let the fellow take the \$5,000, if that is what they think he is getting, and let the public have the service.

The practice is evil; the practice is bad, but I don't believe long and extensive hearings in an attempt to prove a thing of that sort—I believe it would be futile to try to prove it—is the remedy.

I also understand that the Commission has given a lot of attention to this and is attempting to adopt methods of finding a remedy.

Now, one of the remedies they did adopt is one that has been characterized as unethical in this hearing heretofore.

I would like to refer now to the so-called quickie grants.

Senator HUNT. Mr. Pierson, may I ask you a question?

Does the Commission look into the background of legitimate financing of the applicants?

Mr. PIERSON. Indeed, they do.

Senator HUNT. They go to the bankers; they go to their sources of revenue, income, moneys available.

Mr. PIERSON. The Commission relies upon the sworn statements of applicants.

Senator HUNT. They don't go back of that?

Mr. PIERSON. No; they do not go back of it.

Senator HUNT. That would be, I would think, a very effective way to get at a strike application.

Mr. PIERSON. Oh, Senator Hunt, I don't think it follows that in every case there is a strike application that the strike applicant is not financially qualified. Frequently they are very well financially qualified.

Senator HUNT. I don't think in every case either I would agree with you on that.

Mr. PIERSON. But if you have a thousand applications on file and you attempt to conduct a full field investigation of the financial facts submitted by the applicants, I suspect you would have to enlarge the Commission staff three or four times and take a period of 2 or 3 years to conduct it.

Now, that type of investigation might yield two or three strike applications—but whether it would be in the interest of the public for the Commission to devote all of that time to the field investigations of

financing and delay service in the course of doing it, I have some question.

It seems to me the most we can say is that it is a very difficult problem. The Commission, confronted with it, has not failed to realize the problem, but they have acted in a manner that has necessarily involved compromises between what course of action would most help the public in terms of getting early service.

Senator HUNT. It is a very difficult one. It is a very vicious one, and it is a very profitable one, it would seem to me.

Mr. PIERSON. I don't agree it is that widespread, Senator Hunt, that it is a highly profitable one. I think, as a matter of fact—

Senator HUNT. It has been in some circumstances that I know of.

Mr. PIERSON. Well, I am not aware of particular circumstances in which there were strike applications. We don't represent them.

Senator HUNT. I am not saying that.

Mr. PIERSON. But I suspect there has been a few thousand dollars, Senator Hunt, that people have made; but I think the public cost of ferreting them out and holding up service in the meantime would be many times in excess of what any of these evil persons might have gained in dollars, and a lot of them have been unable to because the Commission has taken steps when they had this suspicion in some cases to eliminate that possibility.

I think one of the definite steps that they took in this connection was the action that they have taken with respect to what has been called quickie grants.

I would like to give an example of that, a hypothetical example.

The Commission started accepting applications July 1, 1952, and let's assume by the middle of 1953 there has been four applications filed for a given channel in town X.

Now, I think it is reasonable to say that all the people who wanted to apply for that channel should have applied for it within the 12 months.

The parties are confronted with a comparative hearing. They decide that the litigation cost, the delay is just not worth while. So, of these four applicants, one of them drops out and asks for his prosecution cost back, and he is paid. So, he comes out even. The other 3 merge into 1 corporation.

Now, all of these three applicants' qualifications have been examined by the Commission. So, since each one of them are qualified, I think you can pretty well assume that the survivor is qualified.

After they have made this merger, everything they have done to avoid the litigation and establish the service at an earlier date can be completely frustrated by the filing of one more application before the Commission has an opportunity to act upon the merged application. This was the practice, that to me gave grounds for greater suspicion of strike applicants. It frequently happened that the moment the three applicants dropped out and the one applicant remained, there would be a new application filed.

Now, that new application might have been bona fide; there might be explanations that can be given for them waiting until they feel there is going to be no comparative hearing before they file, but I think it is reasonable to believe that in a lot of cases the application that was filed under that circumstance was filed for 1 of 2 purposes: To make certain a comparative hearing would be held in order to delay compe-

fition either to a station they were operating or that a friend was operating, or, two, to get a payoff—and there are examples where those very things did cause payoffs.

So, what the Commission did, they said:

When the competing application problem is eliminated in a given case and we can grant that application without a hearing, we're not going to let it lay around the Commission any longer than is absolutely necessary before we take the application up and determine whether we can grant it.

So, they adopted the policy of considering such applications at the very next meeting of the Commission, and the very reason the Commission did that was to try to protect their processes from strike applications.

Now, I submit that a procedure such as that is not only not unethical, but the procedure was properly taken to defend the Commission's processes from strike applicants and it was properly taken in the interest of the establishment of early service.

I did intend to devote some time to the Du Mont proposals.

Perhaps we have already disposed of the Du Mont proposals in our earlier statement by stating that we believe that they are contrary to the present concept of the law.

Plans A and B of Du Mont substitute a common-carrier concept.

What plans A and B in effect do is to say that there shall be no further competition in the network industry unless the Commission issues a certificate of public convenience and necessity to some competing network.

It suggests, also, that these networks should be regulated in the charges that they make and the practices they follow with stations.

It suggests, also, that they be protected by the Government from competition that they seem to fear.

Now, I don't believe that there is any basis in the industry today to lead us to believe that our present concept of free broadcasting has failed and that we should turn to the common-carrier or public-utility concept for any facet of the industry.

Senator SCHOEPEL. Would you say that would be true with the new economic factor coming into this picture, which I think the big boys are watching for—and I don't blame them—and that is subscription television?

Would your statement hold true in the face of what is likely to come about with subscription television, which would involve the telegraph, the telephone, and all of that?

Mr. PIERSON. Senator Schoepfel, I would like to be permitted to make rather guarded comments about subscription television.

Senator SCHOEPEL. Well, you made a statement about the concept—

Mr. PIERSON. May I explain, Senator?

Senator SCHOEPEL. Of public utility, or something like that.

Now, I am asking you that question. You are an expert, up here representing 70 or 80 of those people who are in here.

Sure; I well understand everybody is guarding against it, but it is coming.

Mr. PIERSON. Well, I would like—

Senator SCHOEPEL. They say within 3 or 5 years you are going to have double the stations on the air if they utilize this. Now, I want an answer from some of the boys who are in this business for hire,

and I am for them because they are good or they wouldn't be in this game.

I would like to have some of the answers on this record before we finally close it. I am going into that phase of it.

Mr. PIERSON. Senator, may I say, since I represent the Zenith Radio Corp., I certainly urge that you do it.

Senator SCHOEPEL. We want some information on that phase of it.

Mr. PIERSON. When I said I would like to be guarded in my statements, it was because I have a possible conflict of professional commitments.

Senator SCHOEPEL. Oh, I didn't know that.

Mr. PIERSON. I represent here some VHF operators who may have some varying views on subscription television. I also represent Zenith, whose views are well known, and I can only say I share theirs, and they filed a statement.

Senator SCHOEPEL. But don't you recognize—

Mr. PIERSON. I don't believe that would create the necessity for a common carrier concept in the network business. I think, rather, that would supply more competition and cut out the need for regulating the industry as a common carrier.

Senator SCHOEPEL. But does it not utilize common-carrier service to dispense the service?

Mr. PIERSON. Oh, yes.

Senator SCHOEPEL. And, therefore, it is tied into it?

Mr. PIERSON. Well, so do the networks. So do the broadcast stations today.

Senator SCHOEPEL. So, there is a legitimate basis for some of these folks saying there is a common-carrier aspect to some of this economic phase.

Mr. PIERSON. I didn't understand that was their contention.

I don't mean to be understood to say that common carriers that deliver the programs, AT and T, Western Union, or whomever is used should cease to be regulated as common carriers. What I am saying is that broadcast stations and networks and film syndicates should not be made common carriers also because I do not believe there is any basis in the facts and circumstances of the present industry or its potential that justifies that at the present time.

Senator SCHOEPEL. I want to ask you this: You are representing a group of the industry here. If educational television has two-hundred-and-some stations, or two-hundred-and-some channels that it sought to be allocated to them, and let's assume—and I think we ought to guard and protect a proper place for that; I think it is a very necessary thing—that subscription television comes in—doubles or triples the need for stations, because of the greater service that can be rendered, and also taking care of the economic factor, namely, some type of return which will justify the programming and all of that sort of thing; don't you agree with me some arrangement has to be worked out for greater opportunities for these advanced or accelerated number of stations coming into existence and going on the air?

Mr. PIERSON. Well, I certainly agree wholeheartedly that the real problem that must be solved in this industry is to establish some means by which television programs are carried. That means, therefore, that the Commission should make every effort to cut short the Government red tape in the establishment of those stations.

Senator SCHOEPEL. Which goes to the very thing you are talking about?

Mr. PIERSON. That is correct.

Senator SCHOEPEL. Or were talking about a while ago?

Mr. PIERSON. That is correct.

Senator SCHOEPEL. With respect to these long, drawn-out proceedings?

Mr. PIERSON. That is correct, and I think the industry's problems are going to be solved by more stations and more competition and more air time and more programs for the people, not less, and I submit the proposals for a freeze, the proposals of elimination of intermixture, the proposals of reducing coverage areas, all have the effect of limiting the number of signals that are available to our people and reduce the competition that individual stations will have, with whom they must compete.

Now, with respect to the Du Mont proposal, Mr. Roberts suggested that it really doesn't protect the networks from competition in the future from newcomers because they can always go in and get a certificate of public convenience and necessity. I assume he was referring to the type of a certificate that an air carrier or a rail carrier has to obtain.

Now, the significant thing about that is that before you can establish an airline, a new airline or a new railroad or a new bus line, you have got to establish to the satisfaction of the agencies two things:

- (1) That the service you propose to provide is required by the public; and
- (2) That you will not divert revenue from people who are already engaged in it.

Now, I think that would be a very cozy and comfortable position for Mr. Du Mont to require anyone who wants to compete with him to show that, but I scarcely see how it encourages people to go into the production and distribution of programs. It certainly results in government getting into the economic field in which I don't think it has shown any great capacity.

Senator HUNT. Mr. Pierson, I would like to ask you: What place do you think State jurisdiction, complete State jurisdiction, will have in the new community antenna television systems that are literally going into all the communities, small communities in my State, while we only have one broadcasting station?

Mr. PIERSON. I must confess—I suppose this will surprise everyone—I don't have any comment on that.

Senator HUNT. If it is a question you have not given any thought to, I will withdraw that.

Mr. PIERSON. I have not, Senator.

Senator POTTER. Do you think, Mr. Pierson, the networks should make their programs available to any person who wants to buy them?

Mr. PIERSON. I think the manner in which a network has adopted its method of doing business is one that is generally calculated to enable it to deliver to an advertiser something that he will buy. I think it is very important for this industry that the networks be left in that position to compete with newspapers and magazines.

I believe the practices they have adopted are generally designed to better enable them to accomplish that purpose, and I also point out the fact that in the year 1938 the FCC commenced an investiga-

tion into network practices and policies. This investigation lasted for a period of about 2 or 3 years, and they adopted network rules and regulations which went into effect, I believe, in 1941. I may be wrong about the date, because there was Supreme Court litigation with respect to the matter.

Now, the Commission examined every one of those practices and proposals such as you have now recited. I think the Commission's investigation was exhaustive. I think their feeling with respect to what the public required from the industry and what the industry required in terms of practices was very sensitive, and I am inclined to think that subject has been well covered; and unless new practices have arisen, I think it is a very complex and delicate field for Government to tamper with, except after very close study.

Senator POTTER. Just using the factor of public interest, would the public interest be better served by allowing any individual who wants to purchase a program to purchase it?

Mr. PIERSON. Any individual station?

Senator POTTER. Yes.

Mr. PIERSON. It might be.

My point is: If that kind of requirement imposed upon the networks would make them less able to compete with other media in selling the national advertiser, which they must do to have the program in the first place, it wouldn't help the public because the time wouldn't be sold and the program wouldn't be there.

Now, whether or not such a requirement would have that result upon the networks, I don't feel competent to say.

Now, I think we have made clear we support the lifting of the excise tax.

We support the use of boosters.

Senator HUNT. Mr. Pierson, may I ask you: You support the lifting of the excise tax on what particular production?

Mr. PIERSON. The lifting of the excise tax upon any receiver that has full UHF capability.

Senator POTTER. That has been about the only item everyone has agreed upon.

Mr. PIERSON. While I don't want to take further time from the subcommittee, I had intended to suggest that if the subcommittee is interested in recommending that Congress use its taxing powers to get us some more circulation and more programs, arguments can be made that tax inequities exist with respect to the supply and the release of motion picture film product and television film product.

I think actions could be taken, though I am not certain I, personally, would fully support them, but arguments can be made that actions could be taken with respect to certain alleged inequities in the tax laws that would tend to bring about a greater flow of program product from Hollywood.

Now, if the subcommittee would be interested in views on that point, I would be glad to submit a memorandum in writing.

Senator POTTER. I would appreciate it if you would.

Mr. PIERSON. And I would like now, finally, to get to conclusions.

We believe that with respect to the proposals for the elimination of intermixture, the proposals for the reduction in coverage area, the proposals for the elimination of VHF entirely, and the proposals of the freeze would harm private investors if those proposals are

adopted; it will obviously harm private investors if those proposals are not adopted.

Now, I don't think this subcommittee need to make any determination of whether the UHF people will be hurt more if the proposals are not adopted than if the VHF people will be hurt if they are adopted, because I submit the interest of the public is the thing that should be controlling here and you should pass over those private injuries immediately without further attention.

I submit also that the four proposals that I outlined would result in a smaller number of services to every section of our country if they were adopted.

I submit also that the proposals, if adopted, all or any one of them, would result in less competition to every operating station and would, therefore, be a tendency toward monopoly.

I submit also that it would leave many persons, if the proposals are adopted, who live in the rural and gully areas of our country, without any service at all and that, furthermore, the instability that it would represent in Government action would discourage the investment that industry should make if the public is to have this service.

I submit that those are the public factors involved in this case and that those factors are controlling.

I also suggest one other thing: I believe that in the seven members of the Federal Communications Commission there rests approximately 130 years of experience and knowledge in the broadcasting business. I think those members are all devoted to the public interest. I think they are very knowledgeable, and I suggest many of these problems are vastly more complex and complicated, both with respect to social and economic factors than one could expect five busy Senators to solve in a 7-day hearing. We think, however, this hearing has been a tremendous value, in the fact that it has brought out issues and we believe the record here will be of a great value to the Commission and to the industry, but we earnestly suggest, except with respect to a favorable exercise of your taxing power, that you submit this record to the Commission without recommendations.

Senator POTTER. To carry your suggestion to the extreme, we would destroy representative government, wouldn't we?

Mr. PIERSON. Oh, no; no.

I don't wish to be misunderstood in that respect.

I think that the Commission deserves a lot of confidence and I believe this committee, after they have examined this, will have a lot of confidence in what the Commission has done.

I don't believe that legislative action is required, because I think we have a good law. I think the Commission has attempted to administer it correctly.

Senator POTTER. Do you have any questions?

Senator HUNT. No; I don't think, after the last statement the gentleman made, we should ask him any more questions.

Mr. PIERSON. That is why I saved it until the last.

Senator SCHOEPPEL. I would like to ask a question: You, I take it, of course, think there is no merit in the suggestion that was made that maybe because there is a transition coming here between television in universal usage as we now find it and color television, which is around the corner and coming—I take it you think and feel there is no reason for alarm or doing anything legislatively that might

require a greater utilization or provision on the part of the manufacturers to move out and take care of the sets or give the greatest coverage possible, say, to UHF as has been testified here?

You don't think there is any justification for a feeling there should be maybe a stop, look and listen period in here.

If it is going to be done some place, before we make this transition to color you still feel that nothing should be done about it?

Mr. PIERSON. I believe the stop, look, and listen, Senator Schoepfel—if you mean by that phrase a freeze—will do vastly more damage than we can find cures for the present problems through the freeze—the freeze keeps people from obtaining service that they are entitled to; it endangers tremendous investments made by both the public and private interests; it has no possible effect except to numb and retard the industry.

We need more stations, soon. We need more program time. We need more programs.

If Government says, "We're going to stop the means by which this industry functions right in its tracks while we spend a year, 2 or 3 or 4 years trying to redo what we just finished 18 months ago," it seems to me it will have the same effect that it did in 1948. It will hold up the industry.

Senator SCHOEPEL. I mentioned that because it has been testified to here a number of times by people who are allegedly skilled in the industry.

Mr. PIERSON. That is right.

Senator SCHOEPEL. And I was just wondering, if there is any justification for anything like that, in view of the discordant factors that were developed, and now coming to light, what is your judgment before we move into this big field of color television, which they say is around the corner.

Personally, I don't know. I really and truly don't know myself.

Mr. PIERSON. I believe, Senator Schoepfel, none of the problems we have and none of the prospects of future problems justifies Government imposing a freeze.

Senator POTTER. Thank you kindly.

Mr. Ball.

STATEMENT OF FREDERIC J. BALL, REPRESENTING ZENITH RADIO CORP.

Mr. BALL. Mr. Chairman, members of the committee, this statement is made by the Zenith Radio Corp. manufacturer of radio and television receivers; holder of a commercial license for radio station WEFM, Chicago, and an experimental license for VHF channel 2 in Chicago, as well as a license to broadcast experimentally in the UHF band in the Chicago area. Zenith is also an applicant for a commercial license on channel 2 in Chicago.

It is against this background of interest and experience that Zenith has observed the proceedings of this hearing into certain important and basic aspects of current television broadcasting practices. In the interest of helping the committee amass as full and informative an array of evidence and opinion as possible as a basis for its conclusions, we offer the following statement of views, based on our own observance and analysis of the broadcasting problems under examination by the committee.

IMPORTANCE OF NETWORK PROGRAMING

As we have followed the extensive testimony at this hearing, it would appear that the continuous availability of network programs constitutes a major ingredient for the successful operation of a television station, regardless of whether it operates in the VHF or UHF band.

Some of this testimony contained the implication that if network programs had been available to them, many of the 61 UHF stations which, by May 19, 1954, had surrendered their construction permits or suspended operations, could have continued in business.

It is obviously true that any television station's success depends on good programing, and as the networks are presently the main source of supply for good programing, the networks' position in television broadcasting is indeed a very important one, if not a controlling one. Hence, it seems to us both relevant and important to point out at the outset of this statement our views:

(a) That the problems presented at this hearing are not unique to UHF.

(b) That national advertising economics have caused the basic problem confronting the expansion of television. National advertising, carried by the television networks, logically concentrates television advertising in a limited number of metropolitan markets.

(c) That as long as the networks remain the only prime source of good programs, there never will be a nationwide competitive system of television broadcasting in this country, regardless of the number of networks in operation.

(d) That, consequently, further television expansion is only feasible if the economic base on which television broadcasting rests, is broadened.

(e) That this broader base can only be found in a new source of high quality programs, provided these programs are competitive to network programing and are not subject to national advertising economics.

(f) That subscription television can provide this new source of programs, and also meet all other essential requirements.

KEY ROLE OF NETWORKS IN ADVERTISING BUDGET DECISIONS

Because the key position of networks in the current patterns of television not only influence the nature of programing but also the amount and extent of advertising support of programing, we believe it also essential to the conclusions of this committee, have a clear picture of the basic relations between advertising economics and broadcast-ing economics for all stations, both UHF and VHF.

In the final analysis it is a company's advertising budget and more specifically the percentage allocated to television advertising, which determines the extent to which a particular company will undertake the sponsoring of television programs.

Within the limitations of this budget, the advertiser must determine :

1. The amount of money he is willing to spend for the program itself.

2. The amount of money he is willing to spend in the purchase of television broadcasting time in order to transmit his program together with his advertising message.

It is a matter of individual judgment whether an advertiser will place the emphasis on program quality or on market coverage. In any case the two factors are always closely related.

In the purchase of broadcast time, and the market coverage it will represent, advertisers are guided by the yardstick of "cost per thousand" viewers or television homes. The "cost per thousand viewers" is derived from a figure, usually referred to as "circulation." It indicates the number of television homes in a station's reception area.

While the "cost per thousand viewers" enables an advertiser to evaluate individual markets—or television station—the circulation figures enable him, simply by adding up the most desirable markets, where the cost per thousand viewers is lowest, to determine the total number of markets—or television stations—necessary to reach as large a percentage as possible of the United States population.

Naturally, in selecting his station it is financially more attractive to an advertiser to prefer metropolitan areas where a very dense population prevails. The following figures illustrate vividly how large a segment of the United States population can be reached with only a few television stations :

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 805

TABLE I.—Cumulative number of TV homes reached, as of May 1954

Market	Number of unduplicated TV homes	Cumulative number of TV homes	Cumulative percentage of total United States TV homes
1. New York	3,706,800	3,706,800	13.0
2. Chicago	1,630,400	5,337,200	18.7
3. Los Angeles	1,583,200	6,720,400	24.3
4. Philadelphia	1,450,000	8,370,400	29.4
5. Boston	1,113,800	9,484,200	33.3
6. Detroit	972,100	10,456,300	36.7
7. Cleveland	864,100	11,320,400	40.2
8. San Francisco	682,900	12,003,300	42.1
9. Pittsburgh	660,300	12,663,600	44.1
10. St. Louis	567,900	13,231,500	46.5
11. New Haven	518,400	13,749,900	48.2
12. Washington	500,800	14,250,700	50.1
13. Baltimore	463,000	14,713,700	51.0
14. Minneapolis-St. Paul	420,800	15,134,500	53.7
15. Milwaukee	432,200	15,566,700	54.6
16. Indianapolis	406,600	15,973,300	56.1
17. Cincinnati	392,300	16,365,600	57.4
18. Atlanta	358,200	16,723,800	58.7
19. Buffalo	335,000	17,058,800	59.9
20. Kansas City	328,300	17,387,100	61.0
21. Providence	327,500	17,714,600	62.2
22. Charlotte	306,000	18,020,600	63.2
23. Dallas	303,800	18,324,400	64.3
24. Seattle	302,000	18,626,400	65.4
25. Columbus	295,800	18,922,200	66.4
26. Schenectady-Albany	291,100	19,213,300	67.4
27. Galveston	252,500	19,465,800	68.3
28. Memphis	246,800	19,712,600	69.2
29. Houston	244,700	19,957,300	70.0
30. Toledo	227,500	20,184,800	70.9
31. Dayton	223,200	20,408,000	71.6
32. Louisville	214,300	20,622,300	72.4
33. Rochester, N. Y.	211,800	20,834,100	73.1
34. Syracuse	210,200	21,044,300	73.8
35. Huntington	209,800	21,254,100	74.6
36. Birmingham	197,900	21,452,000	75.3
37. Norfolk	188,400	21,640,400	76.0
38. Omaha	186,700	21,827,100	76.6
39. Oklahoma City	176,200	22,003,300	77.2
40. New Orleans	168,100	22,171,400	77.8
41. San Diego	165,100	22,336,500	78.4
42. Miami	163,700	22,500,200	78.9
43. Rock Island	155,800	22,656,000	79.5
44. Wheeling	154,400	22,810,400	80.0
45. Kalamazoo	147,500	22,957,900	80.6
46. Ames	146,800	23,104,700	81.1
47. Johnstown	145,000	23,249,700	81.6
48. Davenport	144,700	23,394,400	82.1
49. Lansing	141,400	23,535,800	82.6
50. Youngtown	138,100	23,673,900	83.1
51. Nashville	137,300	23,811,200	83.7
52. Greensboro	135,500	23,946,700	84.0
53. Richmond	134,700	24,081,400	84.5
54. Denver	131,000	24,212,400	85.0

NOTE.—Total number markets, 54; total United States TV homes, 28,500,000, as of February 1954.

As the above table shows, the top 10 markets include a total of 13,231,500 television homes, or approximately 46½ percent of all television homes. Thus, with only a relatively few television stations, a large percentage of the United States population can be reached.

As the logical part of their own sales efforts, the television networks never fail to drive this point home with national advertisers. It also

finds logical expression in the limited number of basic network affiliates of the CBS and NBC television networks, as per May 1954:

	Basic required affiliates	Basic optional affiliates
CBS.....	43	57
NBC.....	52	119

The basic required affiliates are a group which an advertiser is forced to take if he wants to avail himself of the network's facilities. In case he wants coverage beyond that of the basic required group, he can, at his own choice, add stations from the optional group. In practice, most national advertisers use less than 75 stations to cover their national market. The following table which lists 23 of television's leading programs, reveals the number of stations the advertiser uses, and the number of television homes covered.

TABLE II.—Coverage of leading TV programs 2 weeks ending Apr. 10, 1954

Program	Number of stations	Coverage of TV homes, percent of United States total	TV homes covered	Network
Adventures of Ozzie and Harriet.....	69	94.5	26,730,000	ABC.
Arthur Godfrey and His Friends:				
Pillsbury.....	92	96.1	27,190,000	CBS.
Toni.....	126	97.1	27,470,000	CBS.
Arthur Murray Party.....	36	73.3	20,740,000	NBC.
Beat the Clock.....	66	86.7	24,530,000	CBS.
Buick—Berle show.....	121	93.6	26,480,000	NBC.
Colgate Comedy Hour.....	106	96.8	27,380,000	NBC.
Dragnet.....	107	96.5	27,310,000	NBC.
Garry Moore Show:				
Kellogg Co.....	52	90.9	25,710,000	CBS.
Norge.....	105	93.7	26,510,000	CBS.
Guiding Light.....	65	96.1	27,190,000	CBS.
I Love Lucy.....	132	97.8	27,680,000	CBS.
Mama.....	44	87.1	24,640,000	CBS.
Martin Kane.....	65	94.8	26,820,000	NBC.
Meet Mr. McNulty.....	39	79.0	22,350,000	CBS.
Our Miss Brooks.....	49	83.0	23,470,000	CBS.
Person to Person.....	39	38.9	11,000,000	CBS.
Plainclothes Man.....	24	69.3	19,610,000	DuMont.
Robert Montgomery.....	94	96.1	27,190,000	NBC.
Rogers and Hammerstein.....	53	60.7	17,170,000	ABC.
Do.....	92	87.5	24,740,000	CBS.
Do.....	16	34.7	9,820,000	DuMont.
Do.....	94	95.1	26,900,000	NBC.

As a significant footnote to the above table, it should be noted that a varying number of stations can reach approximately the same number of television homes. I Love Lucy with 132 stations is in the range of over 27 million homes. In contrast, the Garry Moore Show has a coverage of nearly 26 million television homes utilizing only 52 stations. As could be expected from these circumstances, television stations in major metropolitan markets profit first, stations in secondary markets are mostly ignored.

According to FCC statistics, during the week of March 14 to 20, 1954, the average postfreeze VHF television station, operating at a profit in a market of over 500,000 people, carried a total of 45 network hours, as against 22 hours for a similar station in a market with less than 100,000 people. For UHF television stations, the figures are 43 and 17 network hours, respectively.

In the past, the argument has often been advanced that television will continue to attract larger advertising budgets, and that more and more stations will eventually participate in network broadcasting. This argument collapses in the face of the following two facts:

1. With most companies serving a "national market", it does not make economic sense to use more television stations than are essential to cover a certain large but fixed percentage of the population. Beyond that point the company's market is scattered and clearly marginal. In addition, the "cost per thousand viewers" in markets at the bottom of the list, may be such that it does not permit stations in those markets to compete successfully against other advertising media which offer more attractive "cost per thousand" rates in scattered markets.

2. As has happened in the past, a considerable percentage of any increase in television advertising from year-to-year is siphoned off by the major markets. This results from:

- A. Higher saturation of sets in the metropolitan areas.

- B. Increases in metropolitan stations' power with resulting increase in coverage.

- C. Pushing back of the fringe reception areas, as performance of receivers improves.

The time rates of a New York television station, as they have developed over a period of years, make it quite obvious that although the "cost per thousand" may have remained equal, the total cost to an advertiser to promote his product in this vast market has been climbing steadily.

One hour class A time:

1951	-----	\$3, 250
1952	-----	4, 000
1953	-----	4, 500
1954	-----	6, 000

RELATION OF MARGINAL STATIONS AND POPULATION

Because of the very nature of these market coverage factors which give natural advantage to (1) the networks and (2) stations in larger metropolitan areas, it is hardly surprising that postfreeze stations, both UHF and VHF, have found it difficult to secure an economic foothold in television, even though it is a new and dynamic industry. It should, therefore, be instructive to this committee to analyze the market size and location of stations which have so far surrendered their construction permits or suspended operations. A study of the following data will reveal that their difficulties have little, if any, bearing on UHF, but are primarily caused by a situation in which the economics of network broadcasting militates against small communities.

Per May 19, 1954, a total of 12 VHF and 61 UHF stations returned their construction permits or went off the air. The following table classifies these stations in terms of population:

Metropolitan population of city in which station is located (includes county population)	VHF	UHF	Metropolitan population of city in which station is located (includes county population)	VHF	UHF
1,000,000 or over.....		1	300,000 to 400,000.....		1
900,000 to 1,000,000.....		1	200,000 to 300,000.....		5
800,000 to 900,000.....		3	100,000 to 200,000.....	2	22
700,000 to 800,000.....			50,000 to 100,000.....	5	15
600,000 to 700,000.....			25,000 to 50,000.....	5	6
500,000 to 600,000.....		5			
400,000 to 500,000.....		2	Total.....	12	61

In the top 52—the total number of NBC basic affiliates—metropolitan and urban markets, Wheeling-Steubenville is found at the bottom of the list with a population of 354,092—1950 census data. Using this figure as a yardstick, only 13 of the 73 stations which are analyzed above are about as large or larger than Wheeling-Steubenville. To put it another way, only 13 appear to be of “network standing,” in terms of basic affiliation. This conclusion does not even allow for such factors as “cost per thousand viewers,” coverage from nearby metropolitan stations, and so forth.

As far as the remaining 63 stations are concerned, their chances of obtaining a basic network affiliation seem quite remote. Some of them could have become optional affiliates, which is a most unstable relationship at best.

But even more significant is the fact that, in most cases, these stations would have encountered most of these same difficulties if they were on the VHF band.

They are not in the wrong band, but in the wrong towns, at least from the networks' point of view, who are guided by the economics of national advertising.

It is perhaps unfortunate that this committee has placed upon itself the limitation of investigating UHF only. Although some of the problems, as presented by other witnesses, are unique to UHF, they all have their roots in the economics which govern every type of television broadcasting. It seems likely that the failure of the 12 VHF stations was principally caused by the same factors as caused the failure of the 61 UHF. Narrowing the issue to UHF brings danger of giving UHF stations preferential treatment, creating further inequities between VHF and UHF.

It must be recognized also that the present list of “returned CP's” overlooks the many operators who studied their local economic prospects and, because of the uncertain future, did not even apply for licenses. These stations differ from those who actually failed only in that they either did not have access to the necessary risk capital or because they merely did not have the economic courage. Regardless of whether one should or should not admire their judgment, the fact today is that a man who plans to operate a television station in an area of less than 100,000 people, is considered foolhardy by most observers. Nevertheless, the FCC, in setting its allocation table, anticipated that there would eventually be hundreds of television stations in these small communities, as evidenced by the fact that of approxi-

mately 1,232 cities listed in the Table of Assignments, 891, or almost three-fourths, are cities of 25,000 population or less. These same cities received over half—55.3 percent—of all commercial television channel assignments.

The following table compares, by population groups, the number of channels assigned, and the number of channels covered by license applications, as per May 1953:

City size	Number of channels assigned	Number of channels applied for	Percent (2) of (1)
Under 5,000	(1)	(2)	(3)
Under 5,000	161	2	1.2
5,000 to 10,000	395	18	4.6
10,000 to 25,000	436	82	18.8
25,000 to 50,000	262	144	55.0
50,000 and over	539	473	87.8
Total	1,793	719	.....

A note of further interest is the fact that in cities below 25,000, there are a total of 101 VHF channels in 89 cities for which no applications were filed as of May 1953. This seems to emphasize that economic problems in television broadcasting are not confined to UHF.

Although these figures are already 1 year old, the situation has worsened rather than improved.

Even among those stations who have construction permits issued to them there is now little indication of enthusiasm. According to Television Digest of May 8, 1954, of the 220 construction permits still outstanding, only 80 reported target dates within 1954 for station construction. Only as few as 18 are known to have equipment on hand, while another 45 have stated they have equipment on order.

THE BLAME LIES WITH THE ECONOMIC FACTS OF LIFE

It would be unfair to both the networks and the advertisers to lay the blame on their doorstep. Both are guided by sound economic principles and it is not their fault that many broadcasters believed that television would largely repeat the history of radio.

Present comparison between the two media now reveals more difference than similarities. Radio's cost per thousand viewers is considerably lower and, therefore, attracts a larger number of advertisers. Radio stations not affiliated with networks—clear channel stations—generally were and are able to operate profitably. But television has not as yet found the equivalent for radio's low-cost disk jockey shows and other program techniques which contribute to radio's thrifty economics. In this connection, it should also be pointed out that the number of potential national advertisers is limited. According to the Publishers Information Bureau, there were in 1953 only 52 advertisers with total television advertising budgets of over \$1 million. In view of this fact, it is hardly surprising that that presently 35 percent of network television advertising is sponsored by only 10 companies. It needs no emphasis here that from an economic point of view these circumstances provide a precarious future for new television stations, especially in small markets.

FUTURE TELEVISION PATTERNS

It has been stated at this hearing that the Government is anxious to see a "nationwide competitive television broadcasting system."

As long as the future of television is chained exclusively to the economics of network broadcasting, it would appear that the chances of realizing this objective are virtually nonexistent.

As long as certain network affiliations remain of vital importance to a station's economy, the number of stations in this country will be limited to those which the networks can support. This number may well remain as small as some figure between 300 and 400. It will rarely include small communities some of which, if they are lucky, will have to content themselves with fringe-area reception from nearby metropolitan television stations. In short, the networks and the advertisers, and no one else, are dictating today how many stations there shall be and which towns shall or shall not have television.

POSSIBLE SOLUTIONS

The addition of more networks does not seem to solve the problem, except for those UHF stations which are located in the top markets. Television, as a mass communications medium, is continually challenged by other mass communications media. Consequently, any network will always seek the conditions most favorable to such competition. These conditions exist primarily in major markets, not in small towns.

Regulation of nonessential aspects of television broadcasting is merely an evasion of realities, rather than a statesmanlike expression of congressional guidance.

Therefore, the conclusion would seem to be inescapable that, if this committee confined itself exclusively to the "advertising-sponsored network" concept of television broadcasting, it automatically places itself in the position of favoring a limited system of television broadcasting.

Needed is a new source of high quality programs, competitive to network programming and not subject to the economics of national advertising.

In this connection, this committee may wish to give serious consideration to a complementary system of television broadcasting which shows strong promise both of introducing competition to network broadcasting and, not being dependent on national advertising, of bringing service to areas where coverage is now considered uneconomical.

This complementary system of television broadcasting is usually referred to as subscription television.

Subscription television is basically a technique for coding or scrambling the transmitted signal so as to produce a distorted picture and unintelligible sound at any receiver not equipped with appropriate decoding or unscrambling devices. Subscribers can purchase "decoding information" on a per program basis.

With subscription television the public pays directly, at its own free selection, for high quality programs now unavailable on television. Under the present system of advertising-sponsorship, the cost of television entertainment is charged indirectly to the public in the price of the products advertised, and regardless of whether the individual watched or listened to the program.

The Chairman of the FCC, Mr. Rosel Hyde has himself mentioned subscription television in his testimony before this committee. Mr. Hyde, in commenting on subscription television said, "In addition, it is alleged that subscription television will free stations of their dependency on networks." He also informed the committee that the FCC recently commented on subscription television in a letter to the chairman of the House Interstate and Foreign Commerce Committee regarding a bill introduced by Representative Hinshaw of California. The most pertinent aspects of this communication were:

1. At the present broadcast station licensees cannot transmit radio or TV programs for public reception on home sets wherein programs can be received only by those willing to pay a specified fee.

2. The entire problem of subscription television is now under active study by the FCC.

3. Neither FCC nor the courts have defined subscription television as "broadcasting" under the Communications Act. But FCC thinks it can do so should it deem subscription radio and/or TV to be in the public interest.

4. FCC intimated that there is little reason to consider that box office broadcasting is not "intended to be received by the public" just because there is a fee charged. The absence of any charge for the program is not a prerequisite of "broadcasting," it was explained.

5. "The reliance of the broadcasting industry upon advertising revenue, rather than upon direct charges to the public as its principal source of revenue, has not been the result of any action by either Congress or the Commission, but rather the result of the natural development of the industry," FCC said.

6. Subscription services would be a type of broadcast service because while they might have a special appeal to a segment of the potential audience, "this is equally true of a substantial portion of the programing now transmitted" by stations.

7. "The exclusion of subscription services from the classification of 'broadcast' operations"—which the Hinshaw bill would accomplish—would not in itself bar subscription authorization, according to FCC, which emphasized:

The Commission may authorize other services on the broadcast bands if it determines that the public interest will be served thereby.

The Commission also noted "subscribing members of the public would be paying for the programs rather than for the use of communication facilities." The FCC referred to its present authority to regulate number and type of hours during which subscription television programs can be broadcast by a station; the number of stations in a community which could be so engaged; and the adoption of transmission standards.

THE POTENTIALS OF SUBSCRIPTION TELEVISION

Because subscription use of television represents a wholly new approach to solving both the economic support and cultural uses of television, yet would do so in addition to rather than as a substitute for present television usage, we believe that its authorization would do the following:

1. Establish a new television broadcast service which will compete for audience with the existing services and offer an economic solution to the weaker networks and independent stations.

2. Make more telecasting stations economically possible, especially in the smaller communities.

3. Build a bigger television audience and one more flexibly available to the advertising sponsors.

4. Provide an economically sound solution to the mounting problem of retaining or adding the "premium-type programs" to what is now available on television. Hence—

5. Solve the sports world's problem of the declining gate receipts at the stadium—thus a means of returning the big league football games, the championship prize fights, and so forth, to home television.

6. Solve not only the short-run problem of putting the best feature motion pictures on TV, but the long-run problem of producing more and better motion pictures for all types of exhibition.

7. Provide a solution to the shrinking status of the stage and a return of the legitimate theater from a few houses on Broadway to virtually all of the houses in America.

8. Solve the similar economic problems that have even further reduced the status of the opera and sympathy.

9. Furnish a fresh and practical solution to the long unsolved problem of how to develop the obviously great educational uses of television. By charging a modest "tuition fee" for a few of the best weekly programs that could be developed out of the wealth of knowledge on a college campus, the wherewithal could finally be obtained to build the much-discussed educational stations. Operated as non-profit stations, they could still avoid commercial sponsorship, and yet obtain sufficient subscription revenue to operate most of the time without fee on a truly public-service basis.

In conclusion, subscription television will supply a second source of revenue to VHF and UHF stations who now have to depend exclusively for income on advertisers. They must have two sources of income—the advertiser and the subscriber. Subscription television supplies that second source of income that is so vitally necessary especially to the weaker networks and the outlying stations in the smaller communities. Subscription television will bring to the most humble homes grand opera, front row seats on opening nights on Broadway, top movies and other great events too costly to be sponsored by the advertisers. Only subscription TV can deliver such attractions into the homes at a mere fraction of what is now paid per viewer at the box office.

Subscription television, in other words, offers not only an economic but also a cultural solution to television's basic problems.

No greater catastrophe could befall the weaker VHF stations than to have this given exclusively to the UHF stations.

Senator POTTER. Thank you very much, Mr. Ball.

Mayor Lawrence.

Mr. Mayor, we are delighted to have you before the committee representing your great city of Pittsburgh and I know of your fine record there as mayor. I regret, however, that I have another hearing, and I will turn the hearing over to Senator Schoeppel. I would love to stay but I have a conflict of interests here this morning.

Mayor Lawrence. I realize that.

Senator SCHOEPEL (presiding). All right, Mr. Lawrence, you may proceed.

STATEMENT OF HON. DAVID L. LAWRENCE, MAYOR OF THE CITY OF PITTSBURGH, PA.

Mayor LAWRENCE. Mr. Chairman, members of the committee; first, I would like to state that I am not a lawyer; I am not an engineer, and I happen to be in the insurance business, and at the moment mayor of the city of Pittsburgh.

I cite all that to indicate to you that I know very little, probably less than anyone in the room, about the technical features of television.

The city of Pittsburgh ranks as the 12th largest in the United States with a population of 676,806, according to the last census. Its standard metropolitan area, which includes Allegheny, Beaver, Washington, and Westmoreland Counties, contains a population of 2,213,236. A survey conducted by the J. Walter Thompson Co. showing the television households for the 340 top markets in the United States as of January 1, 1954, listed Pittsburgh as the eighth such market.

In other words, we are 12th in population and 8th in the television world.

In spite of this large concentration of population, Pittsburgh had only one operating television station from January 1949 to August 1953. The Allen B. Du Mont Laboratories, Inc., began operation on VHF channel 3 in January 1949, while two UHF stations commenced operation during the summer of 1953.

It is, therefore, obvious that this vast number of persons residing in the Pittsburgh standard metropolitan area were deprived of the television to which they were entitled. The so-called television freeze, lasting from September 1948 until April 1952, was the principal reason why these persons were deprived of this service.

Prior to the freeze, the Federal Communications Commission had allocated 4 VHF channels to Pittsburgh. The Commission had already authorized Allen B. Du Mont Laboratories, Inc., to use channel 3, thereby leaving 3 channels for which interested persons could apply.

When the freeze order was adopted there were no less than 7 applications pending for these remaining channels, at least 1 of which had been on file since October 1945.

These Pittsburgh applications were designated for hearing in early 1948, but a hearing had not yet been held when the Commission imposed the freeze on any further processing of television applications.

A substantial amount of money had been spent by each applicant in preparing its original application and its hearing material. When the freeze was lifted, the Commission ordered all the pending applications removed from the hearing docket and the applicants were requested to file amendments in accordance with the new procedures. These applicants then had to spend additional funds in preparing amendments to their applications, and it was not until recently that these Pittsburgh applicants were designated for hearings for the unassigned VHF channels.

The freeze was not ended until April 1952, when the Commission assigned 3 VHF channels and 3 UHF channels to Pittsburgh, 1 of the VHF channels being allocated for educational use. Subsequently, as mayor of the city of Pittsburgh, I interested myself in obtaining

another channel for the city and the Commission, as a result of that, assigned channel 4 to Irwin, Pa., a nearby suburb, to provide additional service to Pittsburgh and its metropolitan area.

As stated earlier, Pittsburgh currently has only 3 operating commercial television stations—1 VHF and 2 UHF.

A construction permit for a third UHF channel was granted in October of 1952, but that station has not yet commenced operation.

Station WENS, operating on channel 16, has recently announced that it is canceling all of its local shows, except for certain Pittsburgh Pirate National League baseball games for which telecasts have been scheduled—I don't know why because nobody is particularly interested in the Pirates.

I learned this morning that is a temporary change in program until September or October.

The television service that is presently provided to the nearly 2¼ million persons residing in the Pittsburgh metropolitan area is inadequate to meet the needs of the communities served.

The remaining commercial channels assigned to the Pittsburgh area—channels 4 and 11—are each now being sought in competitive proceedings by a total of 8 applicants. While hearings on both channels have proceeded through the preliminary stages, it is estimated that the two winning applicants will not be able to begin commercial operation for at least 2, or more probably, 3 years. That is the estimated minimum length of time that it will take to arrive at final decisions plus the time it will take to construct the stations.

In the meantime, the people of Pittsburgh and the surrounding areas will receive only those programs broadcast by stations now on the air.

It is for this reason, and supporting testimony will come from many other similar areas, that any temporary or permanent freeze on the processing of television applications should be opposed.

The public in the Pittsburgh area, as well as the public in a large number of other areas, have already suffered from the results of one freeze, and they do not wish to go through another.

I have heard discussions of the amounts expended by some of the applicants, and it is my best judgment that the 8 applicants now going through hearings for the 2 VHF channels mentioned have already spent more than \$450,000 and will spend at least an additional \$500,000 in expenses directly connected with the hearings before any final decisions are reached.

And, of course, only 2 of these 8 applicants will be successful, with the result that 6 applicants will have spent vast sums of money and will have nothing to show for it.

This is the type of gamble that the 2 UHF stations and 1 UHF station permittee did not take, as in each case their applications were unopposed.

The eight applicants now in competitive hearings for the Pittsburgh and Irwin channels have pledged a total of more than \$14 million to cover their respective costs of construction and the initial stages of operation. This amount that has been pledged is in the form of moneys paid into or on hand by the respective applicant corporations, stock and bond subscriptions, and loans from banks and others.

In view of the fact that only 2 of the 8 applicants will be successful in these hearings, only approximately one-quarter of this amount will actually be used to finance the costs of constructions of the 2 stations and the initial operation. However, because of the collateral required for both corporate and personal bank loans, because of the commitments of the stock and bond subscribers, and because of moneys pledged out of corporate assets, a large proportion, if not all, of this total of \$14 million must be held in a suspended state pending the results of these hearings.

In the absence of these personal and corporate commitments, these moneys could be employed for other productive purposes.

The combined construction costs of the proposed stations as stated in the applications of these eight applicants total more than \$12,500,000, for which the above amount has been committed. When such a vast amount of money is multiplied by the number of cities wherein competitive proceedings are pending or are in process throughout the country, the committee will realize what a serious and inequitable hardship would result if another freeze were imposed.

Senator SCHOEPPPEL. Mr. Lawrence, might I inject there; I think that is a situation that should certainly be taken into consideration, but in all fairness to the Commission downtown, or the agency downtown, if they sought to preclude somebody coming in and contesting one of these stations, they would be over a barrel, too, wouldn't they?

There has to be a degree of latitude to the applicants, consistent, of course, with the time element that goes into all of this; but what I take it you are objecting to or forewarning against is a freeze that might come at this stage of the game with these applicants in the present position they are, not only in your community but a lot of other sections of the country?

Mayor LAWRENCE. Exactly.

Senator SCHOEPPPEL. But you do agree that it is not really the thought of the agency downtown or the Commission downtown?

Mayor LAWRENCE. I am not critical of them, but we have been just the innocent sufferer from just one thing after another, with the result that here Pittsburgh, which was the pioneer broadcasting city of the world in radio, is today still with 1 VHF and 2 UHF stations. There has just been a series of things happening that deprived us of people having the proper facility.

Senator SCHOEPPPEL. Yes; but let me remind you there are other sections of the country in the same situation.

Mayor LAWRENCE. Exactly.

Senator SCHOEPPPEL. Maybe not in the magnitude of yours.

Mayor LAWRENCE. Exactly.

Senator SCHOEPPPEL. But that has happened in other sections of the country.

Mayor LAWRENCE. Exactly.

I remember distinctly when I was fighting for the stations we have got and the educational station. I happened to lead the fight for the educational station. I was then president of the United States Conference of Mayors, and we have a station operating in Pittsburgh—WQED. I then got somewhat of a survey of the situation. I found a city like Denver at that time had none. Portland, Oreg., had none.

I remember that distinctly.

To continue with my paper, a survey conducted by the A. C. Nielsen Co. for CBS-TV, showing the number of television families by counties in the United States as of November 1, 1953, stated that there were 501,960 sets which received only VHF broadcasts in the 4 counties comprising the Pittsburgh standard metropolitan area. At an average cost of \$250 per set, these 501,960 VHF sets represent an investment of more than \$125 million by the public of the Pittsburgh area.

Should the Federal Communications Commission require, as a result of these hearings, that all television channels be in the UHF band, this investment of more than \$125 million can be only partially salvaged through set conversions to UHF at a tremendous additional investment by the set owners, which, on the basis of conversations I have had with people in both the radio and television business, would amount to another 30 or 40 millions of dollars.

Senator HUNT. Mr. Lawrence, how many sets in that same area have been converted to receive UHF?

Mayor LAWRENCE. I don't have that figure, Senator Hunt.

Senator HUNT. Do you have some idea of the relationship between the two in your area?

Mayor LAWRENCE. No. You would have to get that from somebody in the television business.

The word "partially" is used because of a comprehensive—

Senator HUNT. May I ask one more question?

Mayor LAWRENCE. Yes. Pardon me.

Senator HUNT. Is your city served by television from other cities at all?

Mayor LAWRENCE. Some people can pick up, I understand, from Johnstown; but a great many of the sets can't. You see, our terrain there is quite hard. We are in hills and valleys there and it makes it somewhat difficult to pick up other places.

The word "partially" is used because a comprehensive field survey was conducted in 1949 in the Pittsburgh area by Westinghouse engineers which indicated that the signal coverage of UHF in a rough terrain is substantially inferior to that of VHF in similar terrain. Therefore, it is reasonable to assume that the conversion of sets to UHF would not insure that many persons residing in the area would receive satisfactory service.

It has been estimated that a move of all channels to the UHF band would destroy an investment of nearly \$10 billion—I was originally told that was 3 to 5 billion, but I understand that Dr. Du Mont stated here it was closer to \$10 billion—made by persons throughout the United States in VHF sets.

The committee should realize that the ultimate beneficiaries of this or other similar hearings should be the public—and I am sure that is your concern.

The Communications Act of 1934, as amended in 1952, states that the Commission should administer the act and its own rules and regulations for the public interest, convenience, and necessity. Any requirement that would eliminate an investment of \$10 billion would not be serving, we all recognize, the public interest, convenience, and necessity.

Several proposals were made before this committee during the hearings held on May 19-21 to the effect that the coverage of both VHF and UHF should be reduced and limited.

The present coverage provided to the Pittsburgh area by the three operating stations is not as satisfactory as desired. This results in part from the extremely rough terrain in the area and in part from the present low power of one of the UHF stations.

To reduce or limit the power of television stations, or to eliminate VHF stations, would result in the rendering of an inferior service to the Pittsburgh area, and the same result would occur in many similar areas throughout the United States. It is the public that would be damaged by such proposals.

Pittsburgh has contributed, as I stated before, a great deal to the development of the radio. It has the two oldest commercial broadcasting stations in the United States and it is a great embarrassment to me to think that our great city and community has been treated so badly in the allocation of channels. Any further delay in the processing of the pending applications would be a great injustice to us.

In conclusion, we should not lose sight of the fact that television is a new industry and is still experiencing its growing pains. The early years of operations of both prefreeze and postfreeze VHF stations were filled with many hardships, not the least of which was severe economic losses.

It is my belief that this industry can best serve the public interest if it can proceed, without further delay and without further governmental restriction, to expand the television facilities of this Nation.

Senator SCHOEPEL. Senator HUNT.

Senator HUNT. I have no questions.

Thank you, Mr. Chairman.

Senator SCHOEPEL. Thank you, Mr. Lawrence.

Mayor LAWRENCE. Thank you, Senator.

Senator SCHOEPEL. The next witness, I think, is John Guider of the Mount Washington TV Co., of Poland Springs, Maine.

Mr. Guider, you may be seated, sir.

I note you have a written statement.

Mr. GUIDER. I have; yes, sir.

Senator SCHOEPEL. You may proceed in any manner that you desire.

STATEMENT OF JOHN W. GUIDER, PRESIDENT, MOUNT WASHINGTON TV, INC.

Mr. GUIDER. My name is John W. Guider. I am a lawyer and practice law before the Federal Communications Commission since the old days when it was the Federal Radio Commission.

I have been associated with the radio industry in one way or another for about 30 years.

I presently live in New Hampshire, and I am the president of Mount Washington TV, Inc., which holds a construction permit for a television broadcast station on channel 8, a VHF channel with our transmitting facilities to be located on the summit of Mount Washington, which is the highest mountain in the eastern part of the United States,

6,280 feet. That summit is about 4,000 feet above the average terrain of the surrounding countryside. So, our antenna will be approximately four times as high as that of the Empire State Building and the antennas located thereon.

This presentation, which is not a long one, is perhaps something that particularizes the generalities that were in Mr. Pierson's testimony.

We are showing you here a specific example of how these proposals work in an actual case that is in existence at the moment.

I, personally, am the owner and operator of a 250-watt standard broadcast station, FM station, located in Berlin, N. H., at the foot of Mount Washington. Most of my associates in the Mount Washington venture are also owners and operators of small standard broadcast stations in northern New England—WABI and Bangor; WCOU in Lewiston; WFAU in Augusta; WPOR in Portland, Maine; WTVL in Waterville; and WRKD in Rockland in Maine; and WKBR, Manchester; WTSL, Hanover; and WTSV, Claremont, in New Hampshire.

My associates and I are engaged in the challenging venture of establishing a TV station in a sparsely settled part of the country on a mountain which is snowbound from October to June every year and has the worst weather in the country.

Unless you think I am prone to exaggerate that, let me say the highest winds ever recorded on the face of the earth, 231 miles an hour, have been recorded at the top of Mount Washington before the equipment was damaged. A sustained gust of 180 miles an hour has been recorded up there for a period of 5 minutes. The average wind for the 365 days of the year up there is around 58 miles an hour, and the hurricane force is 70 miles an hour.

So, that gives you an indication of the kind of weather we have up there.

In addition to that great wind area up there, you have, of course, extreme cold weather. So, the Government has recently been conducting all kinds of cold-weather experimentation work on top of Mount Washington, and has put several big activities up there.

In the more than 2 years we have been pursuing the project, we have proceeded far in licking many of the severe construction and operating problems involved in this unique TV station.

It has been sometimes called the Zsa Zsa Gabor of all TV stations because of the unusual glamor it possesses and the many characteristics about it that are really unique.

After expenditure of much time and money we are now on the threshold of establishing a TV service which will be of a tremendous value to an underprivileged radio and TV area—at least so far as radio and TV is concerned.

It is, accordingly, with some concern that we read of proposals before this committee which, if applied to our station, would kill off the entire project and with it the public benefits it will provide.

These UHF proposals include:

- Abolishing VHF assignments and moving all TV stations to UHF;
- A freeze on any more VHF construction for an indefinite period;
- A reduction or limitation of coverage of VHF stations.

They appear to have been advanced as remedies for UHF's problems, capable of general application on a nationwide basis and without re-

gard to the varying circumstances and conditions in different parts of the country.

I am not qualified to pass judgment on whether some of these proposals may be helpful to the development of UHF in certain localities without being to the detriment of TV and the public generally; but I am sure—and the facts are clear—that to apply them to northern New England and to Mount Washington TV, in particular, would benefit nobody. On the contrary, it would cause serious and irreparable public and private loss.

Adoption of any of these UHF proposals would wipe out not only the very substantial investment my associates and I have made in Mount Washington TV, but it would also wipe out the only TV service of any kind which will ever be provided for a very large number of farmers and other rural residents and small communities in the States of Maine, New Hampshire, and Vermont—all this to no gain, because no compensating benefit to UHF in our part of the country will be gained by it and no proposal has been made by UHF to substitute for this VHF service that is contemplated by our project.

Any proposal which will require a reduction in Mount Washington TV's service area is definitely contrary to the public interest in northern New England. Mount Washington TV's survival depends upon the wide coverage it will provide.

Northern New England is predominantly a rural area and sparsely settled. The broad reaches of Maine, New Hampshire, and Vermont lack the concentration of population to support broadcast stations, and they have always suffered from inadequate radio service.

I will leave my notes for just a minute to tell you in my home in Littleton, N. H., with the best of radio equipment and antennas, there is no certainty I can receive any particular station on any particular night.

I am talking about broadcasting now.

At this late date there are great areas in Maine, New Hampshire, and Vermont where you never know where you are going to get and if you want to listen to the Columbia news, you reach down into New York and get it at 11 o'clock at night, or some other night you get it from New Orleans, or you get it from Charlotte, or somewhere else. You never know what you are going to be able to get up there.

There is a need up there for some better share of radio facilities, and we are trying to bring to the people good TV when they have never yet had good radio.

Senator SCHOEPEL. That means, of course, there are certain phenomena that exist which the scientists have an explanation for, but we haven't got the equipment and sets, and one thing and another yet, to provide the good type of service?

Mr. GUIDER. No, Senator. I think the main reason is that we up there are a little too far away from the populous centers that can support a broadcasting station.

Senator SCHOEPEL. Yes; I recognize you have got that factor there.

Mr. GUIDER. Then you have the mountainous terrain which does introduce some scientific problems.

Senator SCHOEPEL. You mentioned, for instance, you got stations from New Orleans up in that area.

Mr. GUIDER. Yes; you get what is called the skywave—skip distance.
 Senator SCHOEPPPEL. Yes.

Mr. GUIDER. One night you will get Chicago; another night you will get Pittsburgh.

Now, another program I listened to is the 6:45 news, and I sometimes think I am getting it from Boston, WBS, which comes from a pretty reliable station, from about 180 miles away but I am just as apt to be listening to Pittsburgh carrying the same program and won't get Boston at all.

We get freak reception. There must be some scientific explanation to it. I am not sure I can put my finger on it, except I know we are outside the good service areas of any station strong enough to reliably serve us.

Unable to support radio stations, communities in this area will even less be able to support TV stations, individual stations.

Mount Washington, in northern New England, however, provides the natural height whereby a TV service can be rendered over a wide area and thus encompass sufficient people in the aggregate to make a station economically feasible, and only by such a station will large portions of northern New England ever receive a television service.

As Federal Communications Commissioner Sterling stated publicly when we received our permit to build a station on Mount Washington:

This station on Mount Washington will no doubt, taking into account the economy of the area and the high cost of establishing a TV station, provide the only TV service the population of these areas may even receive.

I certainly know that is a correct statement and it is the reason we are here today.

If, however—

Senator HUNT. May I ask you what date that statement was made?

Mr. GUIDER. That decision, Senator, I think, was July 8 of last year, when we got our grant.

Senator HUNT. Last year.

Mr. GUIDER. At the time we got our grant, from what was a press release.

Senator HUNT. I take it, from that, the Commissioner doesn't feel the community antenna services will ever blanket your area then?

Mr. GUIDER. No, sir, because even they need a better signal than would be coming in.

A community antenna usually relies on getting up on some local hill or something and picking up a signal, but we are not going to be close enough to anything to even get it up on the hill with very good success.

We know now about what we are getting up there because a lot of sets have been sold on the strength of the promise of Mount Washington, and these sets are now operating in a fringe area, and some people up on hills get pretty good results; other people down in the valleys are getting nothing but snow.

So, we know about what a community antenna would do up there and it wouldn't do too much.

Getting back to the statement: If we are to be prohibited from using the natural advantage of height provided by Mount Washington, or we are otherwise forced to reduce coverage, we would be forced to abandon our plans.

Our only chance of getting the necessary financial support to operate the station is to incorporate an audience big enough to justify the advertiser buying us, and I think I might say there probably isn't 10 percent of our potential audience within 30 miles of our tower.

We are up there in a national park area, and rural section, so that the people we are reaching—we are like a doughnut—we are in the middle; then there is a hole where there aren't many people and then the people we are reaching are out on the ring of the doughnut.

Neither could the Mount Washington TV operation survive if our VHF channel were taken away and we were told to operate UHF only, for the UHF signals would be so unsuitable to provide service in the mountainous areas of northern New England and the area and population which UHF would reach would be so limited that the station would lack the wide coverage which alone makes a TV service economically feasible in this sparsely settled area.

Accordingly, any limitation on Mount Washington's TV-wide-area coverage, by preventing the use of the mountain which makes that coverage possible, by requiring a reduction in power, or by forcing a move from VHF to UHF, would destroy the TV service which Mount Washington TV will render; and—I ask you to note this point—none of these remedies advanced in behalf of UHF will serve to replace that service with any UHF substitute.

Moreover, most of the TV sets in the States of Maine, New Hampshire, and Vermont—a total of—I think the figures on the 31st of May were 247,000—are capable of VHF reception only. I am perfectly sure more than 200,000 of these receivers are not adapted for UHF.

Senator SCHOEPEL. Might I ask there, sir, in reference to the last statement you made there on page 3—“and none of these remedies advanced in behalf of UHF will serve to replace that service with UHF service.”

Is that because there is no application for UHF permits in there?

Mr. GUIDER. That is right. There are presently operating in our service area 2 UHF's with low power, 1 in Portland and 1 in Lewiston, Maine.

A person would have to be a little short of insane to try to put a UHF station up into that north country area, with the small population, and try to get his programs up there and try to sell it to anybody for enough to operate a station; and when he got up there he would be operating in a terrain which would drive the signal right back under his towers and he would get to very few people.

I don't believe anybody would be tempted to put UHF up there.

Another UHF suggestion is the freeze on VHF construction.

Now, it is unthinkable and, as somebody said yesterday, appalling that any freeze would be applied to a case like ours. Not only would the freeze be fatal to the establishment of the service which large areas of northern New England are waiting for, but it would not replace it with UHF service. Moreover, it would prevent us from completing our construction and getting on the air as planned, and that would be grossly unfair to Mount Washington TV.

Now, I know you gentlemen realize when you take a construction permit you accept an obligation to complete your station at a certain time, and you have only 6 months to do it in. So, you are obliged,

if you are operating in good faith, as most applicants do, to go out and start spending money right away to meet that deadline. We have done that.

Our deadline is in September. We hope to go on the air in August.

I would like to mention very briefly what we have done.

For over 2 years we have been very active in proceedings before the Commission, in making the necessary surveys, economic, engineering, and programing to carry out the proposal, in preparing and processing an application, in working out conflicts with other applicants, in conducting experimental transmissions from the mountaintop, and since getting our grant the last of July, we have done extensive work to provide power and housing on the mountain.

I think you will be interested to know we are prefabricating a very strong building and moving it up in sections so it can be speedily erected during the short building season in the summer the mountain affords us.

That construction is underway on the mountain. We have got a concrete foundation that is going to cost us \$50,000 just for the function. Everything up there has to be very strong.

Our whole building has been certified by the scientists at MIT that it will not sway more than a quarter of an inch in a hundred-and-fifty-mile wind, but we are not building anything sparingly and it hasn't been easy to plan it and know how to make it work up there.

All told, we have so far expended—and we were not involved in any hearing—this is not hearing money—over \$200,000 on the project, and we have signed commitments covering equipment, housing, facilities, and so forth, for an additional \$500,000.

Much of our equipment, costing over \$400,000, has been shipped to us, and the balance of it will all be delivered within the next 30 days.

We are not now in the position of being able to wait and see what is going to happen to this hearing. Weather conditions afford us only the next 3 months to build our transmitter house and get our equipment installed.

If we are to get the station on the air this year, we must proceed energetically and without any delay so we can have our construction completed before the mountain gets snowed in again in October.

If we don't get on the air this summer, it will be not practical from the business point of view to ever go on the air.

I won't elaborate on that in the interest of time, but I can, if you want me to.

Hence, my association and I must proceed with our plans to complete construction of the station just as rapidly as possible. We are doing so, confident that this committee will not take any such unwise or unfair action as recommending a freeze which would prevent us instituting the very valuable TV service we are already so far along with, and to do this without offering a UHF substitute.

My associates and I are engaged in the pioneering of a VHF station which challenges the imagination, not only in the problems involved but in the benefits it will bring to that large area of the country.

Whatever merit proposals advanced to solve UHF problems in particular locations in other sections of the country may be thought to have in those particular cases, these proposals cannot fairly be applied to the situation in our case. To do it would benefit no one. To do so would cause the most serious injury not only to those who have ven-

tured our time and capital, but to the hundreds of thousands of people who are waiting for it.

Mr. GUIDER. Now if I might make one small supplementary statement to quote a word used in another hearing here recently, I do not want to sound pious and I do want to say that I am one of the smaller investors in this company, although the amount invested is quite a large amount to me, but I would rather lose whatever I have got in there than to have this thing delayed. I would hate to face all the people in that north country who have waited for this station and whom I have been telling that we would have it in August and have to explain to them that we will not go on the air, and we will have to stop, look, and listen before the situation is settled.

I can tell you of hundreds and hundreds of people who have been saving pennies for downpayment on their television sets, and I am not exaggerating when I say that, when we go on the air.

Senator SCHOEPEL. I gather that there is a feeling of a fear of a freeze. As I recall the testimony, and I have been able to read some of it and have been able to listen to a lot of it, there was no recommendation or suggestion on the part of the UHF people or those testifying that a freeze, if ordered or thought about, should apply to any of the permits now granted. Maybe I am wrong, but I think the record will bear me out.

Mr. GUIDER. Mr. Pierson can answer that better than I can.

Mr. PIERSON. My understanding is that there was a proposal to freeze the issuance of any further construction permits, and also a proposal to freeze any further authorization covering construction permits. I can get the exact citation in the record for you.

Senator SCHOEPEL. The impression that I have, as I have said, is that it does not stop construction on the granting of any permits.

Mr. GUIDER. I certainly hope you are right.

Senator SCHOEPEL. And we will certainly take a look at the record on it.

Do you have any questions, Senator Hunt?

Senator HUNT. I have three quick questions.

How high is your tower?

Mr. GUIDER. We are using a tower originally built for an FM station. The base of the tower is 50 feet high, and the antenna is a specially designed heated antenna which eliminates the ice and the sleet, which melts on it. The antenna on top of the old FM antenna comes in four 9-foot sections, a total height of 36 feet for the 4 sections.

Senator HUNT. What is the power?

Mr. GUIDER. One hundred and five kilowatts for the aural, and 50 on the sound.

Senator HUNT. How far do you expect to reach?

Mr. GUIDER. One hundred miles in all directions.

Senator HUNT. What population will you reach?

Mr. GUIDER. One million, five hundred thousand people.

Senator SCHOEPEL. Thank you very much for your statement, Mr. Guider.

Mr. GUIDER. Thank you, gentlemen.

Senator SCHOEPEL. The next witness is Mr. Lennox Murdoch, manager of station KSL-TV, of Salt Lake City, Utah.

STATEMENT OF D. LENNOX MURDOCH, VICE PRESIDENT, RADIO SERVICE CORP. OF UTAH

Mr. MURDOCH. My name is D. Lennox Murdoch. My home and business addresses are Salt Lake City, Utah. I am a vice president of Radio Service Corp., of Utah, licensee of KSL, KSL-FM, and KSL-TV. I am the officer in direct charge of KSL-TV and am a small stockholder in Radio Service Corp. of Utah.

I might add that I have been with the Radio Service Corp of Utah for 24 years, and that since March of 1949 I have actively devoted my full time to the development and progress of our television operation.

Although the subcommittee is concerned with the television problem on a national scale, it has seemed to my organization and myself that the best contribution we can make is to tell you the experience we have had in operation of a VHF television station in a somewhat limited market, and on the basis of that experience, comment on some proposals made to you. With your indulgence that is what I propose to do.

Salt Lake City is the geographic and trade center of the Great Basin, an area bounded by the Rocky Mountains on the east, the high mesas of Arizona and New Mexico on the south, the Great American Desert to the west and the head waters of the Columbia River to the north. This is truly an enclosed inland empire.

This inland empire was settled first by the Mormon pioneers 107 years ago. The village system developed by Brigham Young called for key nucleus towns with a chain of supporting and interdependent settlements to be located wherever life and agriculture could be sustained within the limit of water resources. These towns were satellites of larger cities, coming together in a linked system of integration to the center which is Salt Lake City. The service and distribution techniques set up in those early pioneering days are still predominant.

The geographic isolation of the Great Basin area is demonstrated by the fact that Salt Lake City is 538 miles from Denver, 870 miles from Portland, 770 miles from San Francisco, and 750 miles from Los Angeles. There are no population centers between those cities sufficient to support the volume of wholesale and retail trade carried on in Salt Lake City.

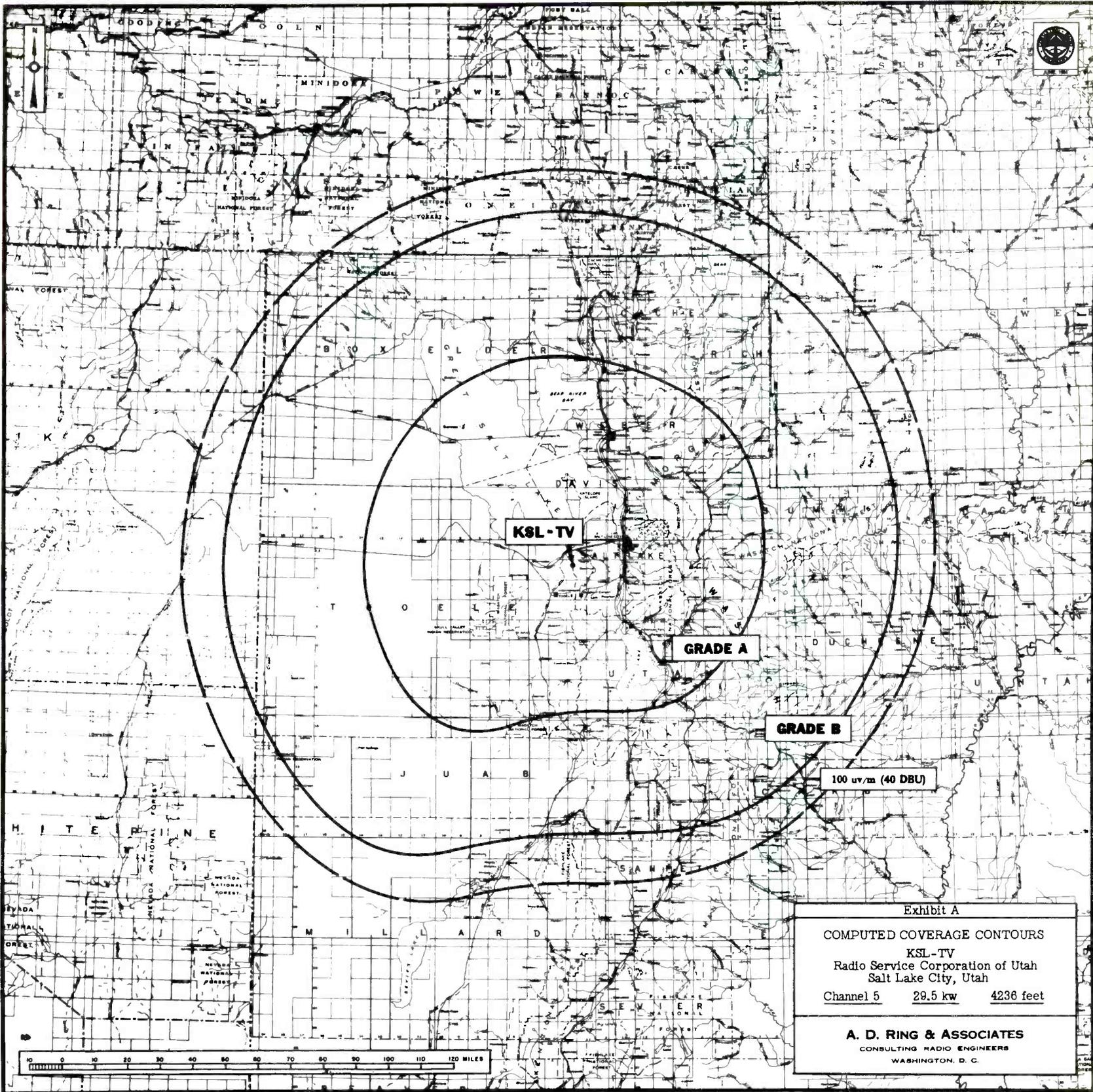
The map attached hereto as exhibit A shows the grade A, grade B, and 100 microvolt per meter contours of KSL-TV.

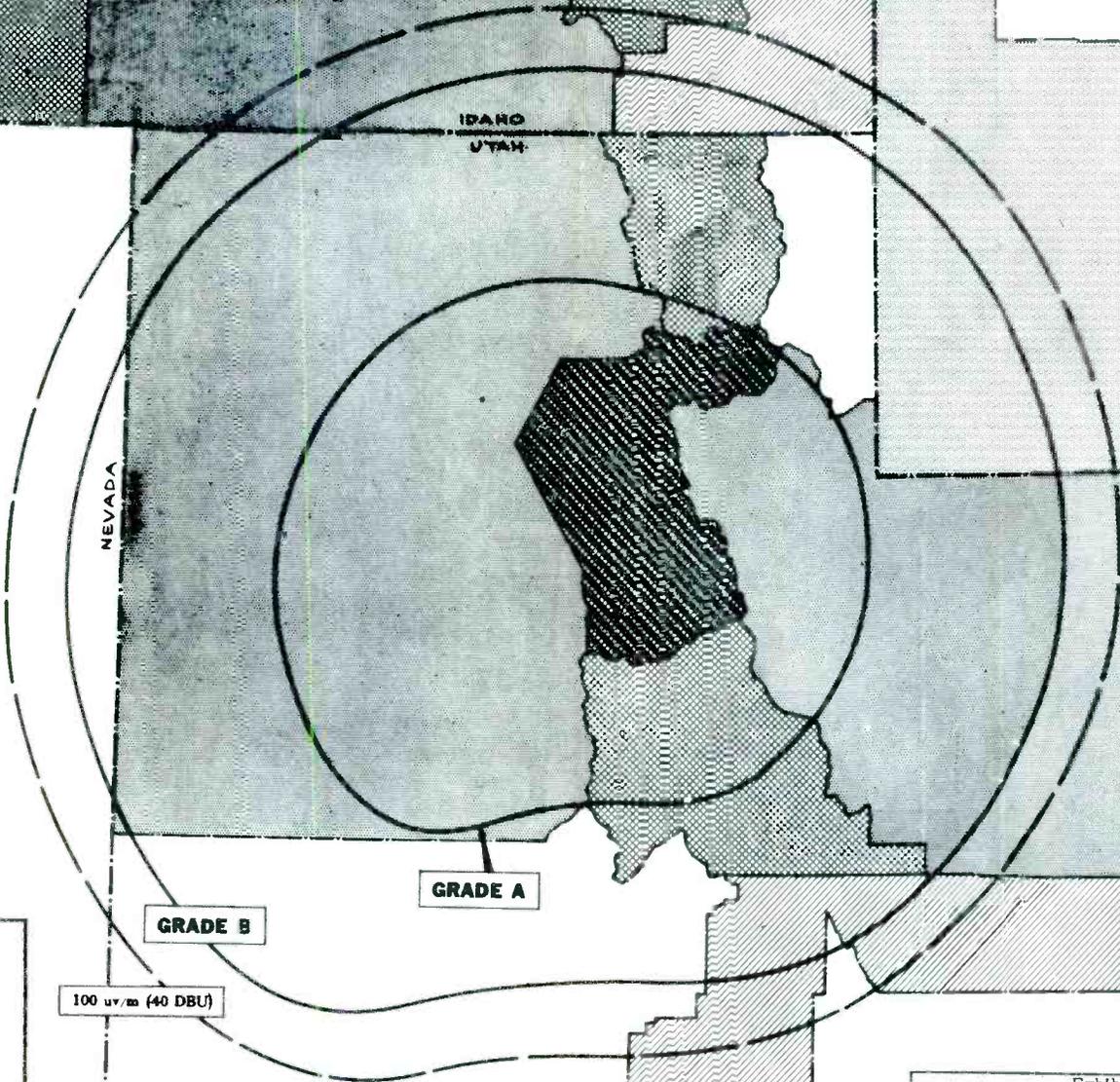
Senator SCHOEPEL. That map will be made a part of the record at this point.

(The map referred to, exhibit A, is herewith inserted.)

Mr. MURDOCH. You will note that although the Federal Communications Commission's rules limit KSL-TV to a maximum power of 29.5 kilowatts, KSL-TV is able to serve a large area. This results from the fact that the licensee of KSL-TV has pioneered in a mountain-top transmitter installation which is located on Coon Peak in the Oquirrh Range of mountains west of Salt Lake City. The transmitter site is at an elevation of 9,619 feet above sea level and 4,420 feet above the average elevation of the surrounding terrain.

If my memory serves me well, I believe that is the highest commercial transmitter site in the United States in operation at the present time.





POPULATION PER SQUARE MILE	
	UNDER 2.0
	2.0 TO 5.9
	6.0 TO 17.9
	18.0 TO 44.9
	90 AND OVER

100 uv.m (40 DBU)

GRADE B

GRADE A

FROM U. S. BUREAU OF THE CENSUS PUBLICATIONS



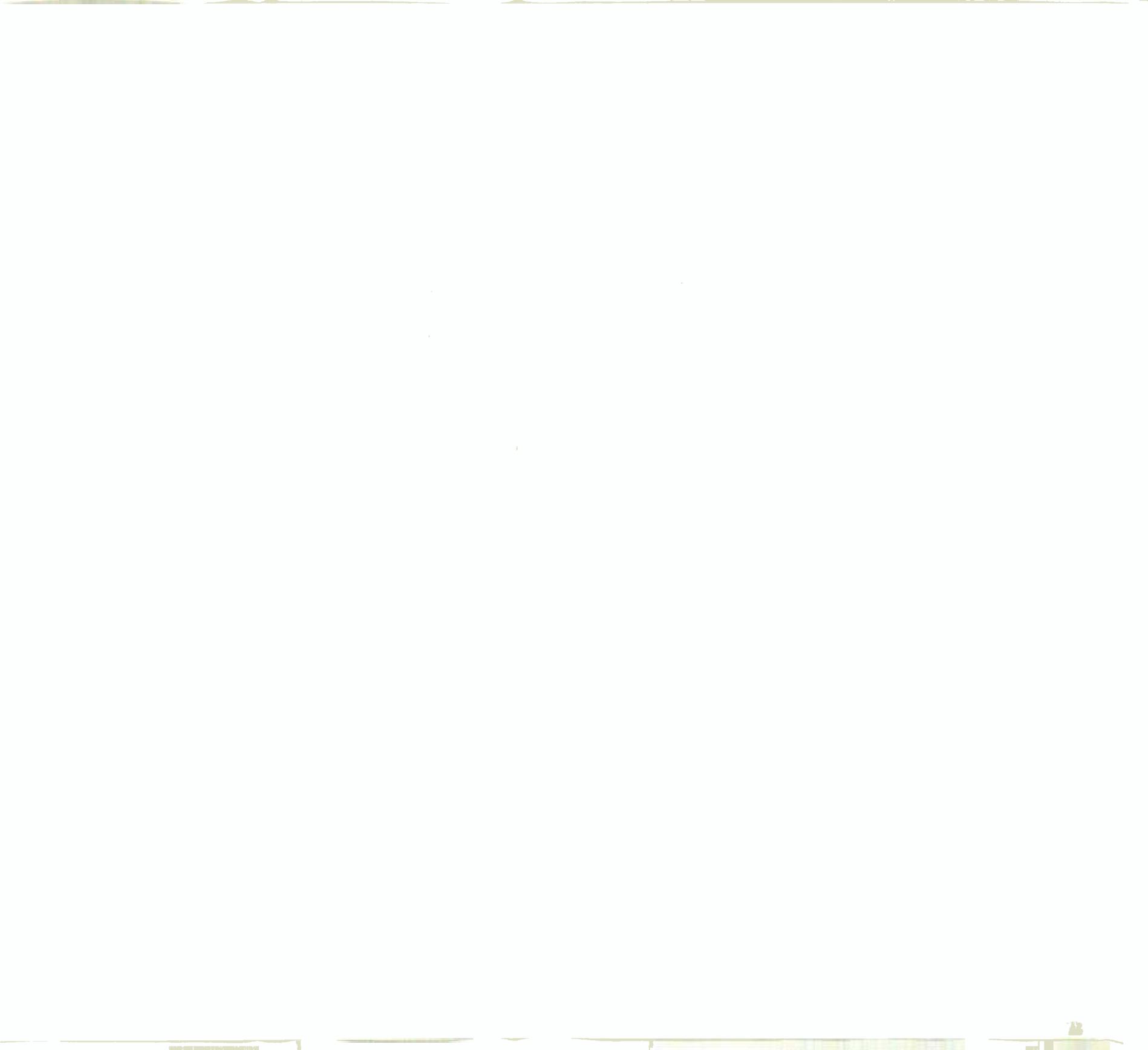
Exhibit B

COMPUTED COVERAGE CONTOURS
(Showing Population Density)

KSL-TV
Radio Service Corporation of Utah
Salt Lake City, Utah

Channel 5 29.5 kw 4236 feet

A. D. RING & ASSOCIATES
CONSULTING RADIO ENGINEERS
WASHINGTON, D. C.



The map marked "Exhibit B" has been prepared from the United States Population Density map of 1950 and shows in its unshaded portions the extent and location of population density for some areas under two persons per square mile, and indicates population density for other area service by KSL-TV.

Senator SCHOEPEL. That map will be made a part of the record at this point.

(The map referred to, exhibit B, is herewith inserted.)

Mr. MURDOCH. It will be noted from the exhibit that the approximate center of the low population area is Salt Lake City, Utah, a natural center from which to serve this general area. Superimposed upon this are the service contours of KSL-TV. This illustrates the strategic position of Salt Lake City to furnish television service to many of the sparsely settled areas of the intermountain West.

Following World War II, Radio Service Corp. of Utah began its plans to apply for and operate a television station in Salt Lake City. We were well aware that in order to make such an operation profitable, it would be necessary to serve a substantial number of persons outside Salt Lake City for even at that early date it was apparent that operation of television stations was an expensive business and we desired, if we were to get into the business, to do the best possible job.

In order to determine the feasibility of wide area coverage, we conducted extensive studies to determine the feasibility of locating a transmitter site on one of the mountains in the area of Salt Lake City. But the cost of such an installation seemed prohibitive, and instead, on May 26, 1948, Radio Service Corp. of Utah filed an application with the Federal Communications Commission to operate a television station, specifying that the transmitter would be located on top of a building in downtown Salt Lake City. This application proposed a power of 18 kilowatts on channel 5. We estimated that this would serve approximately 275,000 persons and the installation would cost in excess of \$200,000.

That application was granted in due course, and KSL-TV began commercial operation on June 1, 1949, at a time when there were approximately 2,000 homes equipped with television receivers within the proposed service area of KSL-TV.

And I might add there was one other commercial station in operation in that area.

Then began a period of 3 years and 7 months during which KSL-TV sustained heavy operating losses.

May I digress just a moment to tell you gentlemen that we have always recognized at KSL-TV that the value of good local programming, and although we received limited service from the networks the first 2½ years of our operation, we did endeavor to honor our trust and give to the public what they were entitled to in good programming, so we went in for local programming and were pleased to note the reception and satisfaction of that programming.

Despite these losses, KSL-TV did as good a job as possible on programming, having faith throughout that eventually the operation would begin to produce some return for the stockholders while doing the best possible job for the viewing public.

I am happy to say that some of these local live shows have rated as some of the highest in our area.

Senator HUNT. I think I can say from experience that I do not believe there is any community in the United States that has the talent locally that you have in Salt Lake City.

Mr. MURDOCH. Thank you, Senator. We have endeavored to make good use of the territory.

Senator HUNT. You and I both understand why.

Mr. MURDOCH. Thank you, sir.

During 1949, KSL-TV sustained losses averaging \$9,787.04 per month for a total loss of \$68,508.33 for the 7 months during which it operated in that year.

In 1950 the operating losses averaged \$10,600.62 per month for a total loss of \$127,207.54 for the year. During 1951 the losses averaged \$11,042.61 per month for a total loss of \$55,962.88 for the year. Finally, during 1953, 3 years and 7 months after KSL-TV began commercial operation, it showed a yearly profit.

While still losing money, KSL-TV expended substantial sums to enlarge its service.

During the years we were sustaining heavy operating losses, we became convinced that it would be difficult if not impossible for the station to operate at a profit unless we found a means of enlarging the service area. This conclusion coincided with pressure from residents outside Salt Lake City who desired to obtain television service. Accordingly, after further studies and surveys, Radio Service Corp. of Utah obtained a lease on Coon Peak in the Oquirrh Mountain Range, 17 miles west of Salt Lake City, and began plans to apply for and move its transmitter to that point.

This planning continued and the determination to apply for permission to move its transmitter to Coon Peak was made even while KSL-TV was continuing to suffer heavy operating losses.

On November 15, 1952, KSL-TV started transmitting programs from Coon Peak. From this location it was able to render service to 39 counties located in Utah, Idaho, Nevada, and Wyoming. With this larger service area, the station was able to increase its rates and move into the profit column.

The move of the KSL-TV transmitter site to Coon Peak was something of a pioneering venture—and there were some within the television industry who felt we were impractical idealists. In fact, the venture was not without costly experiences.

As an example, the 374-foot tower and antenna first installed on Coon Peak was blown to the ground during a violent windstorm on December 7, 1952, only 3 weeks after KSL-TV started transmitting from that location.

To summarize the financial experience of KSL-TV, installation costs have totaled approximately \$828,800. Until January 1, 1953, KSL-TV had sustained operating losses of \$384,190.15. During 1953 we made a net profit of approximately \$65,000. Considering that we have had installation and operating losses of over \$1 million, it will be many years before this capital investment can be retired.

KSL-TV presently is 1 of 2 operating VHF stations in Salt Lake City. The third VHF station is scheduled to commence commercial operation in October 1954. The allocation plan for Salt Lake City provides for 3 commercial VHF stations, 1 noncommercial educational VHF station, and 2 commercial UHF stations.

To date there has been no applications filed for the noncommercial educational station or the two commercial UHF assignments. The allocation plan for the State of Utah provides for 7 VHF stations and 10 UHF stations, 3 of which are reserved for noncommercial educational use. Aside from the three VHF stations in Salt Lake City, there have been very few applications submitted for television assignments in Utah.

One VHF grant has been made for Provo, and the last I knew there was still one application pending for Ogden. Both of these involve VHF allocations. Somewhat the same picture is shown for Idaho, Wyoming, and Nevada, the other States partially served by KSL-TV.

In Idaho the Commission has allocated 14 VHF assignments, including 1 educational, and 13 UHF, including 1 educational, assignments. There have been eight applications for VHF assignments, none for UHF.

Of the 8 VHF assignments, 3 stations are operating. In Wyoming there are 10 VHF assignments allocated, 1 educational and 17 UHF.

There have been two applications, both have been granted, and I believe that both are now operating. In Nevada there are assignments for 14 VHF stations, 1 education, and 8 UHF, 1 educational. There are now single stations operating in Las Vegas and Reno, one in each city.

The other VHF assignments, 1 in Reno and 2 in Las Vegas are, according to the latest information available to me, involved in competitive hearings.

UHF will not provide wide area coverage required in intermountain West.

Nor does it seem to us that there is any merit to the proposal that all VHF frequencies be eliminated and that all television broadcasting be relegated to the UHF band. In fact, as we see it, such a development would be clearly contrary to the public interest in our area.

In the first place it is necessary, in a market such as ours that a station be allowed to cover a fairly wide area in order to obtain advertising revenue sufficient to keep it on the air.

Secondly, a UHF installation tailored to serve the same or even a smaller area would involve a prohibitive cost. Our studies indicate that to approach our present class B coverage of an approximate radius of 100 miles, utilizing power of 29.5 kilowatts from a transmitter altitude of 4,420 feet above average elevation of the surrounding terrain, we would require 1,500 kilowatts of power on a UHF frequency to approach a similar radius from the same location.

The equipment for such a UHF installation would cost approximately three times that of the present KSL-TV installation. Operating costs could be well in excess of three times our present costs.

Third, we are advised by competent engineers that in the mountainous area served by KSL-TV there is little likelihood that such a UHF installation would serve the same area because of the mountainous terrain. There are some areas which do not consistently receive our VHF signal but it has been fortunate that in some cases knife-edge diffraction produces satisfactory reception behind mountains 10,000 feet or higher. Engineers advise us that we would not be likely to obtain such fortunate results on a UHF channel.

Fourth, the latest figures indicate that there are approximately 163,000 television sets within the KSL-TV coverage area, but, we are informed by distributors, only about 30 of those sets are capable of receiving UHF signals without modification. As you know, modification requires internal additions or unsightly external tuners. All such receivers would require new antenna installations for optimum performance.

We believe it is conservative to estimate that such modifications would average at least \$40 per set. This would mean an expenditure of at least \$6,520,000 for the receiver set owners in the KSL-TV service area.

To require this would approach a breach of trust to the set owners. It would result in less service to the residents of the area involved and would benefit only the limited group advocating such a move—if, indeed, it would benefit them.

A reduction in maximum authorized power would deprive many intermountain residents of television service.

We are also advised that the UHF operators have advocated a reduction in power and consequent limitation of coverage of VHF and UHF stations. Looked at from the viewpoint of the intermountain area, no single proposal could be as unsound as that. If anything, the situation in the intermountain area required the opposite treatment.

The only feasible method of providing television to isolated rural communities is through centrally located wide-coverage installations. Only VHF installations are presently capable of this within the market potentialities of the intermountain west.

It is the experience of KSL-TV that this closely parallels the necessity for wide-coverage clear channel broadcasting stations to guarantee adequate service to sparsely settled areas and provide the backbone of the CONELRAD civil defense system.

The goal this subcommittee does and should face is the goal of obtaining and maintaining the best possible coverage for the most people in the United States. We submit that this cannot be achieved by; (1) the elimination of intermixture of UHF and VHF in the same market, (2) by allocating all television stations in the UHF frequencies, or (3) limiting the coverage of VHF or UHF stations.

We think that the type of station epitomized by KSL-TV is the only hope for sparsely settled areas such as the intermountain west. We have pioneered; we have lost money for a longer period than any UHF station in existence, and so long as we handle properly our public trust—which is what the operation of a television or broadcasting station involves—we think we should be allowed to continue to operate in the only manner we believe is possible in our market.

If operations of the type of KSL-TV are not allowed to continue in our region, the outlying areas will not be served by UHF or any other method. Since the Communications Act calls for a fair, efficient, and equitable distribution of service to the greatest number of people, those in the industry who are willing to install costly stations to serve thinly settled areas must be allowed to continue if the purpose of the Communications Act is to be achieved.

Senator SCHROEPPEL. Senator Hunt, do you have any further questions?

Senator HUNT. I have no further questions. I would just like to say to the gentleman that I have been a listener of KLZ for 30 years, and I am glad to have this opportunity to thank you for this splendid service you send into my home.

Mr. MURDOCH. Thank you, sir.

Senator SCHOEPPPEL. Thank you, Mr. Murdoch. You present a practical situation here that I am sure will be most helpful indeed to this committee.

Mr. MURDOCH. Thank you, Senator.

Senator SCHOEPPPEL. The next witness will be, as I understand, Mr. Wilson, who will present the statement of Mr. Lewis C. Tierney, who, by reason of circumstances beyond his control, was unable to be here. You may proceed.

Then, I understand, that previous to your presenting Mr. Tierney's statement, that Mr. Hulbert Taft, Jr., of Cincinnati, was asked to testify, but he will not be here.

Mr. PIERSON. I would like to take care of that at the conclusion of Mr. Wilson's statement.

Senator SCHOEPPPEL. Very well. You may proceed, Mr. Wilson.

**STATEMENT OF LEWIS C. TIERNEY, PRESIDENT, WCHS-TV, INC.,
AS PRESENTED BY THOMAS W. WILSON, WASHINGTON, D. C.**

Mr. WILSON. My name is Thomas W. Wilson, and I am an attorney, a member of the law firm of Dow, Lohnes & Albertson, of Washington, D. C., and I have engaged in practice before the Federal Communications Commission. Our firm represents Mr. Lewis C. Tierney, who was here yesterday, and who was unavoidably called away from Washington, and he regrets very much that he cannot be here to testify himself.

I will now present Mr. Tierney's statement:

I am Lewis C. Tierney. My principal business is that of radio broadcasting and, within the next month, this will also include television broadcasting.

This, too, represents a practical situation that was covered in a broader way by Mr. Pierson's testimony.

Since December of 1949 I have engaged in the operation of radio station WCHS in Charleston, W. Va., which station is affiliated with the Columbia Broadcasting System. I am president of the Tierney Co., licensee of station WCHS, and, also, president of WCHS-TV, Inc., permittee of television station WCHS-TV.

We are presently engaged in the construction of a television station in Charleston, which will be operated in conjunction with station WCHS though the license will be held by a separate corporation. Our television station will operate on channel 8 with 316 kilowatts, and our plans contemplate that this station will be ready to commence commercial operations on approximately July 15. Our situation in Charleston is similar to that of approximately 75 other potential television broadcasters throughout the country, each of whom is now in the process of constructing a VHF television station pursuant to governmental authority, at a cost of many hundreds of thousands of dollars. I would estimate that the combined cost of these seventy-odd VHF television stations which are now in the process of construction would exceed \$50 million.

Several preceding witnesses have criticized the Federal Communications Commission's expedited television processing procedure. In my opinion, the Commission is to be complimented for its foresightedness and progressive planning in working out modifications of its legal procedures which have enabled applicants to avoid years of litigation before qualifying for the issuance of construction permits for television stations.

Our case is illustrative of how these Commission procedures work and of how the public and the industry have benefited thereby.

Charleston, W. Va., is assigned one VHF frequency which is channel 8, and UHF channels 43 and 49, the former of which has been reserved for educational television use.

The Tierney Co., the licensee of radio station WCBS, refiled for television channel 8 in Charleston on June 30, 1952. Within a span of several weeks thereafter, three other applicants also filed for this very same channel.

Before the television freeze was lifted by the Federal Communications Commission on July 1, 1952, it published a list of the cities to which television frequencies had been assigned and giving the order in which applications would be processed. This list, also, indicated the order in which hearings would be held where hearings were necessary. Charleston was the 48th city in group A-2 which meant that under then existing procedure, we had no chance of qualifying for a television station construction permit for a matter of years, inasmuch as 4 applicants for 1 channel indicated the absolute necessity for a competitive hearing to be held before a construction permit could be issued by the Federal Communications Commission.

We were, indeed, discouraged by the prospect of these years of delay. In one hearing which was held for a channel assigned to Wichita, Kans., which was the sixth city on the Commission's list, the proceeding commenced the early part of November 1952, and to date the examiner's initial decision has not yet been issued.

We are advised that this case, which is not unusual, is still probably more than a year away from final decision and certainly much longer if it is appealed to the courts.

Senator SCHOEPEL. I hope that will not be the usual procedure.

Mr. WILSON. I certainly join you.

Senator SCHOEPEL. I have heard a lot about that one.

Mr. WILSON (continuing):

Inasmuch as Charleston was the 48th city, we reasonably estimate that had we gone through a competitive hearing, this channel 8 could not have been placed into operation in Charleston for at least another 2 years and possibly longer.

These considerations prompted us to consider seriously a plan of merger which was made possible by newly revised Commission procedures. The resulting merger which was effected made it possible for us to obtain a grant of our television construction permit on February 11, 1954.

Going back a moment to relate the chronology of events leading up to the grant of our construction permit, in July of 1952 one of the applicants for channel 8 withdrew its application and amended to UHF channel 49, which application was later granted in March of the following year.

As a result, Joe L. Smith, Jr., Inc., the owner of radio station WKNA in Charleston, was able to avoid a competitive hearing and to build his UHF station on channel 49. This station, which is now operating under the call letters of WKNA-TV, commenced telecasting on October 12, 1953, and since that time has been the only operating television station in the Charleston area.

Just prior to our merger, there was one other application on file for channel 8, the applicant being Capital Television, Inc. The agreement of merger which was executed on January 7, 1954, provided that a new corporation would be set up to be known as WCBS-TV, Inc., and that our company, the Tierney Co., would own 60 percent of this new corporation, and the remaining 40 percent would be owned by Capital Television, Inc.

Immediately after receiving our construction permit, this past February, we undertook an ambitious program of construction which is now nearing completion. WCBS-TV, Inc., is now in the process of completing the construction of WCBS-TV, which will, when it is completed, have cost about \$825,000. The greater portion of this \$825,000 has already been expended.

Our planning for this television construction program has extended back over the past 3 years and we expect that our television station will necessarily experience operating losses for an indefinite period of time and possibly for as long as a year after operations commence. We are aware of the fact that it takes time to build any new business, and, more particularly, it takes time and is costly to educate the public in a new media.

Charleston, which is the 59th market in the United States, is situated in the western part of West Virginia, which is an extremely mountainous section of our

State. It is a generally accepted fact in the television business that UHF television coverage is more seriously restricted in mountainous areas such as ours than is VHF coverage.

Consequently, we believe that it will be possible for our channel 8 station to cover areas within West Virginia which presently receive less than completely satisfactory television service from existing facilities.

We are now experiencing a great amount of enthusiasm on the part of the public in the area which will receive service from our station and we receive numerous daily inquiries as to when our station will be ready to commence program service.

It is our conviction that stations WCBS-TV and WKNA-TV can both enjoy prosperous operations in Charleston, but it is also our belief that the public will receive the greatest benefits when our television station commences operations due to the fact that we will undoubtedly cover many areas now without dependable television service due to the mountainous terrain.

Some of the witnesses who have previously appeared before this committee have recommended that an immediate freeze should be imposed upon the further construction of VHF television stations.

I might depart from this statement for a moment to give you a citation. The transcript of this proceeding, at page 414, contains a statement by a previous witness, Mr. A. Roberts, and I believe that reference to that citation will show that Mr. Roberts in his testimony recommended that a freeze be imposed of some 90 to 180 days, effective upon all applicants and holders of construction permits who have not yet requested authority to conduct equipment tests.

Briefly, to explain the significance of that, after a construction permit is issued by the Government and the station is constructed, it is yet necessary for the permittee to go to the Federal Communications Commission and get authority to operate that station. That is necessary so that the Government can ascertain that the station has been built in accordance with the specifications of the construction permit, and Mr. Roberts recommended that where stations have been built or have been practically nearly completed, but that authorization has not been issued by the Government for testing and for programs, that the freeze should be imposed on that category of stations.

Other witnesses have recommended that all television stations should be moved into the UHF frequency range within a span of years. I wish to address myself to these two recommendations which have been presented to this honorable committee.

There is no denying that should either one of these recommendations be effectuated, the result would be disastrous to us. We have legally binding contracts which commit us to the expenditure of the remainder of the \$825,000 which has not yet been spent. If a freeze were imposed, such action would not release us from our legally binding commitments which now exist.

In fact, any such freeze would wrought grave hardships on our company and on the seventy-odd other VHF television stations which are now under construction, not to mention the disastrous effect it would have on the public which is now anxiously awaiting television service from these stations and, particularly, those members of the viewing public who are not able to obtain reliable television service from presently existing television facilities.

It is our conviction that Charleston, W. Va., needs both UHF and VHF television stations in order to serve the public adequately and we are, indeed, fortunate in having only two commercial frequencies assigned to our section, because we believe that the 59th market in the United States can support both stations quite successfully.

Preceding witnesses before this committee who are operators of various UHF stations have pleaded hardship. I am confident that none of them could relate a story of any greater hardship than would be inflicted upon my company, should we not be permitted to proceed with our plans for early operations on channel 8.

We applied for channel 8 in good faith and for a period of years have done everything within our power to make it possible for us to render a much needed

VHF television service to the Charleston, W. Va., area and to that end it has been necessary for us to obligate our corporation to the extent of the best part of a million dollars.

In the final analysis, the public has the greatest stake in this controversy and the public interest, in our opinion, requires the fullest possible utilization of all VHF frequencies and certainly channel 8, which is the only VHF channel allocated to the capital of the State of West Virginia.

There would certainly have to exist some overpowering reason directly related to the public interest before serious consideration should be given to the imposition of a television freeze, and I urge that no such reason exists at this time.

In its simplest form, this committee has heard testimony by a number of UHF television broadcasters who due to the interplay of a number of complex factors which cannot be cured by any action this committee might choose to take, have found themselves unable to stand the strain and solve the problems which confront every television station at the commencement of operations.

In laying our plans during these past 3 years, we have made provision for the adequate financing of our operations during this initial period and we are confident that our planning has been sufficiently sound to permit us to emerge from this initial period of operations with a television station which will be able to provide a valuable public service to the viewers in our area and which will also prove to be a successful business.

In conclusion, I wish to urge this committee to permit the growth of the television system which has been laid out by the Federal Communications Commission and I believe that it is much too early for anyone to cry "wolf" because it will take a much longer period of time than has thus far elapsed for a sound television system ultimately to develop.

I wish to express my appreciation for the courtesy of this committee in permitting my company and me to have this opportunity to present our views on the very serious question of whether or not the thriving television industry which presently exists in this country shall be permitted to continue to grow and become an increasing important part of our industrial postwar expansion.

Senator SCHOEPEL. Thank you very much, Mr. Wilson. As you have indicated, this statement will be in the record, and it is most helpful.

Mr. WILSON. Thank you, Senator.

Senator SCHOEPEL. I understood Mr. Pierson wanted to make a statement at this juncture.

Mr. PIERSON. As I stated earlier, Mr. Taft and Mr. Reinsch were to appear and make themselves available for questions with regard to their particular areas. They have been here all week, but in order to conserve the time of the subcommittee, we have decided to request that their statements be copied into the record, but I would like to have Mr. Taft and Mr. Reinsch introduce their statements personally.

The subcommittee has had them for about 3 days now, and they would like to make themselves available for questions.

Senator SCHOEPEL. Very well.

Mr. Taft, will you please take the stand.

STATEMENT OF HULBERT TAFT, JR., PRESIDENT, RADIO CINCINNATI, INC.

Mr. TAFT. I am Hulbert Taft, Jr., and I am the president of Radio Cincinnati, Inc., which operates television station WKRC-TV on channel 12 at Cincinnati, Ohio.

Radio Cincinnati, Inc., owns 100 percent of WTVN, Inc., which operates television station WTVN on channel 6 at Columbus, Ohio.

In order that the members of this committee may have the fullest background of facts in the current hearing on the problem of UHF television, a reasonable perspective demands that full testimony covering the early days of VHF operations be presented.

As an operator on the air in Cincinnati since April 1, 1949, I believe our experiences in the early years were typical of the industry at that time and may throw a truer light on the tribulations of the postfreeze operators.

It was not easy to make the decision to plunge into TV in 1947, when we filed our application for channel 11 in Cincinnati. Channels were not hard to get. Two were available in our city, a third having been accepted by the Crosley Broadcasting Corp. Programs as we saw them in those days were not promising, sale of receivers was proceeding at a trickle and TV advertisers were all but unheard of.

Coming on top of some months of losses in FM and after investigations into the gloomy picture presented by those few TV stations actually operating, it was difficult to recommend to our board of directors that we enter TV. I remember that board meeting very well. It was on November 20, 1947. The directors, who had heard of numerous TV construction permits being relinquished, and who had read reports of the astronomical costs of TV operation were persuaded with the greatest difficulty to give me authorization to file.

In that meeting the director who was the largest stockholder in our parent company reckoned that we would have to expect to lose \$2 million in television before getting into the black. It was on a basis of this expectation that the authorization was voted.

Early operations were no picnic. Much of the gear we received was full of the bugs inherent in newly designed technical equipment. It seemed to me at that time that we could scarcely get through an hour on the air without that familiar sign or spoken phrase, "Just a minute, please; technical difficulties."

Simply, the equipment was too new and the personnel available too inexperienced in its operation to render a reasonably consistent service. One of the consolations was that when we went off the air, which we were doing all the time, we lost very little revenue. There wasn't any. Talent personnel and programs were what you could find by dredging around among the public institutions of the city, plus what could be adapted from radio.

Network service was, of course, practically nonexistent, because there was no cable interconnection. But the worst aspect of our particular operation was the fact, undiscovered until we had been on the air a few days, that practically none of the 12,000 receivers in the area could receive our signal.

The difficulty then was twofold. In the first place, all the receiving antennas actually in the field at that time had been designed for the low band of the VHF, while our station on channel 11 operated on the high band. It took time, a lot of promotion with the servicemen and the development of improved receiving antennas, to attain even an approximation of the receiving-end efficiency of our low-band competitor. As our chief engineer used to say, "You can hang your ears out of the window and get channel 4."

Channel 11 was a far more difficult matter. Our own engineers made literally thousands of calls upon homes and tried every trick in the trade to keep complaining viewers happy with our signal. Their success was painfully gradual and is not even now complete, in spite of a tenfold increase in transmitter power. This is the very sort of difficulty now being experienced in the UHF.

A second difficulty with our signal occurred when channel 7 came on the air in July 1949. It created what the engineers called oscillator radiation. This occurred when 2 stations, 4 channels apart in the high band, operated in the same city. It meant that when a receiver in our area was tuned to channel 7, that receiver was likely to become a miniature transmitter, which sent out interfering signals on the fundamental frequency of channel 11.

In an apartment building, for instance, one receiver tuned to channel 7 could prevent a dozen others in the building, and even in a whole block, from receiving channel 11. This was a heartbreaking thing to cope with, particularly because there was nothing we could do about it. We had to wait for new standards set up by RETMA affecting the intermediate frequencies used in receivers, and eventually for a shift in channels from 11 to 12, which occurred with the new allocation.

During these early years, even after the cable to Cincinnati was completed, we had difficulty in obtaining program ratings on the top CBS shows which came up to half the national averages.

This problem was caused almost entirely by faulty design of TV receivers, which is the same difficulty causing much of the concern of UHF operators today.

About this time my morale was not improved by a meeting I had in downtown Cincinnati with one of the veteran radio broadcasters in our area, who had declined to go into television. "Boy, how does it feel to be a pioneer," he said, with the aggravating smug chuckle of one who is going to let the other fellow do the pioneering. "How much did you lose last week?"

It wasn't funny. The week before I had received a kit put out with the best of intentions by one of the trade magazines for the use of television operators. The kit contained an inventory in miniature of various items. I remember the bottle of red ink, a small package of bromo seltzer, aspirin, a roll of scotch tape to hold the station together and finally a revolver to use as you saw fit.

Although we did not lose \$2 million, in the almost 2 years of TV operations from April 1, 1949, to February 1951, we had an operating loss of \$518,448.97. This included depreciation. Our cash loss was \$397,266.82. This loss I believe to have been very moderate in the industry.

I know personally of several stations in the major markets which lost 2, 3, and 4 times that amount before rounding the corner into black ink. And, of course, there are numerous VHF stations, including our own in Columbus, which are still losing after 5, 6, and more years on the air.

Nor was there any assurance at that time that TV would ever be profitable. In fact, the Phonevision people and some others bombarded us with facts which proved conclusively that there was not enough advertising money in the country to support TV. Their arguments were depressingly impressive.

I would be willing to wage that, with a handful of exceptions, no prefreeze television station lost less than the greatest loser among the postfreeze UHF operators.

In addition to operating losses, of course, we have had to spend considerable sums to date in improvements and additions to technical equipment and facilities as we have improved our operations and

increased our power toward the limit allowed by the FCC. In this field, we have invested in the period from our date on the air to the present time \$274,732.91 in addition to our original cost of getting on the air.

Nor are we by any means through with capital investments. We now have a contract with General Electric to supply additional transmitter facilities at a cost of \$146,050 and calculate that conversion to color will in the near future cost in excess of \$200,000 more. These figures also, I believe, to be moderate in the industry.

Television is inherently a blue-chip business, even in the smaller markets, and I believe a failure to realize this fact is at the basis of much of the woe among the present day UHF operators. A lot of them evidently have forgotten the anguish and staggering losses of the early days in TV. A lot of them, seeing only the developed product and hearing of large earnings on the part of a few, seemed to have sailed into the business financially and psychologically unprepared for the facts of life.

There has obviously been a lot of bad business judgment and a lot of thin financing in the business. And there have been presented some extremely half-baked solutions to the obvious and real difficulties of the UHF.

One of the suggested solutions: Let's all move to the UHF now. This, and variations of this solution completely ignore the real owner of all television channels—the public. There are 490,000 VHF receivers in the Cincinnati area, almost all of them unconverted for reception on the UHF. The cost to the public of conversion would be enormously burdensome and would certainly result in a justified public howl if such conversions were suddenly necessary. Moreover, and even more importantly, there would suddenly be large gaps where there is now solid service. I can imagine no greater disservice to the general public than to deprive thousands, even millions, of people of TV service, when they have been enjoying such service over a period of years. This would be true in large sections around the fringes of present service areas if UHF were now to supplement VHF.

Well, then, someone suggests, let's compel the VHF operators to duplicate their equipment with UHF equipment and to transmit both VHF and UHF for a period of 5 to 10 years, after which they would close down the VHF. This variation of the first solution seems to me just as preposterous.

Assuming that there is reasonable VHF coverage now, few families would convert their VHF receivers until the week or day before the deadline. At least they would be no more likely to convert immediately than they are now. Meanwhile, the UHF operator's problem would remain unchanged, and he would have sufficient time to go just as broke as without this solution.

Proposals to reduce the coverage of VHF stations in order to equalize them with UHF seem to me just as unthinkable for the same reason. If you try to deprive the public of a service it has enjoyed for a period of years, you are in for real trouble.

Likewise, it seems very late in the game to attempt a reallocation of channels so as to eliminate intermixture of VHF and UHF. There is certainly a question as to whether it can be done and still provide a truly national competitive TV service. Intermixture was probably a mistake in the first place, but, practically speaking, I do not see how

it can be changed now without enormous dislocations both at the operating level and with the public.

As for another freeze, this time affecting VHF only, the same public considerations should weigh, along with those of the benighted would-be operators who have gone through the agonies and expense of competitive hearings. There are many areas, now unserved, where keenly anticipated VHF operations are soon to begin. If the people in these areas are now asked to wait out another freeze, I can only imagine their reactions. We have already had our experience with freezes.

The above remarks, of course, are not intended to create the impression that the UHF operators do not have a serious technical and economic problem. They do. And with the troubles we had in VHF, I believe I am in a good position to sympathize with them. But it seems to me that the solution does not lie in downgrading VHF service. Rather, it lies in upgrading the UHF, just as we had to upgrade our service.

Obviously, if the UHF signal were reasonably comparable with the VHF, none of us would be here today. But it should be pointed out and emphasized that TV service from one band of frequencies to another will never be identical.

The low band is still easier to receive than the high band in the VHF, and the low end of the UHF will undoubtedly be far superior to the high end of the UHF. In fact, though I am not an engineer, I think it quite possible that from a technical viewpoint the ratio of undesirability between channels 13, the highest VHF, and 14, the lowest UHF, is no greater than that between channel 14 and channel 83 at the top of the band.

The problem then is to upgrade the UHF insofar as possible. Until now, UHF transmitters of relatively low power only have been available, whereas the Commission anticipated that UHF would require effective radiated power in the order of a million watts to make it reasonably competitive with the 316,000 watts of the high band VHF and the 100,000 watts of the low band VHF.

Although this is technical fact, obviously a lot of UHF operators went into the game with two strikes against them, using low power and therefore relatively low-cost transmitters. This has proved the worst possible place to save money.

I have no doubt that if there were sufficient demand for 50-kilowatt UHF transmitters, such transmitters would be put on the market within a reasonable time. The cost of such a transmitter should not be much more than that of the 50-kilowatt VHF transmitter which we have on order.

Such a transmitter, with the higher gain antenna possible in the UHF, would produce the required million watts. If the UHF operators need economic salvation, would it not be possible to work out classes of stations, providing that no less than full power be used where UHF must compete with VHF, and at the same time permitting lower powers in smaller and more remote markets?

Such an arrangement is not new in the radio field, where we have various classes of stations, operating with various orders of power. Most of the radio operators seem to be reasonably happy under this system. And, in fact the trend in radio today seems to be running in favor of the local operator who covers his market from within, as opposed to the big fellow who attempts to cover it from without.

The UHF receiver problem is one on which there seems to be some degree of agreement on all sides of the current controversy. But the receiver problem is not only one of producing or equipping VHF with UHF tuners. The problem is also one of quality. The UHF "front end" of these receivers has proved relatively insensitive and noisy. High quality receivers can be manufactured at these frequencies, as witness radar equipment, but the problem of marketing such quality in mass is also obviously economic. High quality equipment is expensive.

I understand that the chairman of this committee, along with some others, has already attempted to obtain tax relief for those who manufacture UHF receivers and tuners. If there is still any possibility of such relief, would it not make more sense to upgrade quality along this line by providing tax exemption only for those UHF receivers which comply with a set of standards, drawn up perhaps by RETMA and approved by the engineering staff of the FCC?

These solutions will undoubtedly take time. In order to ease the road of those in UHF who have turned back their frequencies or those who have held up construction, could these operators not be given reasonable time extensions in which to await improvements in equipment?

It is not with the idea of perpetuating any monopoly in television that I am here to testify today. If additional VHF channels can be found by the Commission or anyone else, I could and would have no objection to the assignment of one, or a dozen, additional frequencies to my own city. There is certainly a limit to how many stations a market will support, but undoubtedly the theory should be that there will be sufficient channels to permit those to go broke who wish to.

However, I am here to protest any destruction or crippling of the service it has cost us 5 years and so much sweat and money to create and upon which the public has come to depend.

As Mr. Pierson has said, the subcommittee has run a little late, and I know you want to conclude this week.

Senator SCHOEPEL. I might say that if we do not conclude this week a matter of such great importance as this, I am sure that the chairman of this subcommittee will find some time.

Mr. TAFT. I am sure he will, Senator, and yet there is a great deal more testimony to put in, and I will be glad to answer any questions that you have. Therefore, I will make myself available for questions, if you have them.

Senator SCHOEPEL. Thank you, Mr. Taft.

Mr. PIERSON. Mr. Chairman, I wanted to make sure that Mr. Taft's statement was in as though read.

Senator SCHOEPEL. Yes, sir, it will not be in fine print, either.

Mr. PIERSON. Next we have Mr. Reinsch.

STATEMENT OF J. LEONARD REINSCH, MANAGING DIRECTOR OF THE JAMES M. COX STATIONS

Mr. REINSCH. Mr. Chairman, my name is J. Leonard Reinsch. I hold the position of managing director of the James M. Cox stations, including television stations WSB-TV, Atlanta, Ga., and WHIO-TV, Dayton, Ohio, which stations have been operating since September 1948, and January 1949, respectively. My present association with

these stations extends from November 11, 1934, and I have been associated with the broadcast industry in various positions for the past 30 years.

Various proposals have been presented to this committee which, in my judgment, are designed to serve the private interests of a few, without proper and sufficient regard to the welfare of the American broadcasting industry and the public interest of the millions of people who have invested in television receivers.

These proposals, in part, seek to jeopardize the very large investment in television transmitting and receiving equipment and they ignore the tremendous expenditures of time, money and energy of those who dared to pioneer the television industry in this country.

Further, insofar as they would attempt to limit the ownership of television stations and to discriminate against ownership and operation by persons engaged in certain other business activities, these proposals would constitute an extension of monopoly and antitrust regulation far beyond that ever considered by the Congress or any department of this Government.

Finally, they contemplate, by virtue of possible legislation or new agency regulation, the institution of rigid controls which are the antithesis of a free interplay of economic forces and which would, without regard to fair competition, foresight, enterprise, good management, and sound business judgment, attempt to guarantee economic equality for all television stations.

It is respectfully submitted that those who have appeared here seeking drastic revisions and pronounced changes in the current structure of television broadcasting are not of the hardy breed and stamina of those who expended millions of dollars in money and great effort to actually launch and pioneer what is probably the fastest growing industry this country has ever known.

Stations WSB-TV and WHIO-TV were constructed at an initial cost in excess of \$1,250,000. Several additional hundred thousand dollars were invested in equipment and plant improvements prior to the time that either of these stations experienced their first profitable operation.

Initially, there was no network service available to either of these stations and, even following the advent of network service, there was a substantial period during which such service was limited.

In those days, as distinguished from the present time, there was no abundant supply of syndicated film product. In the earlier days there was, of course, only limited set circulation and we expended considerable money and energy in promoting this new medium.

We experienced very considerable difficulties with our transmitting equipment and the early VHF receivers most certainly were not as dependable and capable of excellent reception as those manufactured today. These technical difficulties during those early days were certainly comparable to the problems mentioned by the persons who are commencing UHF operations during 1953 and 1954.

As a consequence of these early difficulties, the capital investment for stations WSB-TV and WHIO-TV, plus operating losses prior to 1951, exceeded \$2 million.

There has been presented to this committee the statement of the principal owner of the company which received a construction permit for UHF television station WIFE in Dayton.

That statement, in my judgment, did not present the complete story of the demise of the UHF station in Dayton. It is respectfully submitted that all of the facts are essential to a considered and informed decision by this committee.

Further, it is believed that the merits of the proposals advanced on behalf of this particular UHF station must be considered in the light of all the factors which contributed to the establishment and the cessation of operation of station WIFE.

Dayton is served by two established VHF television stations. In addition, Dayton and the surrounding territory comprising a metropolitan market is substantially served by three VHF stations operating at Cincinnati, Ohio. There was no compulsion, of course, which required any person to undertake the establishment of an additional television service in this area which possessed nearly complete saturation of VHF receiving sets.

The existence of these multiple services, plus the facts of the Commission's rules relating to maximum power and antenna height, which rules have not been modified since 1952, were known at the time application was made for the UHF facility at Dayton.

It would have to have been recognized by any prudent person that the establishment of a successful UHF station in this market would require, over an extended period of time, substantial outlays of capital, extensive promotion and the best management available.

Previous reference has been made to the early experiences of stations WSB-TV and WHIO-TV. Particularizing briefly with respect to Dayton, application was made for station WHIO-TV in November 1947.

No other applicant appeared who was willing to assume the then obvious and very substantial risk of a VHF television operation; accordingly, a permit for station WHIO was granted in February 1948.

It could be noted that, at approximately the time the WHIO-TV application was granted, the principals in the more recent UHF operation were making application for an aural broadcast station in Dayton.

Approximately \$660,000 was invested in equipment, buildings, and land prior to the time that WHIO-TV commenced operation in January of 1949. More than a million dollars had been invested in this television station by September 1950, when the first profits were realized.

Prior to that time, increasing revenues had been immediately plowed back into additional programs in an effort to develop the widest possible set circulation. The cable necessary to provide network service to Dayton was not available until September 1949; but, even so, station WHIO-TV was operated at a loss for an additional 12 months following that date.

Listed among the alleged reasons for the inability of station WIFE to compete in the Dayton market is the claim that that station was unable to compete with the established VHF stations in the market in the purchase of quality film.

Reference to the program schedule of station WHIO-TV for the week of May 16 through 22, 1954, inclusive, indicates that 30 hours and 8 minutes of film programming were offered.

It is logical to assume that a substantially similar amount of film programming was presented by the other operation VHF station in

Dayton. A partial tabulation of the film product available for television produces the following results:

- (1) Thirty-one distributors with 2,132 features.
- (2) Thirty-one distributors with 713 westerns.
- (3) Thirty-five distributors with 121 different series of half-hour syndicated programs, many with 52 in a series.

This list does not include the thousands of shorts, serials, cartoons, and films that are now available. Further, in the syndicated field, there are as many quarter-hour shows as there are the half-hour films which are included in the above tabulation.

It is submitted that these facts require the obvious conclusion that, if station WIFE had made any serious effort, there was ample quality film available for top programming to attract viewers.

The statement presented on behalf of station WIFE referred to the affiliation of WHIO-TV with CBS, ABC, and Du Mont networks and alleged that there was little or no network programming available for station WIFE.

During the week of March 14 to March 20, 1954, inclusive, there was presented on station WHIO-TV 69 hours and 30 minutes of network service.

There was available from the ABC network 25 hours of programming not carried on station WHIO-TV. There was also 19 hours and 35 minutes of network programming available from the Du Mont network which was not presented over station WHIO-TV; likewise, there was 12 hours and 45 minutes of CBS programs which were not carried by WHIO-TV.

In summary, WHIO-TV did not carry a total of 57 hours and 20 minutes of the network programming available from the three listed networks.

As a comparison, station WHIO-TV, during its first month of operation, had a total of 7½ hours of total network commercial programming.

It is not possible, of course, to dictate to network, national spot, and local advertisers where and when they expend their advertising budgets, but the advertising dollars essential to a meritorious broadcast operation follow the development of a substantial audience.

That audience cannot be made available by legislation or agency regulation, but it must be earned by the development of quality programming.

The WIFE statement contends that it was denied such features as the University of Dayton basketball games. Reproduced here as appendix 1 is a copy of a letter directed to the University of Dayton to the general manager of station WHIO, which letter is substantially that sent to all television stations in Dayton, which letter reflects that the University of Dayton basketball games were available to the highest bidder.

Station WIFE did not submit a bid and, accordingly, it cannot be properly said that that station was denied the opportunity to telecast these sporting events.

It is further contended, on behalf of station WIFE, that the established VHF stations were in a position to outbid that UHF facility for programming talent, features, and manpower. Station WHIO-TV hired no new talent during the period when the UHF station was in

operation, so it is impossible that WHIO-TV was outbidding the UHF station for the services of such personnel.

The failure of the channel 22 facility to become established in Dayton is also partly attributable, in my opinion, to a lack of promotion and enterprise on behalf of the permittee of that facility. It is not believed that the efforts of station WIFE in this direction are comparable to the expenditures and endeavors of the majority of the early VHF operators.

When stations WHIO-TV took the air on channel 13 in 1949, very considerable difficulty was experienced in getting the receivers adjusted and antennas properly located. To meet this problem, numerous meetings were held with distributors and retailers, and station WHIO-TV engineers were frequently sent into the field for the purpose of making adjustments.

The difficulties which beset the channel 22 operation in Dayton are also believed to have resulted, in part, from a lack of proper planning in placing the station in operation.

There were repeated delays in the commencement of operation following the public announcement of the opening dates, which postponements very likely contributed to the loss of interest on the part of the public, as well as the receiver distributors and dealers.

Summarizing briefly the UHF experience in Dayton, the principal problems confronting a prospective UHF operator were obvious when application was made to the Federal Communications Commission.

Nevertheless, the UHF permittee in Dayton has been unwilling or unable to underwrite the necessary expenditures which appeared obvious to successful competition with established operations. Certainly, the capital outlays and losses by the permittee of station WIFE are not comparable to those experienced by the pioneers of VHF operations in this market.

As a part of the argument that the current UHF difficulties are attributable to the multiple ownership of television stations and the ownership thereof by newspaper interests, it has been alleged that such multiple ownership and newspaper-owned stations have now shown a proper recognition of their public-service responsibilities.

One such specific argument was directed to the programing of station WHIO-TV in Dayton. The programing record of our stations, both radio and television, had been reviewed by the Federal Communications Commission periodically over many years and these operations have continually been found to be in the public interest.

On one occasion, when a substantial number of television stations were placed on a temporary license because of their failure to present certain types of programs, the Commission publicly complimented stations WSB-TV and WHIO-TV for their attention to public-service programing.

Our stations have received national recognition for outstanding public service and we feel that these stations are recognized for their readiness to serve community interests.

We will not attempt to burden this record with details of our programing record, but our stations' files are loaded with voluntary letters of heartfelt appreciation relative to our community service programing. Just to cite one example, however, in Dayton, station WHIO-TV has canceled an entire evening's schedule, including com-

mercial spot announcements, to promote the local Infantile Paralysis drive.

Proposals have been advanced before this committee for the adoption of legislative prescriptions directed against the ownership of television stations by newspaper interests, and, also, against the ownership of more than one station by any single individual or entity.

In considering these proposals, the committee should keep in mind that these groups, in principal part, contributed the vast capital and sustained the substantial losses which were necessary to promote this relatively new industry.

Insofar as a stringent limitation is sought on the number of stations owned by one entity, any such regulation or restriction would be an extension of monopoly and antitrust regulation far beyond that authorized by laws enacted by this Congress.

The courts of this country have consistently refused to consider bigness or size along as a per se violation of the antitrust statutes. It is ridiculous to allege that the common ownership of 2, 3, 4, or even 5 television stations in widely scattered markets constitutes a monopoly in this highly competitive field.

Finally, the matter of discrimination against the newspaper ownership of broadcast stations was considered by the Senate Committee on Interstate and Foreign Commerce of the 81st Congress. S. 1973 included a specific provision providing in pertinent part that:

The Commission shall make or promulgate no rule or regulation of substance or procedure, the purpose or result of which is to effect a discrimination between persons based upon race, religious, or political affiliation or kind of lawful occupation or business association.

That proposed legislation was dropped, according to the committee report, because of the strong denial of discrimination made by the Commission and because it was recognized that any such discrimination on the part of the Commission was of questionable constitutional validity.

Similar provisions directed against discrimination against newspaper ownership were included in S. 658 in the 82d Congress. This so-called newspaper agreement was dropped from the Communications Act amendments, 1952, with the following explanation from the conference report:

The Senate bill contained no such provision, and the provision is not included in the conference substitute. This provision was omitted from the conference substitute because the committee of conference felt that it was unnecessary. It is the view of the conference committee that under the present law the Commission is not authorized to make or promulgate any rule or regulation the effect of which would be to discriminate against any person because such person has an interest in, or association with, a newspaper or other medium for gathering and disseminating information. Also the Commission could not arbitrarily deny any application because of any such interest or association.

It is respectfully submitted that no probative reasons have been advanced in these proceedings which should disturb the consistent congressional expressions opposing the discriminations against newspapers in the ownership of broadcast stations.

The problems confronting the UHF stations today are substantially those we met and overcame in the pioneer VHF operations. In this proceeding, however, proposals are advanced by only a small percentage of UHF stations to serve the private interests of a particular segment of the industry and to the detriment of the majority of sta-

tion operators and the public who have invested approximately a billion dollars in television receivers and antennas.

I believe the conclusion is obvious that more industry and self-help should be required prior to any serious consideration of the principal proposals which have been advanced here.

I sincerely suggest that these proposals are found lacking in merit when judged by considerations of the overall needs of the television industry and the public.

(Appendix A, referred to previously, is as follows:)

APPENDIX A

UNIVERSITY OF DAYTON,
Dayton 9, Ohio, July 18, 1953.

Mr. ROBERT MOODY,
Radio Station WHIO, Dayton, Ohio.

DEAR MR. MOODY: This letter is being sent in order to draw your attention to some decisions of the athletic board of the university in regard to radio and television coverage of intercollegiate football and basketball games during the 1953-54 respective seasons. The home football games are available to radio stations only for \$1,000 for the season. This rate is not divisible—and does not apply to non-Dayton stations. Radio stations are invited to cover the 16 home basketball games, and the charge is \$1,600 for the season or any part thereof. Television coverage, if any, of the home basketball games is to be limited to four games, with the choice of games to be determined by the station concerned. Television rights to four basketball games is hereby offered to the highest bidder. No single game coverage is available. Written bids may be submitted at any time until noon of Friday, August 14. The highest bidder will then be awarded the games and no further negotiations would be possible. This rule is necessary in view of the fact that only one station can be accommodated. All bids are to be made with the acceptance of the following conditions:

(1) The space available for television camera(s) is limited to the platform already erected in the fieldhouse for television purposes, viz., the platform suspended from the rafters on the north side of the fieldhouse.

(2) The university reserves the right to reject all bids.

The university follows the policy of not granting any publicity channel exclusive rights. In the case of television for basketball games, space limitations oblige us to reach some method of dealing with one station, while giving other stations equal consideration.

A copy of the 1953-54 basketball schedule is enclosed, so that bids may be accompanied by an indication of the games preferred. Correspondence on this subject should be directed to the undersigned.

Sincerely yours,

REV. CHARLES L. COLLINS, S. M.,
Chairman, Athletic Board.

Mr. REINSCH. I will be glad to cooperate with you in answering any questions that I may.

Senator SCHOEPEL. Thank you very much, sir. Let the record show that your statement will appear in its entirety as if you had testified, too.

Mr. REINSCH. Thank you, Senator.

Senator SCHOEPEL. I do appreciate you gentlemen making yourselves available for further questioning.

I might say that when we get down and search this record, as I am sure that we will, there may be some questions that may come up that we will call on somebody to answer.

Mr. REINSCH. I spend quite a bit of time in Washington, so I will be glad to answer them.

Senator SCHOEPEL. Thank you very much.

Mr. PIERSON. As I stated earlier, we had about 65 people who are interested in testifying. We have requested them to reduce their

statements to writing. They typify stations from one end of the country to the other, and they state in there the effect that the proposal would have upon them and the communities they serve.

We have submitted those statements to the subcommittee some time ago. I have attached to the statements an index of the stations that have made the statements, and their particular status, whether an applicant or a permittee, or a station operator.

I would ask that those statements be incorporated into the record as though read in the order in which they have been furnished to the subcommittee.

Senator SCHOEPEL. And you have given them to the subcommittee in the order in which you desire them to appear as is shown on the index sheet?

Mr. PIERSON. That is correct, sir.

Senator SCHOEPEL. Let the record show that they will become a part of the record in that order.

(The material referred to is as follows:)

STATEMENTS

- The Television Corporation, Station WABT, operator, channel 13, Birmingham, Ala.
 The Mobile Television Corp., applicant, channel 5, Mobile, Ala.
 South Arkansas Television Co., Inc., permittee, channel 10, Eldorado, Ark.
 Kern County Broadcasters, station KERO-TV, operator, channel 10, Bakersfield, Calif.
 California Inland Broadcasting Co., applicant, channel 12, Fresno, Calif.
 Sacramento Telecasters, Inc., applicant, channel 10, Sacramento, Calif.
 Standard Radio & Television Co., station KQXI, permittee, channel 11, San Jose, Calif.
 Santa Barbara Broadcasting & Television Co., station KEY-T, operator, channel 3, Stockton, Calif.
 Television Diablo, Inc., station KHOF, permittee, channel 13, Stockton, Calif.
 Western Slope Broadcasting Co., Inc., station KFXJ-TV, operator, channel 5, Grand Junction, Colo.
 The Elm City Broadcasting Corp., station WNHC-TV, operator, channel 8, New Haven, Conn.
 North Dade Video, Inc., applicant, channel 10, Miami, Fla.
 WEAT-TV, Inc., permittee, channel 12, West Palm Beach, Fla.
 Crosley Broadcasting Corp., station WIW-A, operator, channel 11, Atlanta, Ga.
 Southeastern Broadcasting Co., station WMAZ-TV, operator, channel 13, Macon, Ga.
 Idaho Radio Corp., station KID-TV, operator, channel 3, Idaho Fall, Idaho
 Rock Island Broadcasting Co., station WHBF-TV, operator, channel 4, Rock Island, Ill.
 Central Broadcasting Co., station WOC-TV, operator, channel 6, Davenport, Iowa
 Hutchinson TV, Inc., station KTVH, operator, channel 12, Hutchinson, Kans.
 The Radio Station KFH Co., applicant, channel 3, Wichita, Kans.
 WAVE Inc., station WAVE-TV, operator, channel 3, Louisville, Ky.
 Calcasieu Broadcasting Co., permittee, channel 7, Lake Charles, La.
 WDSU Broadcasting Corp., station WDSU-TV, operator, channel 6, New Orleans, La.
 KTBS, Inc., applicant, channel 3, Shreveport, La.
 Westinghouse Broadcasting Co., Inc., station WBZ-TV, operator, channel 4, Boston, Mass.
 Fetzer Broadcasting Co., station WKZO-TV, operator, channel 3, Kalamazoo, Mich.
 WJIM, Inc., station WJIM-TV, operator, channel 6, Lansing, Mich.
 Peninsula Television, Inc., permittee, channel 6, Marquette, Mich.
 Triad Television Corp., applicant, channel 10, Parma, Mich.
 Midwest Radio-Television, Inc., station WCCO-TV, operator, channel 4, Minneapolis-St. Paul, Minn.

KSTP, Inc., station KSTP-TV, operator, channel 5, St. Paul-Minneapolis, Minn.
 Standard Life Broadcasting Co., Inc., station WSLI-TV, operator, channel 12, Jackson, Miss.
 Fetzer Broadcasting Co., station KOLN-TV, operator, channel 12, Lincoln, Nebr.
 Station KSWB-TV, operator, channel 8, Roswell, N. Mex.
 Clark Associates, Inc., station WNBK-TV, operator, channel 12, Binghamton, N. Y.
 WBEN, Inc., station WBEN-TV, operator, channel 4, Buffalo, N. Y.
 WGR Corp., permittee, channel 2, Buffalo, N. Y.
 General Electric Co., station WRGB (TV), operator, channel 6, Schenectady, N. Y.
 Skyway Broadcasting Co., station WLOS-TV, permittee, channel 13, Asheville, N. C.
 Capitol Broadcasting Co., Inc., applicant, channel 5, Raleigh, N. C.
 Durham Broadcasting Enterprises, permittee, channel 11, Durham, N. C.
 WDAY, Inc., station WDAY-TV, operator, channel 6, Fargo, N. Dak.
 Crosley Broadcasting Corp., station WLW-T, operator, channel 5, Cincinnati, Ohio
 Crosley Broadcasting Corp., station WLW-C, operator, channel 4, Columbus, Ohio
 Crosley Broadcasting Corp., station WLW-D, operator, channel 2, Dayton, Ohio
 Tulsa Broadcasting Co., station KTVX, permittee, channel 8, Muskogee, Okla.
 WKY Radiophone Co., station WKY-TV, operator, channel 4, Oklahoma City, Okla.
 Oklahoma Television Corp., station KW-TV, operator, channel 9, Oklahoma City, Okla.
 Irwin Community Television Co., applicant, channel 4, Irwin, Pa.
 WJAC, Inc., station WJAC-TV, operator, channel 6, Johnstown, Pa.
 Allegheny Broadcasting Corp., applicant, channel 4, McKeesport, Pa.
 WCAU, Inc., station WCAU-TV, operator, channel 10, Philadelphia, Pa.
 Westinghouse Radio Stations, Inc., station WPTZ, operator, channel 3, Philadelphia, Pa.
 WCSC, Inc., station WCSC-TV, operator, channel 5, Charleston, S. C.
 Carolina Broadcasting System, Inc., station WNCT, operator, channel 9, Greenville, S. C.
 Mountain City Television, Inc., applicant, channel 3, Chattanooga, Tenn.
 Carter Publications, Inc., station WBAP-TV, operator, channel 5, Fort Worth, Tex.
 Harbenito Broadcasting Co., Inc., station KGBT-TV, operator, channel 4, Harlingen, Tex.
 Wichita Falls Television, Inc., station KWFT-TV, operator, channel 6, Wichita Falls, Tex.
 Fisher's Blend Station, Inc., station KOMO-TV, operator, channel 4, Seattle, Wash.
 Louis Wasmer, permittee, channel 2, Spokane, Wash.
 WSAZ, Inc., station WSAZ-TV, operator, channel 3, Huntington, W. Va.
 WKRH Television, Inc., permittee, channel 8, La Crosse, Wis.
 Badger Television Co., Inc., applicant, channel 3, Madison, Wis.
 Cream City Broadcasting Co., applicant, channel 6, Milwaukee, Wis.
 Midcontinent Broadcasting Co., operator, channel 11, Sioux Falls, S. Dak.

THE TELEVISION CORP., STATION WART, BIRMINGHAM, ALA., OPERATOR OF CHANNEL 13

Channels allocated to community: 6, 10,¹ 13, 42, 48.
 VHF stations operating in community: Channels 6, 13.
 UHF stations operating in community: None.
 Channels applied for: Channel 10.¹
 Channels contested: None.
 Construction permits outstanding: Channel 48.

STATEMENT OF HENRY P. JOHNSTON, PRESIDENT OF THE TELEVISION CORP.

My name is Henry P. Johnston. I am the president and managing director of the Television Corp., licensee of radio station WAPI, FM station WAFM, and television station WART, all in Birmingham, Ala.

¹ Reserved for noncommercial educational use.

The purpose of my statement is to point up to the subcommittee the particular television situation which exists in Birmingham, Ala., and the difficulties which would exist in our community—and undoubtedly in many others—if there is an attempt by the Congress to solve the problems of UHF on a nationwide basis. In other words, what I want to suggest is that the problems of UHF in the crowded East and Midwest portion of the country, which have been pointed up by previous witnesses, are not necessarily the problems of Birmingham, or of the South, the Southwest, or the West, generally. In fact, if some of the proposals suggested by the UHF spokesmen were adopted, they would not, in my opinion, solve the problems of UHF, but they would cause substantial mischief and hardship to the public in my part of the country.

In Birmingham today we have only VHF service. We estimate that there are, within the service area of television station WABT, 275,000 receivers in the hands of the public, representing a total investment of \$8 million. There are no UHF stations in operation in Birmingham, and therefore, to my knowledge, no UHF receivers.

Birmingham, therefore, has no television receiver conversion problem at the present time. However, such a problem would be created if the proposal to move all of television to the UHF were adopted. Then every single receiver in our area would be rendered obsolete and every family would be forced, by Government order, to spend additional funds for a UHF converter and for a new receiving antenna.

Even more important to the public than the expense which would be involved in purchasing new UHF equipment is the fact that large segments of the population would lose the only television service which is available to them. In our part of the country there are relatively few cities large enough to support television stations. As a result, a great many people living on farms and in small communities must look to Birmingham for their television service. We know that people living as far away as 100 miles from Birmingham depend upon the stations in our city for television service. If our station is forced to move to the UHF or to reduce its coverage, one result would be that a lot of our good friends in rural areas would lose the only television service available to them.

It is apparent that neither the proposal to move all VHF stations to the UHF, nor the proposal to reduce the power and coverage of VHF stations would aid UHF in Birmingham because there is no UHF there. On the contrary, these proposals would seriously and adversely affect the public in our area. It is clearly not in the public interest for either of them to be adopted.

This committee has heard a great deal of testimony concerning the financial plight and financial problems of the UHF broadcasters. Under the circumstances I hope it will be appropriate for me to show the committee the other side of the coin, namely, the financial plight and financial problems of one VHF broadcaster.

The Birmingham News Co., our parent corporation, operated station WSGN in Birmingham from 1936 to 1953, and station WSGN-FM, from 1947 to 1953. Both of these stations were sold in 1953 so that we could acquire the radio and television stations which we now operate.

During the period of our operation of stations WSGN and WSGN-FM, I believe that both stations acquired an outstanding record for community and local public service. This was particularly true of our FM station which was programed separately to a large extent and was promoted and supported by us in every way feasible. I doubt whether any FM operator in any other community in the country did as much as we have done and are still doing to promote FM. Incidentally, the operation of FM has involved us in substantial expenses and substantial operating losses. However, neither we, nor any other FM operator, to our knowledge, ever came to the Congress or to any other Government body to ask for financial relief or assistance. It may be, however, that if the Senate does give the UHF broadcasters the type of relief requested by them, that the committee may next be called upon to hold comparable hearings for the relief of FM and other broadcasters.

Our company, during the period of its operation of stations WSGM and WSGM-FM, also developed an interest in television. The top officials of our company, including myself, made extensive studies of television, including problems of station, equipment requirements and the like. We participated fully in the FCC's hearing on channel allocations and sought to bring additional VHF channels to Birmingham. However, when we were unsuccessful in this, we applied for and received a grant of permit on UHF channel 42. We sought, in all sincerity, to build the finest—and, I might say, the most expensive UHF station—with full power of 1000 kilowatts. We did this because we knew, based

upon our experience in FM, that in order to pioneer in this new service, maximum power and coverage were necessary.

Prior to the time construction on channel 42 was to begin, we were offered the opportunity to acquire, by purchase, the AM, FM, and TV stations we now operate. We were faced with the choice, therefore, of buying existing facilities at a substantial price or of pioneering in developing UHF in the market—probably also at substantial cost.

After substantial study of the business problems involved, we decided, in April 1953, to buy the stock of the Television Corp. at a cost of \$2,500,000. Immediately after acquiring these properties, we expended well over \$250,000 additional to increase the power of station WABT to 316 kilowatts, the maximum permitted by the Commission.

I think the committee will understand the large financial stake we have in the continued success of VHF. We made a business judgment to buy rather than to build, based upon the facts then known to us. We hoped and expected that this situation would continue for some years, so that we could properly amortize our investment. Now it is proposed to change the rules of the game, to abolish VHF or to limit its power, its coverage or its freedom to negotiate for programming. The adoption of any of these steps would be, at best, unfair and, at worst, ruinous to us.

APPLICANT FOR CHANNEL 5—THE MOBILE TELEVISION CORP., MOBILE, ALA.

Channels allocated to community: 5, 10, 42,¹ 48.

VHF stations operating in community: Channel 10.

UHF stations operating in community: Channel 48.

Channels applied for: Channel 5.

Channels contested: Channel 5.

Construction permits outstanding: None.

JUNE 2, 1954.

HON. CHARLES E. POTTER,

*Chairman, Subcommittee No. 2 on Communications,
Committee on Interstate and Foreign Commerce,
United States Senate, Washington, D. C.*

GENTLEMEN: The Mobile Television Corp., through its general management, has given consideration to its position with respect to the problems alleged to be presented by the allocation to certain markets in the United States of television channels both in the very high frequency band and in the ultra high frequency band, and the proposals that have been made looking toward the solution of these problems. The company understands that among the proposals made are the following:

(a) The imposition of a freeze upon application proceedings now before the Federal Communications Commission and upon the issuance of operating authority covering construction permits already granted.

(b) The allocation of all television stations to channels in the UHF band.

(c) The elimination of allocations in both the VHF and the UHF band in the same cities.

(d) The reduction and limitation of coverage areas of stations licensed to operate in the VHF band.

The company is of the opinion that the adoption of any of the proposals above listed would have the effect of retarding rather than stimulating the development of the television industry and, thus, would have an adverse effect upon television services to which the public is entitled.

In addition, it feels that the adoption of these proposals or any of them would have an unjustifiably adverse effect upon persons, firms, and corporations who have major investments in the establishment of their respective stations operating in the VHF band as well as many companies, such as the Mobile Television Corp., who have made major expenditures in prosecuting applications for a construction permit to operate in the VHF band.

The Mobile Television Corp. is a company embracing, among its stockholders, many individuals who are residents of the city of Mobile, Ala., as well as a corporation owning a newspaper and a radio station in that city.

¹ Reserved for noncommercial educational use.

In addition, its stockholders include the owners of WDSU Broadcasting Corp., a company which has been a pioneer in the development of the art of telecasting and Dwight Martin, who has been active in the operation of television stations since the inception of commercial television.

These individuals have spent countless hours in the preparation and prosecution of the company's application for a construction permit to operate a television station in Mobile. The application of the company for a grant on channel 5 was filed with the Federal Communications Commission in July 1952, and has been vigorously prosecuted since that date.

At the time the application was filed, in the opinion of the company, the development of transmitting and receiving equipment designed to operate in the UHF band had not progressed sufficiently to guarantee that maximum or even adequate service would be given the public or received by the public.

For this reason, and for the reason that in the opinion of the directors of the company an operation of a VHF channel be more profitable, a determination to seek a grant on a UHF channel was made.

In the summer of 1953 the company, through its officers and directors, participated in a lengthy competitive hearing, seeking to establish the fact that the public interest would be served better by a grant being made to it rather than to an applicant competing for the same channel in Mobile. This hearing resulted in an initial decision by the examiner favoring the application of the Mobile Television Corp., which initial decision is presently under consideration by the Commission. To date, the company has spent in excess of \$75,000 in the prosecution of this application, in addition to which it has deposited in excess of \$6,000 with an equipment manufacturer in order to assure the delivery of the equipment if and when a final grant is made (the amount of this deposit will be returned to the company if the grant is not made). The company estimates that an additional \$5,000 to \$10,000 will be spent in prosecuting the application to a final decision. In the opinion of the management of the company, the adoption of the proposals which the company opposes could place in jeopardy the investment of time and money which has been made by the company in good faith upon the supposition that if it could establish superiority over the competing applicant for channel 5 in Mobile, it would be given a grant. Certainly any provision of law that would reduce the value of a VHF grant or would make a VHF channel unavailable in Mobile or would postpone further consideration of the application for an indefinite period of time would materially reduce the value of this investment.

Accordingly, having in mind both the fact that in its opinion, the financial investment of the company is placed in jeopardy by the above-listed proposals and its conviction that the interests of the television industry and the public will be adversely affected by their adoption or the adoption of any of them, the company respectfully urges that they be rejected and that a solution to the UHF problem be sought that will be of constructive benefit to the entire industry.

Sincerely,

DWIGHT W. MARTIN, *President.*

SOUTH ARKANSAS TELEVISION CO., INC., EL Dorado, ARK., PERMITTEE OF CHANNEL 10

Channels allocated to community : 10, 26.
 VHF stations operating in community : None.
 UHF stations operating in community : None.
 Channels applied for : None.
 Channels contested : None.
 Construction permits outstanding : Channel 10.

MAGNOLIA BROADCASTING CO.,
 Magnolia, Ark., June 5, 1954.

PIERSON & BALL,
 Washington, D. C.

GENTLEMEN: I wish to go on record as opposing any current proposed change in the regulations of the FCC which are applicable to the VHF stations. It is my belief that there is insufficient evidence to warrant a conclusion that the majority would be served by any alteration or abolishment of existing VHF channels. In addition, I believe any so-called inequality between VHF and UHF channels will disappear in time due to the economic growth of the television industry, the technological advancements in electronics, and the varied tastes

of the American people, who will both demand and support by their interest the localized programing which UHF will afford in each community. I have always had confidence in the forward-looking attitude taken by the members of the Commission. I do not feel they will be deterred, misled, or influenced by these transient difficulties of the television industry.

Sincerely yours,

W. M. BIGLEY, *Secretary-Treasurer.*

KERN COUNTY BROADCASTERS, STATION KERO-TV, BAKERSFIELD, CALIF.

OPERATOR OF CHANNEL 10

Channels allocated to community: 10, 29.
 VHF stations operating in community: Channel 10.
 UHF stations operating in community: Channel 29.
 Channels applied for: None.
 Channel contested: None.
 Construction permits outstanding: None.

BAKERSFIELD, CALIF., June 1, 1954.

Mr. W. THEODORE PIERSON,

Pierson & Ball, Attorneys, Washington 6, D. C.

DEAR MR. PIERSON: We wish to join in the support of the informal group that has organized to participate in the Potter hearings of the Senate subcommittee investigating UHF problems. We understand that your firm has been retained to represent us in opposing the destructive proposals made by the UHF group and its advocates. This is to advise that you have our support, and, in addition, that you are hereby requested to make known our feelings as contained in this letter.

Prior to the time that there were any television stations operating in Bakersfield or the San Joaquin Valley, and up to the middle of 1953, it was estimated there were some 17,000 VHF receivers in the greater Bakersfield area which were receiving programs from Los Angeles television stations. As you know, we are considered a fringe area for Los Angeles television, and it was this early infiltration of VHF television in this area which was helpful in getting us off to a good start in our operation. After the granting of channel 29 here in Bakersfield, as well as channel 10, the set saturation went up considerably, but there are many indications that set conversion of the initial group of television sets that were in this area has not been rapid. In fact, information indicates that perhaps we have a 60 to 65 percent conversion at this time in the greater Bakersville area. To my way of thinking, it would be a great disadvantage to the people who own the many VHF-only television sets if no VHF transmissions were available to them.

A recent ARB study that we had made of this market indicates a substantial portion of Bakersfield viewers still watch Los Angeles stations at various times throughout the day and evening.

We went to a great deal of time, trouble, and money in placing our television transmitter on top of Breckenridge Mountain. Breckenridge Mountain is 7,600 feet high and is located 22 miles east of Bakersfield. One of the main reasons why we put our facility in this location was so that we could serve thousands of people who otherwise would not receive television. We have been informed by many people as far north as Porterville, that we are the only television signal that they can see. This is true of many small communities along the eastern edge of the San Joaquin Valley. While other television stations, operating on UHF from Fresno, put a good signal in that direction, most of it is blanketed out by the mountainous terrain. We also have many reports from the mountain communities to the east and north of our transmitter and many other reports from the eastern desert area, that we are the only satisfactory television signal that they have to watch. We feel that with our VHF transmissions, we are providing a service that would otherwise be denied to these people inasmuch as the electrical characteristics of a UHF signal would not give the necessary fill-in throughout the mountainous terrain involved.

We were the second station on the air in this market, with the UHF station going on the air approximately a month ahead of us. We have had a very real problem in obtaining good film material, inasmuch as our competitors were

quite successful in purchasing most all of the reasonably priced material prior to the time we received our CP.

We have been more successful than they, however, in utilizing and selling half-hour features on our station. We are still at a loss finding good feature film, inasmuch as the supply has apparently been exhausted.

I know that a number of people are under the impression that a VHF grant is an automatic ticket to a profit operation. I think many of them fail to realize, however, that practically all of the same problems exist with a VHF grantee as exists with a UHF. We have a very small operation and all of us take a very active part in the day-to-day operation of the business.

Even with a small operation and complete diversification between our radio station and television programming staffs, it might be surprising to realize that in 1953 we dissipated all of the profits of our radio station in that year to support our television operation for the 3 months that it was on the air. In addition to losing all our radio profits in 1953, we lost an additional \$4,400 in making up the operational cost for that 3-month period. I am happy to say that since the first of 1954 we have succeeded in carrying the television operation into the black, and each month we have been able to show a small increase in our margin of profit. Our radio operation has suffered a good deal from a profit standpoint since we have entered television, and I must report that we do not have all of our old profits of radio to add to those of television. That, of course, is a problem that would be present with an operator of either a UHF or a VHF television station.

We realize that we are doing a good deal better job, both from a programming as well as profit standpoint, than our UHF competition is here in Bakersfield.

As far as we can determine, the main reason that our results have been so much better than theirs is due to the fact that we went to the extra expense of a mountaintop location.

This location gives us coverage of 3 or 4 times as many sets as our UHF competition.

Prior to the time that they received their CP we invited them to join us on our mountaintop, but they felt that such a location was impracticable. In January, when we made our last set-count survey, it was indicated that we had some 109,000 television receivers in our primary coverage area while they had about 25,000. Naturally, it is a great disadvantage to them when they are trying to sell network or national or even local advertisers on the use of their facility when a comparison of the set coverage is made. We feel the advantage we have obtained is one we deserve and one that is the result of the extra effort and additional investment we made in our facility to provide maximum coverage and maximum use of the channel granted to us by the Commission.

We are a primary affiliate of the National Broadcasting Co. and a secondary affiliate of the Columbia Broadcasting System. The UHF station in this market is an affiliate of the American Broadcasting Co. and the Du Mont television network. Our UHF competitor carries a good many programs from his two networks that are not available to us and under the new ownership of the Chronicle Corp. they are showing signs of a much more intelligent and progressive operation.

The previous owners did very little to build the UHF station into the type of facility that could be considered a good television operation. I have personally spent many thousands of dollars and a great deal of time in the last year, in an effort to get additional network shows for our station.

I have been rather successful with NBC and CBS, but even at that we have more half-hour syndicated programs sold on our station than we have from either of the two major networks. Frankly, it looks to me that personal effort and perseverance, as well as equal physical coverage of a marketing area, is the answer for these UHF stations who seem to be having so much trouble.

This market was developed primarily as a VHF market out of Los Angeles and to consider it in the same category as the rest of the San Joaquin Valley, where there was no television available prior to the granting of CP's, would be entirely wrong. Loss of VHF coverage in this area would undoubtedly obsolete some 17,000 to 20,000 television sets that are not converted to receive UHF signals.

If there is any other information on our operation or information about this market that you feel could be helpful in presenting facts to the Senate Subcommittee Investigating UHF Problems, please do not hesitate to get in touch with me.

Yours very truly,

GENE DEYOUNG.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 851

CALIFORNIA INLAND BROADCASTING CO., STATION KFRE, FRESNO, CALIF.,
APPLICANT FOR CHANNEL 12

Channels allocated to community: 12, 18,¹ 24, 47, 53.
VHF stations operating in community: None.
UHF stations operating in community: Channels 24, 47, 53.
Channels applied for: Channel 12.
Channels contested: Channel 12.
Construction permits outstanding: None.

CALIFORNIA INLAND BROADCASTING CO.,
Fresno, Calif., June 4, 1954.

PAUL R. BARTLETT,
*President, Pierson & Ball,
Washington, D. C.*

GENTLEMEN: This will serve to give you our written endorsement of the stand being taken by the informal VHF television group in their appearance before the Potter committee when the UHF television hearings resume. You are hereby authorized to incorporate the name of our station into the record in support of the VHF group's position and to put into the record any portion or all of the following statement outlining our own individual experiences and views on the matters under discussion.

HISTORY OF KFRE INTEREST IN TELEVISION

Station KFRE's interest in television dates back to 1944 when it was the first applicant for any television channel in Fresno, and when it acquired a mountain-top site which is considered to be ideally suited for television transmission to the entire central California area. After remaining on file for almost 2 years, the KFRE 1944 application for VHF channel 2, then assigned to Fresno, was withdrawn because of the uncertainties due to the first FCC color hearings and their ramifications.

In April of 1948, KFRE was again the first Fresno applicant for TV, applying at that time for VHF channel 5, 1 of 4 VHF channels then allocated to Fresno. Action on the KFRE application for channel 5, which was at that time unopposed, was expected at about the time the FCC imposed the "freeze."

During the freeze KFRE participated in FCC rulemaking procedures looking to the establishment of a new allocation plan. In its comments on the proposals made by the Commission, KFRE urged the establishment of at least two VHF channels in Fresno in order to provide the area-wide coverage which would not be available from UHF transmissions. The final report and order designated 1 VHF channel to Fresno and 3 UHF channels.

After the lifting of the freeze, KFRE amended its application from VHF channel 5, which was no longer available in Fresno, to channel 12, the only VHF channel allocated to the Fresno area. Subsequently, another Fresno radio station also applied for channel 12.

On the 3 remaining channels allocated to Fresno, all of which were UHF, there were 5 applicants; 2 each for 2 of the channels and 1 for the remaining channel. In the fall of 1952, the unopposed UHF applicant was granted a construction permit, and in the months which followed the contests which remained for the other two UHF channels were resolved by mergers or buy-outs in both cases, with the result that the first UHF station began actual operation in Fresno in June of 1953; the second, which resulted from a merger or buy-out, in the fall of 1953; and the third early in 1954.

II. REASONS FOR KFRE DECISION TO APPLY FOR VHF

The following were the principal reasons KFRE decided to apply for the only Fresno VHF channel:

1. Such knowledge as was available indicated that only a VHF channel would adequately serve the entire central California area, which is now served by KFRE radio station.

2. VHF equipment was readily available and television service to the Fresno area could be provided on VHF within a matter of a month or two after an authorization, whereas UHF equipment deliveries were uncertain.

¹ Reserved for noncommercial educational use.

3. KFRE believed the business future of the VHF channel was more certain than that of the UHF channels, and therefore believed that sound business judgment made it advisable to risk the great loss and delays which might be involved in comparative hearings for the VHF channel rather than take a UHF channel, which would probably have been available without hearing costs or delay.

III. THE PRESENT FRESNO TELEVISION SITUATION

Since early in 1954, there have been 3 operating television stations in Fresno, all UHF, and 1 UHF station operating in the nearby city of Tulare, thus providing 4 UHF services to the Fresno area. No television receivers were sold in Fresno prior to the commencement of the first UHF station here, and consequently every set in the central California area was capable of UHF reception.

The first UHF station to start was affiliated with NBC network as a primary affiliation and also took programs from CBS as a secondary affiliate. The second UHF station to begin operation became a primary affiliate of the ABC network, and now also takes programs from the Columbia television network. The third Fresno station is independent, and the station in Tulare is an affiliate of the Du Mont television network. All television networks are currently represented in the Fresno area and all on UHF stations.

IV. STATUS AND COSTS OF LITIGATION FOR VHF CHANNEL 12 IN FRESNO

KFRE was notified by the FCC in the fall of 1952 that a comparative hearing to determine the final licensee for channel 12 in Fresno would be necessary, and the hearing was scheduled in mid-1953 to begin in the fall of 1953. The hearing began in October of 1953 and the record was closed in March of 1954 and an initial decision is now awaited. To date the KFRE application has represented an expenditure of approximately \$75,000 and we anticipate that as much as \$100,000 may be required before a final decision is obtained.

Throughout the long period of delay KFRE has attempted to encourage an interim type of operation which would have provided early television service on channel 12 while litigation continued for the final authorization.

V. COMMENTS

All UHF applicants and grantees knew at the time they filed their applications that VHF channel 12 had been allocated to Fresno and would eventually be used there with whatever competitive complications might occur. All grantees who constructed their UHF stations in the Fresno area proceeded to do so at their own business risks, fully aware of the pendency of the Fresno VHF channel 12 application.

All of the original applicants and grantees of UHF channels in the Fresno area had an equal opportunity to apply for channel 12 in an attempt to secure the admittedly prime facility in the area. All the UHF applications of present grantees who failed to apply for channel 12 did so in order to avoid the costly proceeding and still more costly delay of a hearing.

Thus all of the present UHF grantees in the Fresno area decided to take the business risk involved in the operation of the admittedly less valuable UHF channels and to face the eventual competition of VHF channel 12 rather than to take the risk involved in spending substantial amount for a hearing, undergoing the long delay, and eventually ending up with no channel at all.

KFRE is content to stand with its business judgment and asks only that the ground rules not be changed at this late date. KFRE believes the UHF grantees or licensees should likewise be content to live with the decisions they have made.

Sincerely,

PAUL R. BARTLETT.

WRITTEN STATEMENT OF SACRAMENTO TELECASTER, INC., SACRAMENTO, CALIF.,
APPLICANT FOR CHANNEL 10

Channels allocated to community : 3,¹ 6, 10, 40, 46.
VHF stations operating in community : None.
UHF stations operating in community : Channel 40.

¹ Reserved for noncommercial educational use.

Channels applied for: Channels 3, 10.
 Channels contested: Channels 3, 10.
 Construction permits outstanding: Channel 46.

SACRAMENTO TELECASTERS, INC.,
 Sacramento, Calif., May 31, 1954.

Messrs. PAUL R. BARTLETT et al.,
Care Pierson & Ball, Washington, D. C.

GENTLEMEN: Thanks for your wire and for your alertness in protecting the interests of a very important segment of the TV industry.

By all means, add our firm's name to the list of those opposing the UHF committee's move for special privilege legislation. We approve all of your measures with the exception of that one referring to booster stations. The use of booster stations, we feel, is again special privilege: is not an industrywide problem, and is certainly not fair to the UHF group and would further ire them. We stand firmly against this measure and do not want our name used as supporting it. The rest of your platform, however, we support without reservations.

We are a local group of business and professional men, with broadcast experience well represented in our organization, applying for VHF channel 10 in Sacramento, Calif.

We have gone through an extended comparative hearing in Washington (the longest two-party case in the limited history of TV hearings). We have expended over \$65,000 in preparatory and hearing costs alone and expect to expend another \$10,000 before final grant. This will be, of course, a total loss should we not prevail; we also have completed oral argument before the entire Commission. Our total anticipated costs will be in the neighborhood of \$800,000.

At the outset we had to choose between U and VHF (this was just before the freeze was lifted) and chose VHF knowing full well that it would entail long hearings and heavy expenses with only two alternatives: an unfavorable decision or a grant with its speculative results—there is no assurance of success or profit in a VHF grant.

Our reasons for choosing VHF were:

1. 80,000 VHF sets in the area with only fringe reception.
2. Experience to draw from (prefreeze operations).
3. Availability of VHF equipment.
4. No actual UHF stations on air—no precedent.
5. Peculiar coverage requirements.
6. Lack of proven UHF engineering results.
7. Proven VHF engineering, results, experience.

Two VHF (channels 3 and 10) and two UHF (channels 40 and 46) were available to us at the time of filing.

We feel that a freeze at this or any other time would be most unjust to not only us and others in our position who have in good faith, gone through long and expensive comparative hearings to prove our qualifications and abilities to operate in the public interest but to the general public who, because of public announcement, have purchased sets in anticipation of the channel going on the air.

We feel further that:

1. A great number of the UHF complainants are opportunists who have applied and received uncontested UHF channels with the hopes of quick profits.
2. A great number of the UHF complainants applied for and received grants without proper study and advice regarding markets, competitive factors, etc., and are now suffering the results of poor broadcast and business judgment.
3. A great number of the UHF complainants are outsiders (have no previous connection with the market in which they are operating) and applied on a multiple basis (e. g. John Poole who filed for five UHF stations and received grants in 3 or 4 markets (unopposed) and is sitting on grants without constructing).
4. UHF operators are unwilling to spend the necessary pioneering expenses and do the proper promoting job for their medium; that the "quick buck" didn't materialize, and they are now yelling wolf (VHF) and asking for special privilege legislation, so that they can profit (no FCC grant even implies a profitable operation) by keeping out the legitimate, experienced broadcaster.
5. All UHF stations are not operating at a loss and conversely, all VHF stations are not operating at a profit—the difference is that the VHF operators have faith in their future and are not asking for help. (See table 6 B-T May 24, p. 130.) Also the heavy percentage of UHF loss stations are in markets

of less than 100,000 where perhaps no TV station either VHF or UHF could be supported at this time.

6. A blanket freeze is not the answer even though more study of the problem might be indicated; e. g. in Sacramento and Fresno, Calif., UHF only is in operation and making large profits. To keep VHF out would be only to grant a monopoly to UHF and to guarantee them continued, protected profits and to deny the rights of free enterprise to VHF operators plus denying the public the use of sets already purchased. There are many similar examples throughout the country and any freeze should be on a market-to-market basis. This, of course, would be difficult; therefore, no freeze at all.

7. All turn-ins of grants have not been UHF. Some VHF grants were turned in after realizing that the market would not support the operations—not because VHF would smother them.

Very truly yours,

J. H. SCHACHT, *Vice President.*

STANDARD RADIO AND TELEVISION CO., STATION KQXI, SAN JOSE, CALIF.

PERMITTEE OF CHANNEL 11

Channels allocated to community: 11, 48, 54,¹ 60.
 VHF stations operating in community: None.
 UHF stations operating in community: None.
 Channels applied for: None.
 Channels contested: None.
 Construction permits outstanding: Channel 11.

STANDARD RADIO & TELEVISION CO.,
 PERMITTEE OF STATION KQXI,
San Jose, Calif.

PIERSON & BALL,
Ring Building, Washington, D. C.

GENTLEMEN: Standard Radio & Television Co. is in accord with the position stated by the informal VHF group in its telegram dated May 28, 1954. The position of this group is to be presented at further hearings to be held by the Communications Subcommittee headed by Senator Potter.

Standard Radio & Television Co., (KQXI), San Jose, Calif, is the permittee of VHF channel 11, and it vigorously opposes any suggestion that it be forced to move to UHF. KQXI also vigorously opposes any suggestion of a moratorium on the construction of VHF television stations which might be construed to prevent it from being authorized to commence telecasting upon completion of construction.

Standard Radio & Television Co. proposed to bring to the San Jose community and the Santa Clara Valley area localized television service designed to meet the needs of that community. The community is of rugged terrain and experience has shown that VHF is the type of television service that can best serve such an area. At the present time, San Jose does not have a television station of its own.

Therefore, it would definitely not be in the public interest for the Senate subcommittee investigating UHF problems to take any steps that would interfere in any way with the establishment of a satisfactory television service at San Jose, Calif.

Very truly yours,

A. T. GILLILAND, *President.*

STATEMENT OF SANTA BARBARA BROADCASTING & TELEVISION Co., STATION KEY-T,
 SANTA BARBARA, CALIF.

OPERATOR OF CHANNEL 3

Channels allocated to community: 3, 20, 26.
 VHF stations operating in community: Channel 3.
 UHF stations operating in community: None.
 Channels applied for: None.

¹ Reserved for noncommercial educational use.

Channels contested : None.
 Construction permits outstanding : None.

[Telegram]

SANTA BARBARA, CALIF., June 5, 1954.

PIERSON & BALL,
 Washington, D. C.:

Santa Barbara Broadcasting & Television Co., licensee of Key-T, channel 3, serving coastal area of California from Monterey to Mexican border, earnestly supports position stated by the informal group of television operators who have engaged your firm to represent them in hearings of subcommittee of Senate Interstate and Foreign Commerce, Senator Potter, chairman. Please convey to the committee that our gross investment for television is \$628,000 and to change to UHF would cost another \$200,000 with no UHF transmitters in our area and with virtually no sets along the coast equipped to receive UHF. Local investors courageously ventured risk capital to build this station on 4,200-foot mountain to make maximum use of this natural resource. This station serves a sparsely settled remote area. If by legislative or regulatory fiat we were required to decrease our power and hence coverage would be to penalize pioneering spirit by deprivation of property without due process both of licensee and of tens of thousand of enthusiastic owners of television sets who in northern part of area have virtually no other source of television. We will end first year operation July 1954, moderately in the red but we will succeed if left to pursue in an orderly manner the American system of free enterprise.

Sincerely,

HARRY C. BUTCHER,
 Chairman of the Board, Key-T.

TELEVISION DIABLO, INC., STOCKTON, CALIF.

PERMITTEE OF CHANNEL 13

Channels allocated to community : 13, 36, 42,¹ 64.
 VHF stations operating in community : None.
 UHF stations operating in community : Channel 36.
 Channels applied for : None.
 Channels contested : None.
 Construction permits outstanding : Channel 13.

TELEVISION DIABLO, INC.,
 Los Angeles, Calif., June 2, 1954.

Re Senate subcommittee investigating UHF problems.

PIERSON & BALL,
 Washington, D. C.

GENTLEMEN : I am a majority owner of station KHOF, channel 13, Stockton, Calif., and was recently given a construction permit by the Federal Communications Commission. We are now in the process of putting this station on the air. We have expended \$400,000 to date and will expend an additional \$400,000 before we are fully on the air. This station must of necessity serve the greater Sacramento and San Joaquin Valleys.

Any action on the part of the Senate investigating committee or FCC on the various proposals suggested to date, such as the elimination of intermixture of VHF and UHF, the allocation of all television stations to the UHF band exclusively, the imposition of any freeze, and the reduction and limitation of the coverage areas of VHF stations would all prejudice the investment we have made to date in this activity and materially reduce the proposed service to this important area that is not now being fully served by any station.

We are an independent VHF station. We would like a network affiliation ; however, we do not believe the way to get it is through legislative or political action.

We also believe we can render a public service and operate a financially successful station as an independent. We are in no way sympathetic with the pro-

¹ Reserved for noncommercial educational use.

gram that is being considered of attempting to make the weak strong by making the strong weak. We do not believe the economic problem of overpopulation of television stations can be corrected by any political action any more than the overpopulation of television manufacturers can be corrected by anything other than the law of supply and demand.

The economic problem of too many stations in the market, regardless of whether they are ultra high frequency or very high frequency, or regardless of how long they have been on the air, is well illustrated by the fact that only three of the television stations in Los Angeles are making money at the present time. I understand that a similar situation exists in New York City. I have never heard of their asking for any legislative help to correct their red figures.

It seems to me that whether a television station succeeds or fails is based on the service it renders to the consumer. This, in turn, is recognized by the sponsor whose dollars determine the financial status of the station.

I would also like to comment, as president of Hoffman Radio Corp., that at the present time we are selling our all-wave tuners at the same price as our regular tuners even though they cost more. We are doing this for two reasons, first, the sale of these sets has not developed to be as great as we had anticipated they would, and second, we feel we should give some assistance in getting the new UHF stations started in some of our markets. I would like to report this has very little effect on the increased sale of all-wave sets at the retail level.

Our industry has been working diligently to bring the cost of the all-wave sets down and the price differential has already been reduced from \$60 to \$30 and I am confident this will continue to be reduced.

The major problems seem to be the lack of coverage and programs and I do not think you are going to help the coverage of the UHF stations by limiting the coverage of the VHF stations. This would, by its very nature, limit the public service that a WHF could afford without expanding the public service of the UHF station.

Relative to programing, I think that there may be an area to explore for the second and third run of the network programing that would be helpful to independent stations at the present time whether they are VHF or UHF. The union implications of the second and third run need to be answered in order to deliver programs at low cost.

It appears to us that the answer to success for any television station must continue to be based on the service the individual station renders in its own local community.

Sincerely yours,

H. L. HOFFMAN, *President.*

STATEMENT OF WESTERN SLOPE BROADCASTING CO., INC., STATION KFXJ-TV, GRAND JUNCTION, COLO.

OPERATOR OF CHANNEL 5

Channels allocated to community: 5, 21.
 VHF stations operating in community: Channel 5.
 UHF stations operating in community: None.
 Channels applied for: None.
 Channels contested: None.
 Construction permits outstanding: None.

[Telegram]

GRAND JUNCTION, COLO., *June 5, 1954.*

PIERSON & BALL,
 Washington, D. C.:

The fundamental basis of our American system of radio and television is a private enterprise. There is bound to be a calculated risk in entering either field, particularly where competition is keen. The plight of the UHF is not unlike that of the VHF operators in the smaller markets. I operate one of the smallest TV stations in America on a VHF channel. I am faced with problems no less perplexing by comparison than the UHF stations in multiple markets created than the original condition for which a remedy is sought. I earnestly oppose imposition of a freeze reconciliation of the artificial limitation of present VHF

coverage. This would solve nothing and undoubtedly would result in complete chaos in the industry, with resultant losses to the public of staggering sums. Please present this wire as part of your testimony before Senate committee.

REX HOWELL,

President and General Manager, KFXJ-TV.

THE ELM CITY BROADCASTING CORP., STATION WNHC-TV, NEW HAVEN, CONN.

OPERATOR OF CHANNEL 8

Channels allocated to community: 8, 59.
 VHF stations operating in community: Channel 8.
 UHF stations operating in community: None.
 Channels applied for: None.
 Channels contested: None.
 Construction permits outstanding: Channel 59.

TESTIMONY OF ALDO DE DOMINICIS, SECRETARY-TREASURER AND GENERAL MANAGER OF THE ELM CITY BROADCASTING CORP., NEW HAVEN, CONN.

The undersigned, on behalf of the Elm City Broadcasting Corp., owner and operator of WNHC-TV, channel 8 (formerly channel 6) New Haven, Conn., opposed to the four proposals advocated by the UHF television group.

Seven years ago, before WNHC-TV, the major portions of western Massachusetts and Connecticut, the first State in per capita family income, had no television service. A number of interests contemplated entering the telecasting field in both New Haven and Hartford. Advice from experts was negative. Investment sources closed their doors and pocketbooks. Networks gave little or no assurance of either sustaining or commercial service. There were no receivers. One by one, potential applicants canceled out their interest and intention to apply for a construction permit.

Only the Elm City Broadcasting Corp. refused to relinquish its faith in the desirability of television for Connecticut and western Massachusetts.

This, plus belief that the public should be provided with television service and that a balanced television fare would be adequately supported by viewers, caused the Elm City Broadcasting Corp. to apply for channel 6 facilities. What subsequently transpired is history: In June 1948 television was at long last brought to Connecticut and western Massachusetts.

In less than four years over 250,000 homes were enjoying television. In 5 years, over 400,000 homes were being served by channel 6. Then, in January, 1954, at the direction of the Federal Communications Commission, WNHC-TV was obliged to scrap its channel 6 equipment (which represented an investment of one-quarter of a million dollars) install a new tower, new antenna, new transmitter, and provide enlarged transmitter quarters to telecast on channel 8.

In addition to a new capital and labor cost of three-quarters of a million dollars, many thousands of dollars were devoted to advertising and promoting the change from channel 6 to channel 8, and in advising and instructing viewers on the readjustments necessary to their antennas and receivers. As a result there are now nearly 725,000 homes that are able to receive channel 8 programs. Alterations in the present system of telecasting, of the nature promulgated by the UHF group, would, in this area, not only obsolete over one-half million receivers but would contribute further to the financial inconvenience and discomfort of the public by causing to be junked several thousand new antennas, not to mention the replacement cost factor of UHF bow ties.

The case for the present system of television in Connecticut and western Massachusetts is simple and strong. According to CBS Television Research,¹ which commissioned A. C. Nielson Co. to conduct a national television set survey, 76 percent of Connecticut families are TV families, of which 7 percent are UHF families; while in Massachusetts 78 percent of all families have TV, of which 3 percent is UHF.

It seems conclusive that the main party in interest, the viewing public, has been and is being adequately served. Reference to the May 1954 United States Pulse TV survey disclosed that of the top 15 regular scheduled once-a-week

¹ November 1, 1953.

shows, channel 8 carries 13; of the top 10 regularly scheduled multiweekly shows, channel 8 carries 7. The 5 programs in both categories not telecast on channel 8 are carried over either channels 30, 55, and/or 61 in New Britain, Holyoke, and Springfield.

Examination of the channel 8 program structure reveals a substantial and favorable balance of children's, educational, religious, and public service programming, most of it in family viewing time. Further examination will disclose that the few programs in the above categories not carried by channel 8 can be seen on one or more of the UHF channels mentioned above.

If the law of supply and demand has any merit, it must be concluded that the viewing public in Connecticut and Massachusetts either is being served 100 percent or has access to all television material now on the air through the simple expedient of buying an all-channel receiver if it desires to do so earnestly enough. None of the changes advocated by the UHF television group will materially aid the viewing public. On the contrary it appears that any such action, if it were to become a reality, could be construed in no light other than detrimental to the viewing public.

Since the Commission has historically refrained from tampering with the economics of broadcasting and telecasting, except for its natural basic concern about financial adequacy of applicants, it should refrain from so doing now since to do so would adversely affect the interest and convenience of the viewing public. Also severely affected will be this corporation's present capital investment which while only incidental is nevertheless substantial.

The majority, if not all, of the suggestions advocated by the UHF television group, would be, in effect, a Government-sanctioned subsidy of UHF broadcasters and at the expense of not only the presently successful operators who have done the pioneering work, but at the expense of the viewing public as well. And any mechanical stimulus designed to enliven an economy by artificial means seems to be premised on the belief that the industry, the public and the American advertiser have unlimited wealth which should be tapped and raided for what is, in effect, and inordinate and unnecessary expansion of telecasting properties.

Since in this area, at least, service will be ample for everyone concerned through the two VHF assignments, if it is not already adequate through channels 8, 30, 55, and 61, it is respectfully suggested that FCC attention should be directed to areas where no service is available with a view of helping the residents of those sections to receive TV programs.

To that end we support and encourage efforts to step up production of new and better all-channel receivers and the use of booster stations to improve telecasting service in existing TV areas; but we are opposed to any proposals that would negate the investments and efforts of the past 7 or 8 years on the part of telecasting pioneers and the public alike, or that seek to substitute a man-made dictum for natural, economic laws. Anyone who wishes should still be free to enter the business of telecasting, especially where a need for additional service can be proved. It does not appear fair or sound, however, that the electronic laws or standards be constantly remade unless the benefits to the public can be shown to far exceed all other considerations.

ALDO DE DOMINICIS.

NORTH DADE VIDEO, INC., MIAMI, FLA.

APPLICANT FOR CHANNEL 10

Channels allocated to community: 2,¹ 4, 7, 10, 27, 33.

VHF stations operating in community: Channel 4.

UHF stations operating in community: Channel 17 (Fort Lauderdale).

Channels applied for: Channels 7, 10.

Channels contested: Channels 7, 10.

Construction permits outstanding: Channels 2,¹ 27, 33.

¹ Reserved for noncommercial educational use.

NORTH DADE VIDEO, INC.,
Miami, Fla., June 2, 1954.

HON. CHARLES E. POTTER,
Chairman, Subcommittee on Communications,
Senate Committee on Interstate and Foreign Commerce,
United States Senate, Washington 25, D. C.

DEAR SENATOR POTTER: It has been brought to our attention that Messrs. Paul R. Bartlett, Hugh Half. Jack Harris, J. Leonard Reinsch, L. H. Rogers, P. A. Sugg, H. W. Slavick, and Robert D. Swezey, have organized an informal group to present responsible comment concerning the problem of both the ultra-high-frequency and very-high-frequency telecasters.

North Dade Video, Inc., is an applicant for very-high-frequency channel 10 at Miami, Fla., and agrees with the views of the aforementioned gentlemen that there should be no elimination of intermixture of very high frequency and ultra high frequency; that all television stations should not be allocated to the ultra-high-frequency band exclusively; that there should be no further freeze on application proceedings nor upon the issuance of operating authorities to cover permits already granted, nor should there be any limitation or reduction of the carefully calculated and recommended coverage areas of very-high-frequency stations.

North Dade Video believes that all reasonable and proper steps to encourage production and distribution of all channel receiving sets should be made; that booster stations should be authorized so as to improve service areas.

Before North Dade Video, Inc., made application to the Federal Communications Commission for a construction permit for channel 10 in Miami, it and its officers, directors, and stockholders thoroughly investigated the allocations in the greater Miami area. Its investigation fixed the conclusion that it should file its application for facilities on channel 10, which, as you know, is in the very-high-frequency band.

From the date of the preparation of the application filed by North Dade early in 1953, up to and including the present date, at which time its application is in a consolidated-comparative proceeding, North Dade Video, Inc., has expended funds approaching \$50,000. Expenditures cover technical and legal research and consulting fees. Not one cent has been spent for public relations or promotion. All expenditures were made in preparation of the application and in the hope of terminating the consolidated-comparative proceeding successfully. It is expected that before the proceedings are over, North Dade will incur considerable expenditures beyond those already made.

The allocations announced by the Federal Communications Commission on April 14, 1952, for television channels, were made after long and serious study and should not now be upset. It should be well noted that the Federal Communications Commission did not request anyone to file an application for an ultra-high-frequency television station. All applications were filed not at the behest of the Federal Communications Commission but by the insistence of those persons filing each application.

Very truly yours,

WALTER COMPTON,
Vice President and General Manager.

WEAT-TV, INC., STATION WEAT-TV, WEST PALM BEACH, FLA.,
PERMITTEE OF CHANNEL 12

Channels allocated to community: 5, 12, 15,¹ 21.
VHF stations operating in community: None.
UHF stations operating in community: Channel 21.
Channels applied for: None.
Channels contested: None.
Construction permits outstanding: Channels 5, 12.

¹ Reserved for noncommercial educational use.

LAKE WORTH, FLA., June 1, 1954.

MESSRS. BARTLETT, HALFF, HARRIS, REINSCH, ROGERS, SUGG, SLAVICK AND SWEZEY,
Care of Pierson & Ball, Washington, D. C.

GENTLEMEN: You are hereby authorized to notify the Senate subcommittee considering TV allocations that WEAT-TV, Inc., permittee of channel 12 in West Palm Beach, Fla., supports the present FCC television allocations in all respects, including VHF and UHF assignments, peak powers and policy on transmitter locations.

It is our firm belief that there is no regulatory substitute for business judgment. The Commission in establishing regulations acted with unusual prudence and good judgment at the time. For any investor considering entering television complete information as to markets, receivers, program availability, cost of operation and technical state of the art in both VHF and UHF were available. Entering any business is a risk and the investor should require only that it be a calculated risk.

It is our belief that UHF can and will provide an excellent service for its coverage area. Television should not expect to suddenly appear as a full-blown economically sound nationwide system. The present AM system grew slowly with new stations coming into each market 1 by 1 as the situation enabled it. For this to occur in television it is imperative that all receivers be equipped to receive UHF as well as VHF. This will enable the UHF station to get on the air in an intermixed market when the economics of the industry warrant.

May I point out that our situation is highly competitive and that limitation of the power of Miami VHF's and UHF's would reduce our competition. However, it would also reduce the service available to the public.

We carefully analyzed the area in view of the rules laid down by the Commission and decided that the calculated risk was worth the investment. We are willing to live under the rules as presently set forth since all of our calculations are based on these rules. Any basic change would create a complete upset of carefully calculated risks and values not only in this market, but all over the country, and cause incalculable harm to the industry. It seems most likely that under any present new proposals the public would also suffer.

WEAT-TV, Inc., has spent over \$25,000 in application, hearing, and equipment costs, most of which would not have been spent under different rules. We will shortly obligate ourselves for \$200,000 additional. Should we spend this same amount on UHF at the present state of the art the area served would be materially reduced and the public would have to spend more to receive us.

I would like to take this opportunity to commend the Federal Communications Commission for its impartiality, fairness and good judgment which I have witnessed in my 10 years in broadcasting.

Sincerely,

J. R. MEACHAM, *President*, WEAT-TV, INC.

SOUTHEASTERN BROADCASTING Co., STATION WMAZ-TV, MACON (WARNER
ROBINS), GA.

OPERATOR OF CHANNEL 13

Channels allocated to community: 13, 41,¹ 47.

VHF stations operating in community: Channel 13.

UHF stations operating in community: Channel 47.

Channels applied for: None.

Channels contested: None.

Construction permits outstanding: None.

¹ Reserved for noncommercial educational use.

[Telegram]

MACON, GA., June 1, 1954.

PIERSON & BALL,
Washington, D. C.:

We join with you in opposing any limitation of VHF television service. We have made a substantial investment to serve the set owners in our area and expect to go full authorized power before the end of our first year of operation, September 27. In spite of the loss of approximately \$100,009 in our first 3 months, we are continuing to lose in order to operate a 17-hour day because we believe our area is entitled to this service. Latest pulse survey of a 14-county area shows about 15 percent UHF conversion in all homes, which means there are more than 50,000 sets depending entirely on VHF television.

It is inconceivable to us that anything as satisfactory to the public as VHF television should be disturbed in any way.

GEORGE P. RANKIN, Jr., *President, WMAZ-TV.*

IDAHO RADIO CORP., STATION KID-TV, IDAHO FALLS, IDAHO

OPERATOR OF CHANNEL 3

Channels allocated to community: 3, 8.
VHF stations operating in community: Channel 3.
UHF stations operating in community: None.
Channels applied for: None.
Channels contested: None.
Construction permits outstanding: Channel 8.

[Telegram]

IDAHO FALLS, IDAHO, June 3, 1954.

PIERSON & BALL,
Washington, D. C.:

Please be advised that KID-TV will firmly support every effort to prevent any change in the present VHF allocation structure. One-half million dollars has been invested in an operation that would provide television service to the people of southeastern Idaho. To accomplish this it became necessary to locate 32 miles west of Idaho Falls atop a mountain 6,600 feet above sea level in a centrally located spot so that the 220,000 people within 110-mile radius might be served economically. Two hundred thousand people is small to support TV—we must have them all. To my knowledge there are no UHF sets here, as KID-TV is the only station now serving this area. If VHF is eliminated, a large number of these people would never have television. It appears we could not meet FCC engineering standard for our two primary markets of Idaho Falls and Pocatello.

C. N. LAYNE, *General Manager, KID-TV.*

ROCK ISLAND BROADCASTING CO., STATION WHBF-TV, ROCK ISLAND, ILL.

OPERATOR OF CHANNEL 4

Channels allocated to community: 4, 6, 42. (Davenport-Rock Island-Moline.)
VHF stations operating in community: Channels 4, 6.
UHF stations operating in community: None.
Channels applied for: None.
Channels contested: None.
Construction permits outstanding: None.

STATEMENT OF LESLIE C. JOHNSON, VICE PRESIDENT AND GENERAL MANAGER,
ROCK ISLAND BROADCASTING CO.

GENTLEMEN: WHBF-TV began operations July 1, 1950, marking the on-the-air culmination of 18 months to 2 years of work and worry as to:

(1) Where were we going to get the money to sustain the heavy losses which we envisaged?

(2) How long would we have to operate at a loss before the break-even point and profit phase (if any) would be reached?

(3) How could a market as small as this one, internally, support two television stations?

(4) When would we secure network service, live or film, and how much would there be—how big would be the program gaps to fill, and with what—and at what cost?

(5) When would the telephone company put through its micro relays or coax so as to bring us live network service?

(6) How were we going to get materials—such as steel, then scarce—in time to meet the FCC deadline for beginning operations?

Our story is simple. We debated long and seriously before making the decision to proceed in television. As a radio station, ours had never been a big moneymaker. For 8 years, after acquiring the radio station in 1932, we lost money every year—due to our effort to give better radio service to this community under the constant policy of being a paying and active member of the business fraternity in our city and county. In the 8th year, 1939, we sustained our heaviest loss.

However, despite these annual operating losses, we plowed much money into better equipment, more power, better quarters, and better service for more capable and numerous personnel. We had no network service or affiliation for 7 of these years, or until January 1, 1939, at which time Mutual gave us a contract. Until then we had made numerous approaches to the then existing networks in an attempt to negotiate a contract. We felt sure that if we had a network affiliation and good program service on a competitive level, we would soon be in the black—or at least in a good fighting position to sooner attain this long-sought objective.

Under the Mutual contract, we agreed to pay the line costs, amounting to approximately \$10,000 for the year, without any guarantee of network revenue—only an assurance of network sustaining program service. The gamble was ours but we were glad to take it. In that first year we were able to recoup about half of our line costs in paid network programs which, with the most rigid economy in operations consistent with good public service, saw us in the black for the first time in 9 years.

All this is a prelude to our advent into television—an event which forced us to forego for the time being a plan to really promote and program FM for a period of at least 2 years, in which we felt it could be determined whether FM would or could be profitable.

When we decided to go into television, we had \$50,000 tucked away from radio operations. (This after recouping our losses in the first 8 years of radio operations.) On the basis of the experience of others already in television, this amount of money seemed pitifully inadequate.

Frankly, we were scared—but determined, because we believed television was an advance in the art of broadcasting; and as broadcasters, we should either get into television or sell our radio station to someone who had the courage, foresight, and money to bring this service to our community. We had faith, so we mortgaged our future as well as all our assets to enter this new but compatible field.

Let it be noted that not once in our efforts to make radio broadcasting profitable, or in our consideration of entering television, did we consider:

(1) Coming to the FCC with an appeal for help in an attempt to force a network affiliation; or

(2) Running to our Congressman or Senators or Congress crying for subsidy or preferential treatment when the going got rough.

We had studied the matter carefully and determined upon our policy. We felt that we had estimated as well as we could the risks involved, and that we had prepared for those risks. If our judgment was faulty, we had no one to blame but ourselves; and no matter how bitter the medicine might be, we were prepared to take it.

That the resolve and decision proved sound to date cannot be charged against us as a fault or as a desire to monopolize television operations or channels in

our community. At the time, three VHF channels were available in the Quad Cities. Anyone who could meet the FCC requirements as did we and WOC-TV, Davenport, could have secured the additional VHF channel, very likely without a contest. As it looks now—after nearly 4 years of operation—a third TV channel in this market, either VHF or UHF, would be economically hazardous indeed.

On the basis of present costs and business potential, the market, although a good one, would not, in our opinion, profitably support three strong stations. One would be hanging on and the other two would be hurt. The public interest would not, therefore, be well served.

A condition such as the present is one which we believe to be substantially economic and not subject to solution by an attempt of Government to regulate business or free competitive enterprise. Only future growth of our communities holds the answer.

The situation is not a new one. Newspapers faced it for years. Not so many years ago, cities of the size of ours had two or more newspapers; and the total number in the Nation was far in excess of what it is today. Failures, mergers, and sales brought the number of daily newspapers down to what their communities could support, and, in doing, brought out the strongest possible managements and soundest public policies. The result is that the public is better served today, with fewer but economically sound newspapers, than ever before in the Nation's history.

In the war of economic attrition which all business must face under our free-enterprise system, the newspapers which failed or had to quit did not rush to the Government asking for help so that they could continue at the expense and weakening of their competition. They took the calculated risk—and the result—in the traditional American way.

As it happened, while WHBF-TV had only a short period of loss before breaking even and then into the profit phase, we had no assurance whatever that this might occur so soon, if at all, when we entered the field.

The opportunity to get in was open to all; but it was not until profits—big profits—materialized for the early pioneers who faced and survived staggering initial financial losses, that the rank and file swarmed to get on the bandwagon.

Because the picture has faded under the onslaught of added competition and rapidly rising costs—and, indeed, is gone completely for many—there has been a rising clamor for help from the FCC and the Government to the end that the weak be kept economically alive through other than their own abilities and resources and capacities.

Mark you, there has been no public clamor—the noise is coming from the operators.

WHBF-TV has moved steadily forward until as of now we have more than a million dollars in our radio-television investment. We face and have prepared to make additional investment this year and next of from one-quarter to half a million dollars in equipment necessary for color, plus improvement in our present facilities. This is a conservative estimate.

The Quad City market on a national basis is rated as the 82d in size populationwise. It is an important industrial and defense center. In sales it ranks high; in effective buying income it ranks high and above the national average. It is the farm-implement manufacturing center of the world.

The two VHF stations serving this market on channels 4 and 6 are operating with 100 kilowatts and delivering an excellent signal and service in this area. Reliable survey sources and distributors estimate that our two stations adequately serve 262,000 television homes. With the best programs of all 4 networks available to viewers during operations carried on for nearly 5 years, virtually all of the receivers in this market area are VHF. No UHF stations place a signal into this area sufficient to cause a demand for UHF receivers or converters, with the result that here you find but very few so equipped and virtually no demand, according to the retailers and distributors of TV receiving sets.

More VHF upstairs would work a severe economic hardship on these thousands who now are happy with their television service; and from our experience as to their reaction when this service is curtailed or interrupted—from whatever cause—the FCC and Congress would be deluged with burning missives from outraged citizens in a veritable killing frame of mind. We would shrink from being on the receiving end of the clamor thus precipitated. It would make the present illusionary UHF operators' gale seem by comparison only a soft and whispering breeze.

If the present VHF industry is to be moved bodily from one sphere to another, then it is up to Government to foot the bill, paying all involved—operators and set owners—the full amount of their investment, plus damages, if any, which occur as a result of such a wholesale displacement. That is only fair, because the mistake, if any was made by Government—certainly not by the operators who have complied with the FCC regulations and requirements, and the people, who have proceeded enthusiastically and lovingly to embrace television, having faith in those who have provided it—both Government and private enterprise.

The present situation, we are convinced, will right itself if permitted to proceed along democratic, free enterprise lines—just as has been the history of radio and all other business. The people will be served—and those who have the ability and facilities will serve them—if left alone by other than fair rules of the game.

The engineering brains of the electronic industry will evolve ways and means so that the public demand is met, in all parts of the country, without subsidies or protection or preferential treatment to those who through mistaken judgment or limited abilities and experience, or both, seem to feel that they should be maintained in business despite economic realities and at the expense of those who had the courage and willingness to pioneer in the field.

After all, who is complaining and raising all the hubbub? Certainly not the public. Let us not be carried away by the clamor of the few who are not crying out in behalf of the people, but rather because of their own economic plight and selfish interests.

CENTRAL BROADCASTING Co., STATION WOC-TV, DAVENPORT, IOWA

OPERATOR OF CHANNEL 6

Channels allocated to community:

(Davenport-Rock Island-Moline) : 4, 6, 12.

VHF stations operating in community : Channels 4, 6.

UHF stations operating in community : None.

Channels applied for : None.

Channels contested : None.

Construction permits outstanding : None.

STATEMENT OF CENTRAL BROADCASTING Co., DAVENPORT, IOWA

The Central Broadcasting Co., licensee of WOC-TV, Davenport, Iowa, wishes to go on record as opposing proposals made by UHF group to eliminate or change present VHF-UHF plan.

WOC-TV, Davenport, Iowa, went on the air in October 1949, the first station in its area. Receiver population was an estimated 400. Since no live interconnected network was available, program resources were limited to what could be produced locally, plus film and kinescope service that could be purchased from suppliers or provided by network. Lack of live network interconnection had effect of slowing down growth of set population as compared with cities with live network.

Economic support of station during first 18 months of operation was very slow, and station experienced an operating loss of approximately \$200,000 during that period. Initial investment in studios and equipment amounted to more than \$600,000.

Further difficulties were incurred when reallocations of channels by FCC caused change from channel 5 to channel 6. Cost of this changeover, combined with increase to maximum power, required an outlay of an additional \$300,000.

Any reduction or limitation of coverage area would seriously and adversely affect this station's operation and service in the public interest.

We estimate that at least 25 percent of the area's sets or more than 66,000 would be obsolete with advent of exclusive UHF transmission. If all remaining sets were converted, cost would be \$40 to \$60 per set or total of \$6 million. Also, it would take 5 years or more for the UHF stations to deliver service to 265,000 homes now receiving the WOC-TV picture.

Respectfully submitted.

RALPH EVANS,
Executive Vice President.

HUTCHINSON TV, INC., STATION KTVH, HUTCHINSON, KANS.

OPERATOR OF CHANNEL 12

Channels allocated to community: 12, 18.
 VHF stations operating in community: Channel 12.
 UHF stations operating in community: None.
 Channels applied for: None.
 Channels contested: None.
 Construction permits outstanding: None.

[Telegram]

HUTCHINSON, KANS., June 1, 1954.

PIERSON & BALL,
 Washington, D. C.:

This is response to a wire from Bartlett, Harris, Reinsch, and Sugg and others requesting information regarding our situation. This does not designate your firm to represent us in any way but you are privileged to use this information in Potter subcommittee hearings if applicable.

KTVH was constructed under the FCC rules. Such rules permitted a base of 200,000 homes within its 1 millivolt contour. From that point on, the transmitter location, size and equipment of studio, height of tower, transmitter power, and all other factors of the facility were gaged to provide maximum service permitted. Restrictions not known or contemplated at time of grant, which are placed subsequently on our facility would definitely damage and injure our station, its service and its many viewers, and would irreparably injure and damage our stockholders who invested their money to provide television for the people of central Kansas.

Television operations are expensive whether they are UHF or VHF. Each station must serve a sufficient number of homes to justify the investment and the operating overhead. It is our opinion that we serve the minimum number sufficient for a proper television operation.

Situation in regard to UHF and VHF in this State was revealed in November 1 survey by Nielsen. As of that date only 9 percent of the homes in television counties could receive UHF signals; but 37 percent could receive VHF signals.

It must be clearly understood that a market such as ours in central Kansas must cover much more geography than stations where there are many metropolitan centers close together. Almost two-thirds of the KTVH coverage potential is located in small towns and on farms. In our opinion these communities are far too small to afford television of any description and therefore they are dependent upon VHF signals for their television.

Building a television station in a minimum-sized market is difficult and expensive and success and proper service are possible only if our station continues on its present course. Any restrictions upon it for coverage, power, etc., would, in effect, be punitive.

HUTCHINSON TV, INC.,
 W. D. P. CAREY, *President*,
 HOWARD O. PETERSON, *General Manager*.

THE RADIO STATION KFVH Co., WICHITA, KANS.

APPLICANT FOR CHANNEL 3

Channels allocated to community: 3, 10, 16, 22.¹
 VHF stations operating in community: None.
 UHF stations operating in community: Channel 16.
 Channels applied for: Channel 3.
 Channels contested: Channel 3.
 Construction permits outstanding: Channel 10.

¹ Reserved for noncommercial educational use.

The radio station KFH Co. of Wichita, Kans. is an applicant for the VHF channel 3. VHF channel 10 and UHF channel 16 are also assigned to Wichita. This company owns and operates KFH, a regional AM station, which just celebrated its 32d anniversary. It also owns and operates KFH-FM which is soon marking its sixth anniversary.

This company in the early days of operating the AM station, endured financial losses, whereas had it been a clear channel outlet profits would have been assured; however, typical American enterprise and business ingenuity prevailed and losses were turned into profits. This company has been operating an FM station for almost 6 consecutive years, 19 hours every day. To date our FM station is a complete financial failure but we regard this as our responsibility and we are not seeking relief from any senatorial group. We believe that we still might find a solution to our FM dilemma just as we did for our AM property in the early thirties. We do not believe that the solution to our FM problem is to shift all AM station assignments into the FM band, nor do we contend that some sections of the country should be assigned all AM channels and some sections all FM channels. We were assigned an FM license by the FCC for the express purpose of rendering a public service with the hope of financial reward. We assumed completely all financial and programing risks. No one guaranteed FM network program service at a profit.

This company decided to enter the television field in the summer of 1948 but before the application could be finalized we were caught in the freeze. Upon the issuance of the revised allocation plan this company decided to take the longer and the more expensive route into television by applying for the more sought after and proved VHF facility rather than the untried UHF channel because it was patent to our business judgment that the VHF channel incurred fewer financial risks. Every AM, FM and TV broadcaster knows that given the opportunity to serve a larger number of people, and by rendering a better service, attracts more advertisers. Many advertisers use network service and the networks wanting to serve their advertisers best, choose that station which reaches the largest audience. However, as a channel 3 applicant, we have not been guaranteed network service nor has any network official even implied to us that we could expect service. No one has guaranteed to us that we will make a profit. In fact, if we are fortunate enough to be awarded a VHF license, we anticipate a substantial loss for our first period of telecasting. These are normal business risks which we are willing to assume. We have invested many thousands of dollars in our TV hearing for a VHF channel. This, too, is a normal business risk, but a little out of the ordinary. However, a new freeze on VHF assignments or a new reallocation plan simply for the purpose of affording financial or programing relief to a few UHF broadcasters would create for this company an unfair burden. Let American ingenuity prevail for the ultimate solution of the problems of the UHF broadcasters.

FRANK V. WEBB,
Vice President and General Manager.

WAVE Inc., STATION WAVE-TV, LOUISVILLE, KY.

OPERATOR OF CHANNEL 3

Channels allocated to community : 3, 11, 15¹, 21, 41, 51.
VHF stations operating in community : Channels 3, 11.
UHF stations operating in community : None.
Channels applied for : None.
Channels contested : None.
Construction permits outstanding : Channels 21, 41.

STATEMENT OF NATHAN LORD, OF LOUISVILLE, KY.

I am and have been during the periods herein mentioned, the executive vice president of WAVE, Inc., Louisville, Ky.; WAVE, Inc. began telecasting in Louisville, Ky., on November 24, 1948, on channel 5 pursuant to authority of the Federal Communications Commission; at that time the best estimate obtainable indicated there were no more than 2,000 television sets capable of receiving signals from WAVE-TV.

¹ Reserved for noncommercial educational use.

WAVE, Inc. sustained an operating loss on its telecasting operations for the year 1948 in the amount of \$65,306; for the year 1948 WAVE, Inc. spent \$275,173 for technical equipment used in its television operations.

During the year 1949, WAVE, Inc. lost \$74,744 on its television operations and spent an additional \$88,712 on property used in its television operations.

For the first 5 months of the year 1950 WAVE, Inc., lost \$2,681 on its television operations; over the first 18 months' period of its operation the number of television sets capable of receiving its signal had increased to 34,000.

During the initial 18 months' period of loss, WAVE, Inc. relied heavily on local sports programs and other local originations rather than on network programs although for a major portion of that time WAVE, Inc. was affiliated with four networks; that a report furnished the Commission after its 1949 operations indicated that only 25.94 percent of its total broadcast time or the period covered by that report was serviced by network commercial and sustaining programs.

At the end of May 1954, there were estimated to be 386,791 television sets capable of receiving its signal; any change in the present allocations of wavelengths or reallocation would seriously affect its present viewers adversely and therefore would not be in the public interest; any change in the present rules relating to network affiliation would seriously affect the quality of its present program service and would therefore not be in the public interest.

For the reasons hereinabove set forth, he opposes any proposals which might directly or indirectly affect televiewers in the WAVE-TV present service area by degrading or reducing the service presently available to 386,791 set owners.

He opposes any change in the basic economic pattern (private enterprise) by way of subsidy or other governmental assistance because he believes such would not be in the public interest nor would conform to the United States system of free enterprise.

He favors any reasonable proposals which would aid in the production and distribution of television sets, and any technological developments by way of booster stations or other methods of improving service.

STATEMENT OF CALCASIEU BROADCASTING CO., LAKE CHARLES, LA.

PERMITTEE OF CHANNEL 7

Channels allocated to community: 7, 19,¹ 25, 60.
 VHF stations operating in community: None.
 UHF stations operating in community: Channel 25.
 Channels applied for: None.
 Channels contested: None.
 Construction permits outstanding: Channel 7.

CALCASIEU BROADCASTING CO.,
 Lake Charles, La., May 31, 1954.

PIERSON & BALL,
 Washington, D. C.

GENTLEMEN: We have been advised that an informal group composed of prominent telecasters have employed your firm to represent them in connection with the Potter hearings, the Senate subcommittee investigating UHF problems.

We are most anxious to join with these gentlemen in opposing the elimination of intermixture of VHF and UHF: the allocation of all television stations to the UHF band exclusively and the imposition of any freeze upon application proceedings or upon the issuance of operating authority already granted and the reduction and limitation of the coverage areas of VHF stations.

The FCC granted to our company a construction permit for the building of a VHF television station on channel 7 in Lake Charles. We have already purchased our equipment and, with the exception of the antenna itself, practically 95 percent of the equipment is on hand. A self-supporting tower with an overall height, including antenna, of 474 feet has been purchased and the tower is in the process of being delivered this week; pouring of the foundations for this tower will start within the next day or so. This, coupled with the fact that we purchased property at a cost of \$75,000 and have entered into a contract

¹ Reserved for noncommercial educational use.

for the remodeling of this property, work on which has already started, in an amount which will exceed \$80,000, would make our position untenable, should the FCC eliminate the intermixture of UHF and VHF stations since there is now a UHF station operating in Lake Charles, as well as the imposition of any freeze which would in any way prevent us from carrying out the contracts which we have made and which are in effect and being fulfilled at this time.

Any action which might be taken by the United States Senate or FCC which would have the effect of stopping or holding up the construction of our VHF station on channel 7, construction permit for which has been previously granted by the FCC, would have a disastrous effect financially on our company, as well as result in many viewers throughout this area being unable to get grade A television service. We have spent, or obligated our company to spend, approximately half a million dollars to carry out this construction permit granted by the FCC and we most certainly hope that no action will be taken by the Senate subcommittee which would in any way hold up construction as has been previously authorized by the FCC.

Yours very truly,

DAVID WILSON.

STATEMENT OF WDSU BROADCASTING CORP., STATION WDSU-TV, NEW ORLEANS, LA.

OPERATOR OF CHANNEL 6

Channels allocated to community: 4, 6, 8,¹ 20, 26, 32, 61.

VHF stations operating in community: Channel 6.

UHF stations operating in community: Channel 61.

Channels applied for: Channel 4.

Channels contested: Channel 4.

Construction permits outstanding: Channels 20, 26, 32.

STATEMENT OF WDSU BROADCASTING CORP.

WDSU-TV began its air operations on channel 6 on December 18, 1948, as the first television station in the city of New Orleans, in the State of Louisiana, and also in the 4-State area of Louisiana, Mississippi, Alabama, and Arkansas.

The present owners of the WDSU properties acquired the AM and FM stations in New Orleans from E. A. Stephens, Fred Weber, and H. G. Wall in November 1948. Among the assets and liabilities acquired with AM and FM properties was a construction permit for television channel 6. Mr. Weber has testified in this hearing as the ex-operator of UHF channel 46 in Atlantic City, N. J., which station went off the air in May of 1954.

At the time WDSU-TV began operations, there were only 47 other television stations on the air in the entire country, and approximately 1 million receiving sets were in the hands of the American people; most of them in New York, Chicago, Los Angeles, and other cities where television was at least 2 or 3 years old. There was at that time considerable doubt as to how soon, if ever, telecasting would become a profitable business.

The WDSU-TV management had estimated that its television station would probably have to operate at a loss for a period as long as 5 years. It is noteworthy that construction permits issued for channels 4 and 7 in New Orleans in January 1947 and January 1948, respectively, were surrendered by their holders in 1949, rather clearly indicating that they too viewed a venture into television at that time as a very dubious business risk.

From the very beginning of its operation, WDSU-TV faced a hard battle on several fronts. It had virtually no program material; a program schedule for the week of December 19, 1948, is attached and marked exhibit A. The increase in the number of receiving sets was painfully slow, as indicated by the circulation figures compiled by New Orleans Public Service, Inc., on the list attached and marked exhibit B. It was extremely difficult to interest either local or network advertisers in purchasing a facility with so little circulation, even at the pitifully low rate of \$100 per hour. It was also slow and painstaking work to assemble and train a competent staff for the operation and management of the station in an area where television was virtually unknown.

¹ Reserved for noncommercial educational use.

For the year ending December 31, 1949, the losses on WDSU-TV were \$243,898.58; for the following year, they were \$116,333.07. For the year 1951 and thereafter, the television operations have shown a profit. The station has been affiliated with all four national networks, and has carried network programs originated by each of them. In addition to its commercial and sustaining network traffic, the station has carried a large number of locally produced live and film programs on both a sustaining and a commercial basis. A copy of its current program schedule is attached and marked exhibit C.

In November of 1953, a UHF station, WJMR-TV, commenced its operation in New Orleans on channel 61. That station is presently broadcasting some of the network programs hitherto broadcast by WDSU-TV, other network programs not previously seen in the New Orleans market, and various local programs, primarily on film. The set circulation figures attached as exhibit B indicate that as of the present time there are in the New Orleans area 45,966 sets capable of receiving the UHF signal. Subtracting these from the total estimated by New Orleans Public Service to be in the WDSU-TV area, there remain 208,518 sets which rely upon WDSU-TV for television service.

In addition to channels 6 and 61, the FCC has also allocated to New Orleans VHF frequencies 4 and 8, and UHF frequencies 20, 26, and 32. Channel 8 has been reserved for educational purposes. Channel 4 is involved in a contest among three applicants. Construction permits were granted without contest to applicants for channels 20, 26, and 32; thus far we have received no information that any of the grantees have proceeded with construction.

The owners of WDSU-TV are solely engaged in the business of radio and television broadcasting. They have made a close study of the television channels available in communities in the Deep South, with a possible view of engaging in other operations in certain of those communities. In this connection it has been incumbent upon them to make a thorough investigation of the relative desirability of UHF and VHF facilities. By and large, they have concluded that at the present time UHF is not equally competitive with VHF with respect to the efficacy and coverage of its signal, the availability of comparably developed transmitting and receiving equipment, and with respect to its relative attractiveness to advertisers.

We are inclined to view that time will cure, in very large measure at least, these relative deficiencies. We also believe that there are certain existing situations in which a UHF operation can be successful. For example, the only investment which we have thus far concluded in a radio and television operation other than that in New Orleans is the purchase of approximately 20 percent of the Modern Broadcasting Co., which operates a radio station (WAFB) and UHF television station (WAFB-TV, channel 28) in Baton Rouge. At the present time, and for well over a year now, WAFB-TV has been the only television station operating in Baton Rouge. There is one VHF channel allocated to that city. In the circumstances, it appears that there will be sufficient television business to accommodate two stations, and we are inclined to believe that WAFB-TV is entitled to anticipate securing a sufficient percentage of the volume of business to sustain a profitable operation.

As we have indicated above, any investment in television made as of 5 or more years ago was subject to such great uncertainty that very little risk capital was available for that purpose. As soon as some of the earlier operations began to show profits, however, a new and unbounded optimism developed about the future of television. Many people rushed to make application in situations where any thorough scrutiny of the technical and economic issues involved would have restrained them. The relative difficulties of operation in the ultrahigh frequencies was apparent to all who had made any study of it. One had also only to look at the operations in multiple-station markets such as New York, Los Angeles, Chicago, and Atlanta to determine that there were apparently very few cities in the country which could profitably sustain more than three television stations regardless of whether these operations were in the very high or ultrahigh frequencies.

As we look forward into the future, we are convinced that, because of the large capital investments involved in television operations, enhanced as they soon will be by investments in color equipment, the number of television stations which will ultimately survive will be in hundreds rather than thousands, the total probably roughly comparable to the number of daily newspapers. We believe that in none but the largest metropolitan markets will there be more than three stations, and that a total of six or seven hundred stations will be all that can survive economically. Natural limitations of program resources and advertis-

ing revenues will, in our opinion, necessarily bring about this result. It is significant to note that a single television network produces each year many times the number of clock-hours of entertainment produced by the entire motion-picture industry. The number of new shows appearing on Broadway each year could not program a single network for a week.

If our prediction is correct, there will undoubtedly be many television operations in both the very high and ultrahigh frequencies which will, in the natural course of things, be unable to sustain themselves. This is a necessary characteristic of free competition. It is our frank opinion that any attempt, however well meaning, artificially to support a system, the elements of which cannot sustain themselves in free competition would, ultimately adversely affect the public interest.

Respectfully submitted.

ROBERT D. SWEZEY,
Executive Vice President.

EXHIBIT A

- | | | | |
|--|--|------------------------------------|--|
| Dec. 19, Sunday: | | Dec. 23, Thursday: | |
| 2:00 Holy Cross versus Loyola of Baltimore (City Park) (c) | | 6:30 Patterns in Music | |
| 6:15 Patterns in Music | | 6:50 Coming attractions | |
| 6:30 Allen Dale (c) (sof) | | 7:00 Hollywood Screen Test (sof) | |
| 6:45 Disney News (c) (sof) | | 7:30 Pat Tobin (c) | |
| 6:55 Music Soundy (sof) | | 7:45 Newsreel (c) | |
| 7:00 Philco Playhouse (sof) (c) | | 7:55 Local news | |
| 8:00 Te'news (c) (sof) | | 8:00 Prelude to Victory (sof) | |
| 8:20 Roving Camera (sof) | | 8:45 Sportbeams (c) (sof) | |
| 8:30 Korda film (c) (sof) | | 9:00 American's Town Meeting (sof) | |
| 9:00 Korda film (c) (sof) | | 10:00 Sine | |
| 10:00 Sine | | Dec. 24, Friday: | |
| Dec. 20, Monday: | | 5:30 Holmes Carolers (remote) (c) | |
| Off | | 6:30 Patterns in Music | |
| Dec. 21, Tuesday: | | 6:50 Coming attractions | |
| 6:30 Patterns in Music | | 7:00 Howdy Doody (sof) | |
| 6:50 Coming attractions (slides—live announcer) | | 7:30 Pat Tobin (c) | |
| 7:00 Air Power—Peace Power (sof) | | 7:45 Newsreel (c) | |
| 7:30 Pat Tobin (c) | | 7:55 Local news | |
| 7:45 Newsreel (c) (film—live announcer and music) | | 8:00 Doorway to Fame (c) (sof) | |
| 7:55 Local news (stills—live announcer) | | 8:30 Singing Lady (sof) | |
| 8:00 Actor's Studio (sof) | | 9:00 Xmas show (Jax) (sof) | |
| 8:30 Gay Nineties Revue (sof) | | 9:15 Child's World (sof) | |
| 9:00 Amateur Hour (sof) | | 9:30 Fashions on Parade (sof) | |
| 10:00 Sine | | 10:00 Sine | |
| Dec. 22, Wednesday: | | Dec. 25, Saturday: | |
| 6:30 Patterns in Music | | 3:00 Horse Races (c) | |
| 6:50 Coming attractions | | 4:00 | |
| 7:00 On Trial (sof) | | 6:30 Patterns in Music | |
| 7:30 Pat Tobin (c) | | 6:50 Coming attractions | |
| 7:45 Newsreel (c) | | 7:00 Club Seven (sof) | |
| 7:55 Local news | | 7:30 Pat Tobin (c) | |
| 8:00 Meet the Boss (live camera) | | 7:45 Newsreel (c) | |
| 8:15 Woman Speaks (sof) | | 7:55 Local News | |
| 8:25 TV Closeups (sof) | | 8:00 Cartoon Teletales (sof) | |
| 8:30 Winkie Watchman (sof) | | 8:30 Feature Western (sof) | |
| 8:40 Crossword Quiz (live camera) | | 9:30 Critic at Large (sof) | |
| 9:00 Court of Current Issues (sof) | | 10:00 Sine | |
| 10:00 Sine | | | |

EXHIBIT B
TV set installations

Period ending	Total sets metropolitan New Orleans	Total sets overall WDSU-TV coverage area	Total sets UHF equipped and converted
Oct. 31, 1949	8,069		
Dec. 31, 1949	14,300		
Dec. 31, 1950	47,176		
Dec. 31, 1951	78,377		
Dec. 31, 1952	149,721	157,084	
Dec. 31, 1953	188,140	235,077	34,711
Apr. 30, 1954	196,927	254,484	45,966

Source: New Orleans Public Service, Inc.

NEW ORLEANS PUBLIC SERVICE, INC.,
New Orleans, La., May 24, 1954.

Mr. ROBERT D. SWEZEY,
Executive Vice President,
WDSU Broadcasting Services, New Orleans, La.

DEAR BOB: During the month of April, 4,479 television receivers were sold in the area served by WDSU-TV (including 1,893 sets sold by dealers in the New Orleans area) bringing the total number of sets sold as of May 1 to 254,484.

Of the number of sets sold in the New Orleans area during April, 1,893 are equipped to receive UHF, bringing the total number of sets equipped to receive UHF as of May 1 to 27,237.

Tuners and channel 61 strips reported sold by these sources during the month of April total 705.

This report does not include UHF receivers or conversion equipment sold outside the New Orleans area.

UHF summary

Number of UHF-equipped receivers reported sold to date----- 27,237
 Number of UHF tuners and strips reported sold to date----- 18,729
 Total----- 45,966

Sincerely,

E. N. AVEGNO, Dealer Sales Manager.

EXHIBIT C

WDSU-TV—Channel 6, New Orleans—Weekly program schedule No. 23—
May 30, 1954

[See footnote for symbols]

SUNDAY

9:45 Test pattern and tone
 10:05 Morning prayer----- XET.
 10:10 World news----- XB.
 10:15 The Christopher program----- F.
 10:30 This is the Life----- F.
 11:00 Trinity Church----- Rem.
 12:00 The Work Shop (part)----- LS.
 12:30 Holmes and Gardens (D. H. Holmes)----- LSXB.
 1:30 Aristo Blue (Aristo-Blue Chinchillas)----- FXB.
 1:45 Art Linkletter and the kids (General Baking Co.)----- F.
 2:00 You Are There (Electric Co. advertising program)----- CBS/K.
 2:30 Zoo Parade----- NBC/CA.

872 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

WDSU-TV—Channel 6, New Orleans—Weekly program schedule No. 23—
May 30, 1954—Continued

SUNDAY—continued

3:00	Hallmark Playhouse (Hallmark Cards)-----	NBC/CA.
3:30	Kukla, Fran and Ollie (Swift & Co.)-----	NBC/CA.
4:00	Tulane Closeup-----	LS.
4:30	Wild Bill Hickok (Kelloggs)-----	F.
5:00	Cheer Television Theater (P. & G.)-----	NBC/CA.
5:30	Mr. Peepers (Reynolds Metals Co.)-----	NBC/CA.
6:00	Comedy Hour (Colgate)-----	NBC/CA.
7:00	Television Playhouse (Philco)-----	NBC/CA.
8:00	The Loretta Young Show (P. & G.)-----	NBC/CA.
8:30	Crown Theater (Kirschman's)-----	FLS.
9:00	Home Town Rhythm (D. H. Holmes)-----	LS.
9:15	WDSU-TV Newscast (Consolidated Companies)-----	FLS.
9:30	Eversharp Theater (Eversharp)-----	F.
10:00	Ozzie and Harriet (Lambert Pharmcal Co.)-----	F.
10:30	G. E. Theater (General Electric)-----	CBS/K.
11:00	Make Room for Daddy (Lucky Strike)-----	F.
11:30	Badge No. 714 (Formula No. 9)-----	F.
12:00	Feature movie-----	F.
1:00	Nitecap news and sports results-----	XBET.
1:10	Prayer for peace-----	XET.

MONDAY

5:55	Agriculture news-----	XB.
6:00	Today (various network sponsors)-----	NBC/CA.
7:00	Today (various network sponsors)-----	NBC/CA.
7:25	Today in New Orleans-----	FLSXB.
7:30	Today (various network sponsors)-----	NBC/CA.
7:55	Today in New Orleans-----	FLSXB.
8:00	Ding Dong School-----	NBC/CA.
8:30	One Man's Family-----	NBC/CA.
8:45	Three Steps to Heaven (P. & G.)-----	NBC/CA.
9:00	Home (various network sponsors)-----	NBC/CA.
10:00	Bride and Groom (Jergens)-----	NBC/CA.
10:15	Hawkins Falls-----	NBC/CA.
10:30	Search for Tomorrow (P. & G.)-----	NBC/CA.
10:45	The Guiding Light (P. & G.)-----	CBS/CA.
11:00	Garry Moore (Kelloggs)-----	CBS/K.
11:45	Garry Moore (Hoover)-----	CBS/K.
11:30	Strike It Rich (Colgate)-----	CBS/K.
12:00	News at Noon-----	LS.
12:05	Our House (part)-----	LS.
12:30	New Orleans Cookbook (part)-----	LS.
1:00	The Big Payoff (Colgate)-----	CBS/CA.
1:30	Kate Smith-----	NBC/CA.
1:45	Kate Smith-----	NBC/CA.
2:00	Welcome Travelers (P. & G.)-----	NBC/CA.
2:30	On Your Account (P. & G.)-----	NBC/CA.
3:00	Love of Life (American Home Products)-----	CBS/CA.
3:15	Shadow Stumpers (part)-----	LS.
3:30	Howdy Doody (Standard Brands)-----	NBC/CA.
3:45	Howdy Doody (Standard Brands)-----	NBC/CA.
4:00	Bayou Bill (Minute Maid)-----	LS.
4:15	Garry Moore (Norge)-----	CBS/K.
4:30	Kelner's Korner (part)-----	LS.
4:45	Movie Quick Quiz (Holsum)-----	FLS.
5:00	Johnny Mac Brown (Gold Seal)-----	FLS.
5:30	The Tony Martin Show (Toni)-----	NBC/CA.
5:45	Camel News Caravan (Camels)-----	NBC/CA.
6:00	Name That Tune (Block Drug Co.)-----	NBC/CA.
6:30	Voice of Firestone (Firestone)-----	NBC/CA.
7:00	Mr. District Attorney (Carter Products)-----	F.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 873

WDSU-TV—Channel 6, New Orleans—Weekly program schedule No. 23—
May 30, 1954—Continued

MONDAY—continued

7:30	Robert Montgomery Presents the American Tobacco Theater (Lucky Strike).	NBC/CA.
8:30	Famous Playhouse (R. G. Lafaye & Co., food brokers)	FLS.
9:00	Esso Reporter (Esso)	FLS.
9:15	President Eisenhower speech	CBS/CA.
10:00	I Love Lucy (Philip Morris)	CBS/F.
10:30	Do You Know Why? (Pan Am)	F.
10:35	Harmony Hall (part)	LS.
11:00	Weather Tower (Shell Oil Co.)	LS.
11:05	Leavitt's Scoreboard	LS.
11:15	Studio One (Westinghouse)	CBS/K.
12:15	Nitecap News and Sports Results	XBET.
12:25	Prayer for Peace	XET.

TUESDAY

5:55	Agriculture News	XB.
6:00	Today (various network sponsors)	NBC/CA.
7:00	Today (various network sponsors)	NBC/CA.
7:25	Today in New Orleans	FLSXB.
7:30	Today (various network sponsors)	NBC/CA.
7:55	Today in New Orleans	FLSXB.
8:00	Ding Dong School	NBC/CA.
8:30	One Man's Family	NBC/CA.
8:45	Three Steps to Heaven (P. & G.)	NBC/CA.
9:00	Home (various network sponsors)	NBC/CA.
10:00	Bride and Groom	NBC/CA.
10:15	Hawkins Falls	NBC/CA.
10:30	Search for Tomorrow (P. & G.)	CBS/CA.
10:45	The Guiding Light (P. & G.)	CBS/CA.
11:00	Gary Moore (Swift & Co.)	CBS/K.
11:15	Ask the Doctor (Maison Blanche)	LS.
11:30	Strike It Rich (Colgate)	CBS/K.
12:00	News at Noon	LS.
12:05	Our House (part)	LS.
12:30	New Orleans Cookbook (part)	LS.
1:00	Holmes Ladies Journal (D. H. Holmes)	LS.
1:30	Kate Smith	NBC/CA.
1:45	Kate Smith (Dow Chemical Co.)	NBC/CA.
2:00	Welcome Travelers (P. & G.)	NBC/CA.
2:30	On Your Account (P. & G.)	NBC/CA.
3:00	Love of Life (American Home Products)	CBS/K.
3:15	Magie Tree	LS.
3:30	Howdy Doody (Kelloggs)	NBC/CA.
3:45	Howdy Doody (Colgate)	NBC/CA.
4:00	Garry Moore (Seeman Bros.)	CBS/K.
4:15	Garry Moore (Best Foods)	CBS/K.
4:30	Maggie and Me (part)	LS.
4:45	Movie Quick Quiz (part)	FLS.
5:00	Mrs. Muffin Birthday Party (part)	LS.
5:30	Dinah Shore (Chevrolet)	NBC/CA.
5:45	Camel News Caravan (Camels)	NBC/CA.
6:00	Bob Hope (General Foods)	NBC/CA.
7:00	Fireside Theater (P. & G.)	NBC/CA.
7:30	Top Shows of 1954 (Helene Curtis Ind.)	NBC/CA.
8:00	Truth or Consequences (Old Gold)	NBC/CA.
8:30	Budweiser Theater (Budweiser)	FXB.
9:00	Esso Reporter (Esso)	FLS.
9:15	World of Sports and Weatherman (Jax)	FLS.
9:30	Favorite Story (Maison Blanche)	FLS.
10:00	Heart of the City (Falstaff)	F.
10:30	Do You Know Why (Pan Am)	F.

874 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

WDSU-TV—Channel 6, New Orleans—Weekly program schedule No. 23—
May 30, 1954—Continued

TUESDAY—continued

10:35	Dateline—New Orleans	LS.
11:00	Weather Tower (Shell Oil Co.)	LS.
11:05	Leavitt's Scoreboard	LS.
11:15	Rocky King (American Chicle and Serutan)	D/K.
11:45	The Main Event of Championship Wrestling (Tafan)	F.
12:45	Nitecap News and Sports Results	XBET.
12:55	Prayer for Peace	XET.

WEDNESDAY

5:55	Agriculture News	XB.
6:00	Today (various network sponsors)	NBC/CA.
7:00	Today (various network sponsors)	NBC/CA.
7:25	Today in New Orleans	FLSXB.
7:30	Today (various network sponsors)	NBC/CA.
7:55	Today in New Orleans	FLSXB.
8:00	Ding Dong School	NBC/CA.
8:30	One Man's Family	NBC/CA.
8:45	Three Steps to Heaven (P. & G.)	NBC/CA.
9:00	Home (various network sponsors)	NBC/CA.
10:00	Bride and Groom (Jergens)	NBC/CA.
10:15	Hawkins Falls (Wesson Oil and Snowdrift)	NBC/CA.
10:30	Search for Tomorrow (P. & G.)	CBS/CA.
10:45	The Guiding Light (P. & G.)	CBS/CA.
11:00	Homemakers Holiday (NOPSI)	LS.
11:30	Strike It Rich (Colgate)	CBS/K.
12:00	News at Noon	LS.
12:05	Our House (part)	LS.
12:30	New Orleans Cookbook (part)	LS.
1:00	The Big Payoff (Colgate)	CBS/CA.
1:30	Kate Smith (Borden's Instant Coffee)	NBC/CA.
1:45	Kate Smith (Gerber Foods)	NBC/CA.
2:00	Welcome Travelers (P. & G.)	NBC/CA.
2:30	On Your Account (P. & G.)	NBC/CA.
3:00	Love of Life (American Home Products)	CBS/K.
3:15	Shadow Stumpers (part)	LS.
3:30	France-America Program	LS.
4:00	Cartoon	F.
4:15	Arthur Godfrey (Frigidaire)	CBS/K.
4:30	Kelner's Korner (part)	LS.
4:45	Movie Quick Quiz (Holsum)	FLS.
5:00	Superman (Kelloggs)	F.
5:30	Eddie Fisher Show (Coca Cola)	NBC/CA.
5:45	Camel News Caravan (Camels)	NBC/CA.
6:00	I Married Joan (General Electric)	NBC/CA.
6:30	Files of Jeffery Jones (Monogram Wine)	F.
7:00	Kraft Theatre (Kraft)	NBC/CA.
8:00	Blue Ribbon Bouts (Pabst)	CBS/CA.
8:45	Mel Allen Sports Spot (General Cigar)	CBS/CA.
9:00	Esso Reporter (Esso)	FLS.
9:15	World of Sports & Weatherman (Jax)	FLS.
9:30	Inner Sanctum (McKenzie Pastry Shoppes)	FLS.
10:00	This Is Your Life (Hazel Bishop)	NBC/K.
10:30	Jax Outdoors in Louisiana (Jax)	FLS.
10:45	Bach to Bop	LS.
11:00	Weather Tower (Shell Oil Co.)	LS.
11:05	Leavitt's Scoreboard	LS.
11:15	Two for the Money (Old Gold)	CBS/K.
11:45	My Little Margie (Scott Paper Co.)	NBC/K.
12:15	Nitecap News and Sports Results	XBET.
12:25	Prayer for Peace	XET.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 875

WDSU-TV—Channel 6, New Orleans—Weekly program schedule No. 23—
May 30, 1954—Continued

THURSDAY

5:55	Agriculture News.....	XB.
6:00	Today (various network sponsors).....	NBC/CA.
7:00	Today (various network sponsors).....	NBC/CA.
7:25	Today in New Orleans.....	FLSXB.
7:30	Today (various network sponsors).....	NBC/CA.
7:55	Today in New Orleans.....	FLSXB.
8:00	Ding Dong School.....	NBC/CA.
8:15	Ding Dong School (Gerber Foods).....	NBC/CA.
8:30	One Man's Family.....	NBC/CA.
8:45	Three Steps to Heaven (P. & G.).....	NBC/CA.
9:00	Home (various network sponsors).....	NBC/CA.
10:00	Bride and Groom.....	NBC/CA.
10:15	Hawkins Falls.....	NBC/CA.
10:30	Search for Tomorrow (P. & G.).....	CBS/CA.
10:45	The Guiding Light (P. & G.).....	CBS/CA.
11:00	Garry Moore (Swift).....	CBS/K.
11:15	Ask the Doctor (Maison Blanche).....	LS.
11:30	Strike it Rich (Colgate).....	CBS/K.
12:00	News at Noon.....	LS.
12:05	Our House (part).....	LS.
12:30	New Orleans Cookbook (part).....	LS.
1:00	Holmes Ladies Journal (D. H. Holmes).....	LS.
1:30	Kate Smith.....	NBC/CA.
1:45	Kate Smith.....	NBC/CA.
2:00	Welcome Travelers (P. & G.).....	NBC/CA.
2:30	On Your Account (P. & G.).....	NBC/CA.
3:00	Love of Life (American Home Products).....	CBS/K.
3:15	Movie Museum.....	F.
3:30	Howdy Doody (Kelloggs).....	NBC/CA.
3:45	Howdy Doody (Campbell Soups).....	NBC/CA.
4:00	Garry Moore (Mystike Tape).....	CBS/K.
4:15	Garry Moore (Pillsbury).....	CBS/K.
4:30	Maggie and Me (part).....	LS.
4:45	Movie Quick Quiz (part).....	FLS.
5:00	Mrs. Muffins Surprise Party (part).....	NBC/CA.
5:45	Camel News Caravan (Camels).....	NBC/CA.
6:00	Groucho Marx (DeSoto-Plymouth).....	NBC/CA.
6:30	Nord Playhouse (RC Cola).....	LS.
6:45	Remember When (H. G. Hill Stores).....	FLS.
7:00	Dragnet (Liggett & Myers).....	NBC/CA.
7:30	Ford Theater (Ford).....	NBC/CA.
8:00	Martin Kane (U. S. Tobacco Co.).....	NBC/CA.
8:30	Crest Theater (Lou-Ana Oil, Agar Meats, Dulaney Frozen Foods).....	FLS.
9:00	Esso Reporter (Esso).....	FLS.
9:15	World of Sports and Weatherman (Jax).....	FLS.
9:30	Four Star Playhouse (Singer).....	F.
10:00	Death Valley Days (Borax).....	F.
10:30	Mr. and Mrs. North (Revlon).....	F.
11:00	Weather Tower (Shell Oil Co.).....	LS.
11:05	Leavitt's Scoreboard (Leo Miller Jewelry Co.).....	LS.
11:15	Godfrey and His Friends (Toni).....	CBS/K.
11:45	Arthur Godfrey Talent Scouts (Lipton's Tea & Soups).....	CBS/K.
12:15	Nitecap News and Sports Results.....	XBET.
12:25	Prayer for Peace.....	XET.

FRIDAY

5:55	Agriculture News.....	XB.
6:00	Today (various network sponsors).....	NBC/CA.
7:00	Today (various network sponsors).....	NBC/CA.
7:25	Today in New Orleans.....	FLSXB.

876 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

WDSU-TV—Channel 6, New Orleans—Weekly program schedule No. 23—
May 30, 1954—Continued

FRIDAY—continued

7:30	Today (various network sponsors)-----	NBC/CA.
7:55	Today in New Orleans-----	FLSXB.
8:00	Ding Dong School-----	NBC/CA.
8:15	Ding Dong School (General Mills)-----	NBC/CA.
8:30	One Man's Family-----	NBC/CA.
8:45	Three Steps to Heaven (P. & G.)-----	NBC/CA.
9:00	Home (various network sponsors)-----	NBC/CA.
10:00	Bride and Groom (Jergens)-----	NBC/CA.
10:15	Hawkins Falls (Wesson Oil and Snowdrift)-----	NBC/CA.
10:30	Search for Tomorrow (P. & G.)-----	CBS/CA.
10:45	The Guiding Light (P. & G.)-----	CBS/CA.
11:00	Garry Moore (Converted Rice)-----	CBS/K.
11:15	Garry Moore (Bristol-Myers)-----	CBS/K.
11:30	Strike it Rich (Colgate)-----	CBS/K.
12:00	News at Noon-----	LS.
12:05	Our House (part)-----	LS.
12:30	New Orleans Cookbook (part)-----	LS.
1:00	The Big Payoff (Colgate)-----	CBS/CA.
1:30	Kate Smith-----	NBC/CA.
1:45	Kate Smith-----	NBC/CA.
2:00	Welcome Travelers (P. & G.)-----	NBC/CA.
2:30	On Your Account (P. & G.)-----	NBC/CA.
3:00	Love of Life (American Home Products)-----	CBS/K.
3:15	Cartoon-----	FLS.
3:30	Howdy Doody-----	NBC/CA.
3:45	Howdy Doody (Welch)-----	NBC/CA.
4:00	Paul Killiam Show-----	F.
4:15	Arthur Godfrey (Frigidaire)-----	CBS/K.
4:30	Kelner's Korner (part)-----	LS.
4:45	Movie Quick Quiz (Holsum)-----	FLS.
5:00	Tip Top Space Ship (Ward Baking Co.)-----	LS.
5:30	Eddie Fisher Show (Coca Cola)-----	NBC/CA.
5:45	Camel News Caravan (Camels)-----	NBC/CA.
6:00	Trouble with Father (General Mills)-----	ABC/F.
6:30	Life of Riley (Gulf)-----	NBC/CA.
7:00	The Big Story (Pall Mall)-----	NBC/CA.
7:30	Campbell TV Soundstage (Campbell)-----	NBC/CA.
8:00	Cavalcade of Sports (Gillette)-----	NBC/CA.
8:45	The Leon Kelner Show (Universal Furniture House)-----	LS.
9:00	Esso Reporter (Esso)-----	FLS.
9:15	World of Sports and Weatherman (Jax)-----	FLS.
9:30	Foreign Intrigue (Citizen's Homestead)-----	F.
10:00	Lone Wolf (Farris Plumbing and World Sew-Vac)-----	F.
10:30	Do You Know Why? (Pan Am)-----	F.
10:35	Ask Leavitt (Slumberon)-----	FLS.
10:45	Greatest Fights of the Century (Cheesebrough)-----	F.
11:00	Weather Tower (Shell Oil Co.)-----	LS.
11:05	Leavitt's Scoreboard-----	LS.
11:15	Man Against Crime (Camels)-----	NBC/K.
11:45	Feature Movie (Barto Appliances)-----	FLSXB.
12:45	Nitecap News and Sports Results-----	XBET.
12:55	Prayer for Peace-----	XMT.

SATURDAY

8:55	Morning Prayer-----	XET.
9:00	National Golf Day-----	F.
9:30	Space Cadet (International Shoe Co.)-----	D/K.
10:00	Big Top (Sealtest)-----	CBS/CA.
11:00	Johnny Jupiter (M. & M. Candies)-----	F.
11:30	Werlein's Program (Werlein's)-----	LS.
11:35	Cartoon-----	F.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 877

WDSU-TV—Channel 6, New Orleans—Weekly program schedule No. 23—
May 30, 1954—Continued

SATURDAY—continued

11: 45	Warm-Up Time (Salem Fluorescent Service)-----	FXB-ABC/CA.
11: 55	Baseball Game of the Week (Falstaff)-----	ABC/CA.
2: 55	Do You Know Why? (Pan Am)-----	F.
3: 00	Dollar a Second (Mogen David Wine)-----	D/K.
3: 30	The Name's the Same (American Chicle Co.)-----	ABC/K.
4: 00	TV Buck Auction (Associated Productions)-----	LS.
4: 30	Roy Rogers (General Foods)-----	NBC/F.
5: 00	The Lone Ranger (American Bakeries)-----	F.
5: 30	The Ethel and Albert Show (Sunbeam Corp.)-----	NBC/CA.
6: 00	Boris Karloff (A. K. Roy)-----	FXB.
6: 30	Original Amateur Hour (Pet Milk)-----	NBC/CA.
7: 00	Show of Shows-----	NBC/CA.
7: 30	Show of Shows (Benrus, Griffin, SOS)-----	NBC/CA.
8: 00	Show of Shows (Anacin, Johnson & Johnson, Cat's Paw)-----	NBC/CA.
8: 30	Hit Parade (Lucky Strike and Crosley)-----	NBC/CA.
9: 00	Pepsi-Cola Playhouse (Pepsi-Cola)-----	F.
9: 30	Liberace (Hunt Foods)-----	F.
10: 00	Counterpoint (Sheaffer Pen Co.)-----	F.
10: 30	Pride of the Family (Armour)-----	F.
11: 00	U. S. Steel Theater (U. S. Steel Co.)-----	ABC/K.
12: 00	Feature Movie-----	F.
1: 30	Nitecap News and Sports Results-----	XBET.
1: 40	Prayer for Peace-----	XET.

SYMBOLS

K—Kinescope
LS—Live studio
F—Film
X—Slide

B—Announcer in booth
ET—Electrical transcription
CA—Network cable
Rem—Local remote

STATEMENT OF KTBS, INC., SHREVEPORT, LA., APPLICANT FOR CHANNEL 3

Channels allocated to community: 3, 12.
VHF stations operating in community: Channel 12.
UHF stations operating in community: None.
Channels applied for: None.
Channels contested: None.
Construction permits outstanding: Channel 3.

RADIO CENTER BUILDING,
Shreveport 77, La., June 4, 1954.

PIERSON AND BALL,
Attorneys, Washington, D. C.

GENTLEMEN: KTBS began in April 1948 to pursue its application for one of the lower VHF band channels. At that time Shreveport was allocated 5 VHF channels, and after careful deliberation from an economic and engineering standpoint it was decided to file for channel 4. This was accomplished and grant of the construction permit was awaited. However, the application was held up October 1948 as a result of the freeze on new station applications imposed by the Commission. This freeze, which was to have lasted only 3 months, was not lifted until July 1952.

In July 1952 a new allocation plan granted to the Shreveport area only 2 VHF channels, Nos. 3 and 12. Again KTBS selected and reaffirmed its previous decision to keep effective its application for the low-band channel, channel No. 3. Our reason for this preference is the greater efficiency and lower operating cost of this channel, particularly as it bears upon public service to our predominantly agricultural area. KTBS surveys indicate channel 3 will cover an 80-mile radius and bring much-needed service to approximately 700,000 people.

We have already expended approximately \$75,000 in prosecuting our application and plan to spend \$750,000 or more in constructing our station. Our actions have been based on the expectation that the allocation plan would be permanent,

and that we would not be required to sacrifice time and money only to endure another prolonged freeze and then be given our choice of a less efficient UHF channel.

The people of Shreveport and its rural population numbering in the hundreds of thousands have need of an efficient and powerful VHF station to serve them. In anticipation of such a station, many suburban and fringe area dwellers have expended large sums of money in the erection of tall VHF receiving antenna towers. They expect and will demand an all-purpose VHF station designed and built with them in mind and programed to fulfill their community desires.

KTBS has been endeavoring for many years to build a first-class television station, programing to the needs of our people, and requests that it be permitted to proceed without the imposition of a further period of construction permit freeze, and without facing the prospect of its low-band channel being removed and a less efficient UHF channel (that it is felt will not perform proper service) substituted therefor.

Accordingly, it is respectfully requested that our views be given proper consideration.

KTBS, Inc.,
By E. NEWTON WRAY,
President.

WESTINGHOUSE BROADCASTING CO., INC.,
Washington 6, D. C., June 10, 1954.

HON. CHARLES E. POTTER,
*Chairman, Subcommittee No. 2 on Communications,
Committee on Interstate and Foreign Commerce,
United States Senate, Washington 25, D. C.*

DEAR SENATOR POTTER: Reference is made to the hearing held by your subcommittee May 18, 1954, et seq., in the matter of VHF-UHF television broadcasting and on Senate bill 3095 dealing with multiple ownership. It is our purpose in writing to you to set forth our position on some of the suggestions made by witnesses in their testimony.

Westinghouse Electric Corp., the founder of commercial broadcasting with the advent of KDKA, November 2, 1920, has been continuously interested in radio and television both as a broadcaster and as an equipment manufacturer. Working with television methods since 1926, Westinghouse successfully demonstrated, in 1928, the first all-electronic television system, made possible by a new television tube (Iconoscope) invented by Doctor Zworykin in our research laboratories. Westinghouse, in conjunction with the Glenn L. Martin Co., in 1945-49, developed and successfully demonstrated the television broadcasting system known as "Stratovision" in which television transmitters were installed in high-flying aircraft. At 30,000 feet, television service can be rendered over an area having a radius of 200 miles. Westinghouse built a television station in Boston (WBZ-TV) in 1947 and has been operating it since that date. We see no problems now facing the industry which are either fundamentally different from many problems previously faced and solved or any which cannot be solved by American ingenuity without any drastic action necessary on the part of either the Senate subcommittee or the Federal Communications Commission.

The present allocation plan may not be perfect but it represents more than 3 years of intensive (and expensive) cooperative efforts between the entire industry and the FCC. It should not be lightly or hastily cast aside because of a few protests from those who are unable or unwilling to face life in a free competitive economy.

Westinghouse, along with many other pioneers, in the early days of radio and again in the early days of television, faced exactly the same problems being presented to the Senate subcommittee by UHF protagonists. The problem then and now is an adequate number of sets in the hands of the public and attractive programing which the advertising industry is willing to support.

The Westinghouse experience in television at Boston is typical. Although our investment was approximately \$1 billion, we operated at a loss from sign-on in June through the balance of 1948 and all of 1949 for a total in excess of \$300,000. This loss was not recovered until October 1950. We had faith in the future of the industry. Even as late as the first quarter of this year, according to FCC statistics, only 46 of 175 postfreeze TV stations reporting made a profit and only 33 VHF stations (37 percent) were operating in the black. After the normal

shakedown period inherent in any new industry, this condition will improve and stabilize.

It has been proposed to require all VHF stations to now reduce their existing coverage area to avoid overlap of a nearby UHF station. This would result in inestimable damage not only to the stations but to the members of the public living in the present service areas. For instance, if the coverage area of channel 4 in Washington, D. C., were so reduced, thousands of citizens living in Hagerstown, Md., and in the surrounding area, would be denied service they have been enjoying and relying upon for so many years.

These citizens (and those in any other similar community in the United States) have a right to, and will demand, a freedom of choice among multiple-program sources. Since Hagerstown has been assigned only 1 channel (and it certainly could not support more than 2), it is clear that additional programs to permit freedom of choice (and a competitive broadcasting system) must come from outside areas. This service can best be furnished by the existing VHF channels located in cities large enough to support multiple-program sources. The effect of this reduction of service area proposal on rural America would, to us, be comparable to suddenly denying them radio service by requiring all clear channel broadcasting stations to reduce power to the equivalent of a local station. If the principle be established that the coverage of the VHF stations in Washington is limited to eliminate overlap with the UHF station in Hagerstown, then it follows that the UHF station allocated to Frederick, Md., must be limited to prevent overlap with the UHF station allocated to Hagerstown. Under such a philosophy the citizens of Washington would receive four competing services, the citizens of Frederick and Hagerstown, respectively, would each receive a single service, and the vast rural audience living between these cities would be denied any service.

Furthermore, such a philosophy is physically impractical in a situation like Allentown, Bethlehem, and Easton, Pa. Two stations have been allocated to Allentown, one to Bethlehem, and one to Easton, Pa. Under the present plan this should afford 4 competing services to the residents of all 3 cities and the rural areas surrounding them. It seems to us inconceivable that anyone could seriously propose that the coverage areas of these stations be so reduced as not to overlap (assuming this was physically possible), thereby reducing Bethlehem and Easton to a single service and Allentown to two services. The theory becomes even more untenable when we realize that most cities in the United States have been allocated but a single television channel, and in the whole State of New Hampshire only 1 city gets more than 1, and in the State of New Jersey only 2 cities get more than 1 channel. The public interest lies in the direction of making every effort possible to increase the coverage of each station.

In 1928 there were approximately 600 radio stations in the United States surviving upon approximately 1 percent of the Nation's total advertising dollar. Today there are over 3,000 stations in operation, and the overall gross billing of the broadcasting industry, radio and television combined, is almost at the \$1½ billion mark. Many a community which does not have a local newspaper has a local radio station. We have seen this growth take place in America, under the American system, without equal coverage and without any attempt to nullify the law of physics with arbitrary restrictions on coverage.

It has been suggested that the FCC now move all television stations into the UHF band. A determination of all of the remaining applications pending before the FCC will add approximately only 100 more stations over those now in existence or authorized. As now discerned, the television industry will consist of about 670 stations in 325 communities (based upon present applications and licenses). The total dollar damage, not to mention the inconvenience, that would result to the industry and to the public should such a suggestion be approved is beyond imagination. Twenty-seven million receivers are now in the hands of the public.

It is a useless suggestion. Requiring all stations to move into the UHF band would not equalize the services. The power ratio for approximately equal coverage between the lower end of the VHF band (channels 2 to 6) and the upper VHF band (channels 7 to 13) is approximately 3 to 1. The ratio between the upper portion of the VHF and the lower UHF band (channel 14, etc.) is again approximately 3 to 1. And the ratio between the lower UHF band and the upper UHF band is again approximately 3 to 1. Therefore, to force all existing VHF stations to abandon their present service and to move to the UHF

band solves nothing and destroys existing television service. Rural and suburban America will not accept such a decision.

It has been suggested that the FCC declare an immediate freeze—suspending all new station grants and existing station requests for modifications. There are now 377 TV stations operating in 237 communities in the United States and additional sums have been invested or obligated to construct many of the remaining 200 stations which have been authorized by the FCC. The bulk of the industry as it is now discernible is either on the air or has been authorized by the FCC and only about 100 new stations are awaiting disposition of hearing procedures. Such a freeze, at this time, is a useless locking of the barn door. Furthermore, many of those awaiting final orders must be in the same position as we are. In the Portland, Oreg., TV hearing now awaiting decision, our expenses were over \$270,000 and we have frozen risk capital of \$1,015,000; in the Pittsburgh TV hearing now under way our expenses to date are over \$180,000, and we have frozen \$3 million of risk capital pending a final decision. A freeze at this time would fatally injure many applicants.

It has been suggested that compulsory network affiliation is the solution. Radio has grown from six-hundred-odd stations to over 3,000 stations and networking has developed simultaneously under four national networks and many hundreds of smaller networks are serving the American public today—all without any mandatory instructions from a governmental agency. We believe that the history of radio is conclusive proof that the public interest requires the history of television to follow the same path of free and open competition. The radio industry has seen the birth, growth and struggle for top position among national and regional radio networks. We have seen the relative positions of networks change more than once over the years. This free play of economic forces has been in the public interest. The poorest man in the United States now enjoys free daily entertainment unavailable to the richest man in any other country in the world. And, of equal importance, this growth has taken place within the framework of our antitrust laws which, in our opinion, have proved adequate to prevent monopolies.

It has been suggested that stations be required to accept the affiliation with a predetermined network organization. This proposal, in its ultimate conclusion, means Government owned and controlled broadcasting in the United States. Assuming a station is required to affiliate with a named network and a dispute between the parties as to the rate payable and acceptable, the Government will be immediately in the rate-setting business, with all of its complications—technical facilities available, coverage, constantly changing set statistics, etc. In the next step, the individual station's popularity (or lack of it) and its consequent ability to attract revenue from local advertising sources, will depend upon the program furnished by the network. Since it was required to sign the network contract, the station would surely be granted the right to require Government control of the programs. And the final step, assuming the Government required the network to produce more expensive and attractive programs, the network under such compulsion, should be able to demand Government subsidy.

In 1953, 14.4 percent of all Westinghouse TV production featured built-in all-channel UHF-VHF tuners. In addition, more than 80 percent of our 1953 sets which did not contain built-in all-channel UHF tuners, contain provision for internal adaptation to UHF and our distributors in UHF areas regularly stock coils for this internal UHF adaptation. The balance accept external adapters. For the first half of 1954, approximately 24.6 percent of our Westinghouse TV production features built-in UHF tuners, and the trend is apparent. For more than a year, our sales department has maintained market development teams in the field to assist in the development of new UHF markets. When a new UHF station is about to go on the air in an area not previously served, our market development team moves in; our sales and marketing experts aid and instruct the local distributors and dealers by bringing them up to date on the latest methods of TV merchandising, and our technical representatives train the local service technicians in modern television servicing techniques.

This development of UHF markets has not been without its problems. When the station did not open on the day predicted (in some instances opening was delayed several months) great dissatisfaction was created among purchasers, distributors, and dealers. In other cases the signal from new stations were not technically acceptable, resulting in unsatisfactory reception at consumer level. As a result, consumers blamed the set and caused untold expense to dealers, distributors, and ourselves in attempting to solve consumer problems. In cases where the signals were adequate, many programs were unattractive and the public quickly lost interest, dulling consumer desire for ownership of UHF sets.

However, these problems are not new to the television industry nor are they unique. Patience and ingenuity solved them in the past and will do so again.

In our opinion the greatest shot in the arm that Government could give to the UHF operators at the moment, without disrupting existing investments or changing the American broadcasting system as it is known, would be to repeal the excise tax on UHF-VHF television receivers. We endorse the position presented to the Senate subcommittee on this point by Mr. Glen McDaniel, president of RETMA. Since a UHF receiver costs more to manufacture than a VHF receiver under present known manufacturing processes, the elimination of this tax would practically eliminate the manufacturing cost differential and the set thereby becomes more attractive to the manufacturer and to the purchaser.

We believe that the complete solution of all problems presently facing the industry lies in placing more UHF-VHF receiving sets in the hands of the public and more television stations on the air as quickly as possible.

Sincerely yours,

CHRIS. J. WITTING, *President.*

STATEMENT OF FETZER BROADCASTING CO.,

OPERATOR OF WKZO-TV, CHANNEL 3, KALAMAZOO, MICH., KOLN-TV, CHANNEL 12, LINCOLN, NEBR.

Channels allocated to Kalamazoo: 3, 36.

VHF stations operating in community: channel 3.

UHF stations operating in community: None.

Channels applied for: None.

Channels contested: None.

Construction permits outstanding: None.

Channels allocated to Lincoln: 10, 12, 18¹, 24.

VHF stations operating in community: Channel 12.

UHF stations operating in community: None.

Channels applied for: None.

Construction permits outstanding: Channel 10.

The imposition of the proposals made by the UHF group upon the operations of WKZO-TV would seriously affect television service to 2 million people in western Michigan and would impose catastrophic economic hazard upon the future existence of the Fetzer Broadcasting Co. which has to date invested more than \$3 million in television. The imposition of a freeze upon applications before the FCC would stagnate current construction of the Fetzer Broadcasting Co. involving the expenditure of approximately \$1 million in the Kalamazoo, Mich., and the Lincoln, Nebr., area.

The allocation of all television stations to the UHF band exclusively would necessitate the repurchase or conversion of nearly 400,000 sets in the WKZO-TV area and nearly 100,000 sets in the KOLN-TV, Lincoln, Nebr., area.

Any such move upon the television industry would bring about widespread public indignation, the impact of which would resound with furor throughout Capitol Hill and would cut across party lines.

The advocates of the drastic proposals during the course of the UHF hearing to date must have forgotten what the situation actually was at the time 108 operating companies chose to put television stations on the air prior to the TV freeze. This was an era wherein the original founders of television stations were losing thousands of dollars each operating month. In the case of WKZO-TV, when it went on the air in 1950 there were practically no receiving sets in our area. The Fetzer Broadcasting Co. undertook television at great economic hazard. It has spent literally hundreds of thousands of dollars to promote television in order to create the vast audiences that now exist in western Michigan. It did this contrary to the advice of its advertising station representatives who said that it would be economic suicide for us to enter the television business. We entered this field of communication at a time when national network service was unavailable and the A. T. & T. Co., at great expense, developed its own microwave system and pioneered the bringing of television problems into western Michigan at a time when technical, legal and other advice in that day was negative.

¹ Reserved for noncommercial educational use.

In 1953 the Fetzter Broadcasting Co. lost \$350,000 at KOLN-TV, Lincoln, Nebr., due to competition from Omaha stations and the refusal of certain national networks to give us an affiliation. We could have come to Congress and asked that the networks be regulated. We might have advocated laws to reduce power or remove network affiliations from the Omaha stations. This we didn't do. We chose, instead, to analyze our own market. We relocated our transmitter and increased its power so that the advertiser would consider the Lincoln market as a sound buy. We thus solved our network problem as well as the economic problem. Any telecaster, whether he be UHF or VHF, who fails to recognize the law of supply and demand in the market place, is asking for difficulties which he cannot under the free-enterprise system assign to anyone but himself.

It is our personal belief that the technical problem involved in the matter of UHF allocations is so complicated that the Senate subcommittee should turn this matter back to the FCC. Most certainly the enterprise of pioneer companies, who have made present-day television possible, should not be penalized in hasty and unwarranted moves to satisfy what could well be defined as a defect in the business judgment of the few.

STATEMENT OF WJIM, INC., STATION WJIM-TV, LANSING, MICH.

OPERATOR OF CHANNEL 6

Channels allocated to community: 6, 54.
 VHF stations operating in community: Channel 6.
 UHF stations operating in community: Channel 54.
 Channels applied for: None.
 Channels contested: None.
 Construction permits outstanding: None.

BANK OF LANSING BUILDING,
 Lansing, Mich., June 12, 1954.

PIERSON & BALL,
 1007 Ring Building, Washington, D. C.

GENTLEMEN: Please consider this letter as your authority to list us among other supporters of the views to be expressed by you in behalf of the VHF stations before the Senate subcommittee. If statements from individual stations are to be filed with the committee, we would like the following included in behalf of WJIM-TV:

"Most important, we believe, for your committee to consider is the basic economic principles which govern the television industry.

"Television is supported by the advertiser who buys circulation, or markets. The first 50 to 55 markets of the country cover 70 to 75 percent of the population and buying power. To get another 10 percent the advertiser must buy an additional 50 markets. The cost to an advertiser for the first 100 markets for a weekly half-hour program for 1 year is about \$4,620,000. The committee should realize that the number of advertising budgets capable of this expenditure are limited.

"The television industry competes with newspapers, magazines and other media for these budgets and VHF stations with area coverage and high circulation are essential to the financial stability of the industry. To limit all stations to UHF coverage would be like telling newspapers that their circulation must be limited to the county in which they are located.

"There can never be as many television stations as there are radio stations. The smaller communities of the Nation cannot support a television station, and must be served by VHF area stations in larger nearby markets. The reason is simple, and again economic—the tremendous costs involved in constructing and operating a television station. For example, WJIM just purchased a new radio transmitter, cost \$2,900. We also purchased a new TV transmitter, cost \$160,000 plus another \$40,000 for additional switching and test equipment. Two men can put on a radio show. The same show on television takes 15.

"There will always be a small percentage of people who do not receive good television reception, but these are the people who live in isolated areas and are also without rural electrification, improved roads, etc.

"Television is a big business. It takes big men to operate it. Little men who ignored basic economic facts when they applied for UHF licenses should not be permitted to break it down, nor should pioneers of the industry be penalized for the progress they have made to date. Color is on the horizon; it will take

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 883

more vision, more pioneering, more money, more losses to bring this terrific development into millions of TV homes.

"The two most important parties to be considered by the committee should be (1) the viewing public, (2) the advertiser who makes the programs possible. We are sure there is no demand from the viewers of Michigan for additional UHF facilities—on the contrary, it is our considered opinion that any deletion of present VHF service would create overnight a violent public reaction."

If we can be of any further assistance or furnish you with any other information, please advise.

Sincerely yours,

HAROLD F. GROSS.

STATEMENT OF PENINSULA TELEVISION, INC., MARQUETTE, MICH., PERMITTEE OF CHANNEL 6

Channels allocated to Community: 6, 17.
VHF stations operating in community: None.
UHF stations operating in community: None.
Channels applied for: None.
Channels contested: None.
Construction permits outstanding: Channel 6.

PENINSULA TELEVISION, INC.,
Marquette, Mich., June 1, 1954.

PIERSON & BALL,
Ring Building, Washington 6, D. C.

GENTLEMEN: Peninsula Television, Inc., is heartily in accord with the position stated by the informal group in its telegram dated May 28, 1954, in connection with the Potter hearings.

Peninsula Television, Inc., is the permittee of WAGE-TV at Marquette, Mich., on VHF channel 6 and we vigorously oppose any suggestion that we be forced to move to UHF and we also oppose vigorously a freeze which might prevent our being authorized to commence telecasting upon completion of construction.

We propose to bring to the Marquette area the only type of television service that would thoroughly cover the relatively sparsely populated land area containing a population in excess of 300,000. At the present time, this population receives no satisfactory consistent television service, since there is no television station in operation in this area, and consistent service from outside the area is not received. Only VHF can bring a satisfactory service to such an area, and it would definitely not be in the public interest for the Senate subcommittee investigating UHF problems to take any steps that would interfere in any way with the establishment of such a service at this remote and sparsely settled area.

Very truly yours,

JEROME SILL, *President.*

STATEMENT OF TRIAD TELEVISION CORP., PARMA, MICH.

APPLICANT FOR CHANNEL 10

Channels allocated to community: 10.
VHF stations operating in community: None.
UHF stations operating in community: None.
Channels applied for: Channel 10.
Channels contested: Channel 10.
Construction permits outstanding: None.

TESTIMONY OF C. WAYNE WRIGHT, PRESIDENT OF TRIAD TELEVISION CORP., PARMA, MICH., JUNE 9, 1954.

My Dear Senator Potter and Members of the Senate Subcommittee on Communications:

My name is C. Wayne Wright. I am president of Triad Television Corp., which has applied to the Federal Communications Commission for a construction permit to erect a new television station on VHF channel 10 in Parma, Mich. I would like to briefly object to any proposals that the FCC place a freeze on

further VHF hearings or that the nationwide television system be limited to UHF.

In the television allocations adopted by the Commission in its Sixth Report and Order in Docket 8736 et al., no VHF allocations were provided for that section of Michigan surrounding Parma-Onondaga. UHF channel 48 was allocated to Jackson, the nearest large city, and UHF channels 58 and 64 were allocated to Battle Creek. The nearest VHF allocation was channel 6 in Lansing, with UHF channel 54 also allocated to that city. I have worked in radio and television stations in Michigan for several years and became interested in forming a group to apply for a television station serving the area of which Parma is roughly the center. I found upon study that it would be possible to allocate VHF channel 10 to the Parma-Onondaga area without doing violence to any of the mileage separation requirements of the FCC rules and standards. Accordingly, a group known as Triad Television Association was formed and we petitioned the FCC to allocate VHF channel 10 to this area. After some delay and objection, our allocation request was granted.

We thereupon incorporated Triad Television Corp. and on February 23, 1954, filed an application with the FCC for channel 10 at Parma. At present, there are 3 other applications on file for this frequency so that it appears necessary to have a 4-party comparative hearing for the channel 10 frequency. Two of these applicants, by the way, have present interests in Michigan UHF stations. One of the applicants owns Station WBKZ-TV on channel 64 in Battle Creek and the other has an interest in Station WILS-TV on channel 54 in Lansing. Station WBKZ-TV ceased operating shortly before its Parma channel 10 application was filed; and while WILS-TV still operates in Lansing, the applicant represents that this UHF permit will be surrendered for cancellation in the event its channel 10 Parma application is granted.

Triad Television Corp. is comprised of 28 stockholders residing in the area which we propose to serve on channel 10. We incorporated solely to file the application for this frequency allocated to Parma at our request. Our stockholders are active in community life and interested in rendering a needed television service in the area. WIBM, Inc., which had been granted a permit for channel 48 in Jackson, surrendered this permit in December 1953 so that at present there is no station in Jackson, Parma, or Onondaga. There are two UHF permittees in Battle Creek, neither of which is operating. There is 1 on VHF station in Lansing, WJIM-TV on channel 6, WLIS-TV on channel 54, and 1 educational station, WKAR-TV, operating on channel 60 in East Lansing. Kalamazoo, which lies beyond our proposed grade A service area, has one station, WKZO-TV on channel 3.

We believe there is a real need at this time for a locally owned and operated television station to serve our area. Since it is anticipated that our 4-party hearing will not commence for the next 30 to 60 days and since it is anticipated a number of months will be required to complete the hearing process and obtain a decision, considerable time in any event will elapse before the channel 10 station can commence operation. We see nothing to be gained in our area by the imposition of an artificial freeze on the commencement and completion of the channel 10 hearing followed by a decision in normal course. There can be no doubt that the public of our area will greatly benefit from the institution of the channel 10 program service as soon as possible.

Apparently, since the Jackson UHF permit has already been relinquished and since WBKZ-TV and WILS-TV are involved in the contest for channel 10, no real problem is presented by going forward with our VHF hearing. The only remaining commercial UHF permittee in the area, WBCK-TV on channel 58 at Battle Creek, has not yet commenced its operation.

As a matter of business judgment, we might have applied for UHF in the area and obtained a grant without hearing or the expenditure of substantial time and money. Instead, after careful study of Commission allocation plans and principles, we concluded that the use of channel 10 in Parma was feasible. Upon persuading the Commission to adopt this allocation, we chose to cast our lot with VHF. Having done so, we do not think we should now be penalized through the imposition of a hearing freeze, particularly when two of our competitors for channel 10 have already obtained UHF permits and operated in UHF. Such economic hardships as UHF may have encountered are hardly justification for penalizing our efforts.

We oppose removal of all television to UHF because we think VHF has proven its worth and is best suited to providing maximum service and coverage to the American people. To equal on UHF the coverage we now propose to channel 10

would cost our corporation substantially more than the sums we estimate will be required for the VHF frequency. Moreover, the technical characteristics of VHF are well known and certain, whereas it is our understanding many difficult engineering problems have been and are being encountered in UHF. Finally, we feel that since the American public has invested heavily in VHF receiving sets and antennas, it would be very unfair to wipe out his investment by removal of all television to UHF. Certainly the public investment in VHF far exceeds the capital investment and the operating losses to date of the UHF stations.

Very truly yours,

C. WAYNE WRIGHT, *President.*

STATEMENT OF MIDWEST RADIO-TELEVISION, INC., STATION WCCO-TV,
MINNEAPOLIS-ST. PAUL, MINN.

OPERATOR OF CHANNEL 4

Channels allocated to community: 2,¹ 4, 5, 9, 11, 17, 23.
VHF stations operating in community: Channels 4, 5, 11.
UHF stations operating in community: None.
Channels applied for: None.
Channels contested: None.
Construction permits outstanding: Channel 9.

WCCO RADIO AND TELEVISION,
Minneapolis 2, Minn., June 7, 1954.

PIERSON & BALL,
Washington, D. C.

GENTLEMEN: We wish to go on record as strongly supporting the general position of the informal committee which you represent as outlined in your wire of May 28 opposing the elimination of intermixture of VHF and UHF; the allocation of all television stations to the UHF band exclusively; the imposition of any freeze upon application proceedings or upon the issuance of operating authority covering permits already granted; and the reduction and limitation of coverage areas of VHF stations.

Further, we are in full accord with the proposal that all reasonable and proper steps should be taken to encourage production and distribution of receiving sets having all-channel tuners, and that efforts to improve service inside a station's licensed coverage area should be continued and expanded.

In general, we feel that it is inconsistent with the spirit of free enterprise that telecasters and broadcasters who have made unhappy investments should be asking Congress to rewrite the laws of the country to take them out of the red and put them into the black.

The Federal Communications Commission, in our opinion, has done as competent a job in regulating the industry with due regard for the best interests of the public as any governmental agency could possibly do and we only fear that its usefulness may be impaired if Congress yields to the demands of a small but vocal minority to impose upon it alien procedures favorable to a single pressure group.

Cordially yours,

F. VAN KONYNENBURG.

STATEMENT OF KSTP, INC., STATION KSTP-TV, ST. PAUL-MINNEAPOLIS, MINN.

OPERATOR OF CHANNEL 5

Channels allocated to community: 2,¹ 4, 5, 9, 11, 17, 23
VHF stations operating in community: Channels 4, 5, 11
UHF stations operating in community: None
Channels applied for: Channel 9
Channels contested: Channel 9
Construction permits outstanding: Channel 17

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STATEMENT OF STANLEY E. HUBBARD, PRESIDENT AND GENERAL MANAGER, KSTP, INC.

In 1938, we started to experiment and to do our own development work on television; in fact, we bought what was known as a "jeep" which is a camera and control unit. With this equipment we made television demonstrations and taught our staff the technique of television broadcasting.

By 1946 the art of television had developed to a point where we were convinced that unless we went into television our future would be jeopardized. Going into television required a considerable sum of money so after about a year I obtained a personal loan, which at the bank was classified as a character loan, in the amount of \$1,200,000 to make possible the building of our studios and the acquiring of equipment to enable us to go into television. In addition, I spent almost \$300,000 making up losses in the early days of our television operations.

Going into television required not only finances but day and night work for a period of several years. It required promoting and experimenting; in fact, it was a continuous headache. Had I guessed wrong on television and its effect on mass communication and its acceptance by the public, I would not only have lost all my time and money, but I would have been out of business, and most of my associates would have been out of jobs. I did not receive help from the Government nor did I ask for it. I exercised my prerogative as an American and invested my capital and took a gamble on a calculated risk which proved successful.

The UHF's have gone into television with their eyes wide open expecting to make a great deal of money. Some have been successful—some have failed. I might add that this is also true of VHF. I cite as an example 2 stations in the State of Minnesota and 1 in Wisconsin—VHF's which are losing considerable money. The two Minnesota VHF's have been hurt to such an extent I doubt if they will last through the summer.

There are about 400,000 sets in the area around the Twin Cities which today cannot pick up UHF. If VHF stations were to be eliminated and replaced with UHF, the investment of the public in these sets would go to waste.

STATEMENT OF STANDARD LIFE BROADCASTING Co., INC., STATION WSLI-TV
JACKSON, MISS.

OPERATOR OF CHANNEL 12

Channels allocated to community: 3, 12, 19,¹ 25, 47.
VHF stations operating in community: Channels 3, 12
UHF stations operating in community: Channel 25
Channels applied for: None
Channels contested: None
Construction permits outstanding: None

STATEMENT OF L. M. SEPAUGH, MANAGER AND TREASURER, WSLI-TV

Television station WSLI-TV began operations on March 27, 1954, as authorized by the Federal Communications Commission. WSLI-TV operates on channel 12, with 214,000 watts ERP visual and 112 kilowatt aural.

An expenditure of \$600,000 was made in building this station and the first full month's operation showed a net loss of \$18,000. The State of Mississippi is largely rural with many very small towns and a large station with adequate coverage area is needed to bring television service to the many people in these outlying areas.

The management of WSLI-TV is very sympathetic with the problems of all television station operators. Stations, like our own, which have made large expenditures in television are very desirous of recovering a fair return on their investment, and it is our considered opinion that no obstruction should be placed in the way of any group, and that no special favors should be shown any group of television stations.

In the section of the United States in which we operate, it would be impossible to serve the rural areas and small towns without high-powered VHF stations.

¹ Reserved for noncommercial educational use.

Any action on the part of this committee or the Federal Communications Commission to curtail the effectiveness of VHF service would do a great disservice to these people. Such curtailment or any devices tending to favor UHF stations over VHF stations would also work a great hardship on stations such as ours, which are even now losing a great amount of money and need every possible help in getting on at least a break-even basis.

In closing, we wish to make very clear, however, that we are asking no special favors which would tend to help us at the expense of any other segment of the industry, and we do sincerely hope that no special favors will be granted to any other segment of the industry that will make it more difficult for our station, and other VHF stations in a similar position.

STATEMENT OF STATION KSWs-TV, ROSWELL, N. MEX.

OPERATOR OF CHANNEL 8

Channels allocated to community: 3,¹ 8, 10.
 VHF stations operating in community: Channel 8.
 UHF stations operating in community: None.
 Channels applied for: None.
 Channels contested: None.
 Construction permits outstanding: None.

[Telegram]

ROSWELL, N. MEX., June 4, 1954.

PIERSON & BALL,
 Washington, D. C.

Re Potter hearings. We at KSWs-TV are against the elimination of intermixture of VHF and UHF, the imposition of any freeze or chill upon application proceedings, the restriction of operating authority of permits already granted, or the reduction and limitation of VHF coverage. We believe the industry should encourage production and distribution of all channel sets and converters and that UHF stations prepare to wait for conversion of sets and purchase of all channel sets by the viewers in order to build up on a long-range basis their audience in the same manner that VHF stations did in the early days of television. Our station began operating about a year ago with practically no set circulation only through good programming and patience have we been able to build our set circulation to 21,683 at the present. Should VHF be eliminated all of these sets would become obsolete, and the loss in coverage area plus public resentment would definitely force us to cease operations and lose the \$400,000 already invested on a long-range risk.

J. C. PORTER, KSWs-TV.

STATEMENT OF CLARK ASSOCIATES, INC., STATION WNBF-TV, BINGHAMTON, N. Y.

OPERATOR OF CHANNEL 12

Channels allocated to community: 12, 40, 46.¹
 VHF stations operating in community: Channel 12.
 UHF stations operating in community: None.
 Channels applied for: Channel 40.
 Channels contested: Channel 40.
 Construction permits outstanding: Channel 46.¹

WNBF,
 Binghamton, N. Y., June 4, 1954.

PIERSON & BALL,
 Washington, D. C.

GENTLEMEN: Our coverage area is in the heart of a hilly terrain. The hills are 1,200 to 2,000 or more feet high. Most of the population lives in narrow, deep-cut valleys. These valleys twist and wind their way in a multiplicity of

¹ Reserved for noncommercial educational use.

directions. The inherent differences between UHF and VHF carrier waves make it virtually impossible for UHF in this terrain to render more than a limited service, covering the population of one valley and the hillsides bordering that valley. The other side of the hills and adjacent valleys are bereft of the UHF service. That's why WNBF-TV on channel 12 renders a service not duplicated by UHF in the Scranton, Wilkes-Barre, and Elmira areas. If WNBF-TV's VHF service were curtailed or limited, a substantial portion of the present audience would be deprived of service. Our consultant engineers in Washington, Jansky & Bailey, could be called upon as qualified and expert witnesses to substantiate the foregoing.

In addition there are rural inhabitants in small towns not situated close in to the UHF cities who could be deprived of television service in this area if our VHF station wasn't in operation with full power.

Due to the large investment required in building television stations to full power, height of tower, and oncoming color, together with reserves for operating expenses until such time as an established audience has been obtained for a TV station, it is apparent that substantial coverage fundamentally is necessary for a television station in order to encompass a large population with sets. The number of sets is the basis for the card rate charged advertisers for time and announcements on television stations, and until a station arrives in its progress to such a position, the going is bound to be rough.

A thumbnail sketch of our own economics in 22 years of experience in radio and 4½ years in TV:

We purchased a 100-watt station on 1,500 kilocycles in 1932, and in December 1949 we went on the air with channel 12, since which time there has never been a dividend paid to stockholders. Before television the bulk of our profits were plowed back. This permitted us to advance from a 100-watt to a 5,000-watt station on 1,290 kilocycles in radio and also provided some money sinews which we unsuccessfully flexed in FM. Six years ago, when we decided to launch an effort on channel 12 in television, profits which had accrued over the years in radio, together with other subsidies provided by John C. Clark, president of our company, amounted to approximately \$300,000. The money thus provided purchased a transmitter, tower, antenna, and studio equipment to start our television operation. Up to date, we have expended, in round numbers, \$700,000. This additional \$400,000 was invested in television equipment and the purchase and alteration of a building where our present offices are housed.

Still ahead of us must be added at least \$600,000—\$400,000 to complete our construction permit for full power, and \$200,000 for more adequate studio facilities to improve local programs for television. This does not take into consideration investment necessary for color as the art expands in that direction. Our television expansion has been possible because again profits have been plowed back and stockholders have been devoid of dividends.

In our area there are now 274,000 television sets. According to the best estimates we can make, we are giving almost exclusive service to 178,000 of these sets; the other 100,000 sets are divided either between VHF (channel 12) and UHF, or are completely UHF. The population of this area is still spending substantial sums for new receivers. The end is not in sight. But certainly, television is progressing and in our opinion WNBF-TV has done substantially a good job, and its curtailment might seriously affect the public in getting adequate television reception.

Sincerely yours,

CECIL D. MASTIN,

Vice President in Charge of Radio & Television, Clark Associates, Inc.

STATEMENT OF WREN, INC., STATION WBEN-TV, BUFFALO, N. Y.

OPERATOR OF CHANNEL 4

Channels allocated to community (Buffalo-Niagara Falls): 2, 4, 7, 17, 23,¹ 59.

VHF stations operating in community: Channel 4.

UHF stations operating in community: Channel 17.

Channels applied for: Channel 7.

Channels contested: Channel 7.

Construction permits outstanding: Channels 2, 23,¹

¹ Reserved for noncommercial educational use.

WBEN, Inc.,

*Buffalo 2, N. Y., June 1, 1954.*Messrs. PIERSON AND BALL,
Washington, D. C.

GENTLEMEN: In general we agree with the views the committee headed by Paul R. Bartlett has authorized you to present to the Potter subcommittee of the Senate Interstate and Foreign Commerce Committee on behalf of certain VHF television stations. We wish to be included in that representation.

We wish, additionally, to submit the enclosed statement in relation to the effect of antenna height and power, especially as it relates to zone 1, so the Potter committee may have a broad view of the television problem which to date has been discussed only from a narrow angle.

We take the position not of an entrenched interest but of a licensee obligated to give the best service possible to the largest number of people that most of the evidence to date has overlooked the fact that the VHF stations are serving the public. To cut back their power or antenna height, or to fail to allow full power in zone 1, will deprive the people who have invested in television receivers of service they will have a right to expect from licensees.

In far too many areas today the public receives a degraded television service, not comparable with grade A service from either VHF or UHF stations in the metropolitan areas. The rural sections of the country are entitled to service and, if anything, need it more than the cities do. To cut back the VHF service, or to freeze it in zone 1, will deprive millions of viewers of anything approaching grade A television service.

UHF stations can and will help fill some of these niches, and they should have every encouragement wherever anyone has the courage and business sagacity to venture into that field. They, however, have no more claim to special assistance at the expense of reduced service to the viewers in their areas than the operators of VHF stations would have had to claim assistance in the periods when they were losing money in considerable sums during the early days of pioneering in television.

I call attention to the fact that Gary Cohen, vice president of WBUF-TV, a UHF station in Buffalo, N. Y., appeared at the initial session of this committee and testified:

"We did not make the mistake that is ascribed to other permittees of trying to get on the air too soon and with inadequate preparation. The day we took to the air—I am proud to say—the quality of our picture was as good as that of the VHF station and the quality has remained good to this day. Moreover, the quality of our programing the day we started operation was as good as that of the VHF station and has so remained to this very day."

He went on to say:

"It is our experience that when we have good programing available to us that the public cannot receive from any VHF station, they will pay the extra money needed to buy UHF equipped receivers and once they buy those receivers, we can take care of ourselves."

This UHF station went on the air August 17, 1953. At the end of 6½ months on the air, it had an audience of 66,073 receivers on the basis of generally accepted power company statistics.

WBEN-TV, which pioneered television in Buffalo unassisted and in fact with the benefit of not a few barbs and criticisms, at the end of a comparable period of time was able to state that 7,955 VHF television receivers had been sold in the comparable area.

At the end of 1 year WBEN-TV claimed with considerable pride that 21,000 VHF receivers had been sold in this area.

Over a longer period, it took WBEN-TV 19½ months to be able to claim on the basis of statistics used from the same source throughout that more than 60,000 VHF receivers had been sold in this area.

When the going was tough, we did not go to Washington to ask for help in promoting television interest: we didn't ask anyone else to assist us in developing interest in TV. We felt that it was the obligation of the station, if it wished to meet its public service obligations and to meet the economics of the situation, to work and work to increase receptiveness to television. Yes, there has been a ground swell in recent months and years, but that is what has helped the UHF station to reach the point where on the one hand it boasts of success and on the other joins in the lament that UHF stations are having a hard time.

Be that as it may, this committee has the obligation to consider the effects of a freeze now upon the entire art; such a freeze would hurt UHF quite as much, if not more than, VHF.

The committee also has the obligation to consider the people now receiving VHF signals which are poor in quality and would be further degraded by any cutback in power which isn't called for as engineering studies will prove.

So, too, the committee has the obligation to consider the interests of those people who now could receive better television service if unwarranted power restrictions in zone 1 were eliminated, as they long ago should have been if considerations of the largest good to the greatest number had been the determining factor.

Respectfully submitted.

ALFRED H. KIRCHHOFER,
Vice president, WBEN-TV.

MEMORANDUM REGARDING EFFECT OF TALL TELEVISION ANTENNA

After World War II the Federal Communications Commission issued rules permitting commercial operation of television broadcast stations in the VHF band. These rules provided for operations with a maximum radiated power of 50 kilowatts, a maximum antenna height of 500 feet, and a minimum separation between cochannel stations of 150 miles. In cases where the antenna height exceeded 500 feet the rules required that the power be reduced. As a result of experience gained in the operation of television stations, it was realized that, with the allocation plan first used, there was interference between stations, resulting in a reduction in service area of each station, and that increased interference should be expected with additional stations. In 1948 a freeze was placed on the construction of new television broadcast stations while the interference and allocation problems were studied. It was intended that the studies would develop a method of increasing the television service. Two conflicting possibilities had to be balanced. On the one hand increased separation between stations would have the effect of reducing the interference and thereby would increase the service area of individual stations. On the other hand there would then be fewer total stations and therefore less total service.

In the hearings held during the "freeze" it was developed that, by the use of increased antenna heights, greater service areas would be possible for individual stations without a proportionate increase in the interference caused to other stations. It was proposed that antenna heights up to 2,000 feet be permitted. There were no objections to the proposal.

In March 1951, the Federal Communications Commission issued a new notice of proposed rulemaking which provided for a flexible maximum antenna height. The nominal limitation of 500 feet was retained, but it was proposed that greater heights be encouraged and that a reduction in effective radiated power not be required unless objectional interference would be caused to stations operating on the same or adjacent channels. With the 180-mile minimum cochannel separations then proposed, the use of full power with heights well in excess of 1,000 feet would be permitted. The minimum adjacent-channel separations proposed, if actually experienced in practice, would require a reduction in effective radiated power with heights in excess of 500 feet. Practically, however, the minimum adjacent-channel separations are rarely experienced. Except in a few instances, requirements on adjacent-channel interferences would not serve to limit the antenna heights used. In the phases of the hearing that ensued, a number of objections were raised to the adjacent-channel limitation. These, in substance, claimed that the problem of adjacent-channel interference was not actually as serious as contemplated by the previous proposed rule.

In April 1952, at the conclusion of the hearings which had continued with interruptions since 1948, the Commission issued its sixth report and order promulgating the rules under which the television-broadcasting industry is now operating. With respect to the problem of adjacent-channel interference, the Commission decided, on the basis of the testimony received and referred to above, to delete all provisions from the rules which would prevent the use of higher antennas because of adjacent-channel interference. Next, the Commission gave consideration to the problem of antenna heights greater than 500 feet. Here the action of the Commission is incomprehensible. In the northeastern portion of the United States, antenna heights were effectively limited to 1,000 feet, while in all other parts of the country, heights of 2,000 feet were and are permitted.

The order recognized and pointed out that the ratio of service area gained to service area lost increases with increasing antenna height. It was found that—

“When two stations are operating cochannel and one station is allowed to increase its antenna height greatly in excess of the other, the increase in area covered by the first station will greatly exceed the loss in service to the second station.”

Then, further—

“Again it should be emphasized that in all cases the service areas are not unduly reduced when the minimum spacings are maintained.”

On the basis of these findings the Commission has provided for effective antenna heights up to 2,000 feet throughout most of the United States.

With no previous notice or indication, the Commission, however, designated the northeastern portion of the United States as zone I and in zone I provided for minimum separations between cochannel stations of 170 miles and for a limitation on the effective antenna height to 1,000 feet. The reasons given for this action have no basis in the findings of the hearing. The ruling states:

“In view of the fact that station separations in this zone are lower than in zones II and III and in view of the fact that cities in zone I are more closely located than cities in zones II and III, until a larger body of data is available with respect to operation with antenna heights over 1,000 feet with higher powers, we are unable to permit operation with such powers at heights over 1,000 feet.”

Even with the station separations specified in zone I it is still a fact that increasing antenna height results in a net increase in area served. The fact that the station separations are less in zone I is, therefore, not a valid reason for requiring restricted antenna heights. The fact that cities are generally closer together in zone I does present the possibility that one station may serve several cities. It is not clear that this is an evil.

Detailed studies and data have been presented to the Commission showing for all VHF assignments in zone I, that the potential service area would be increased approximately one-third if the arbitrary height limitation were removed in zone I.

The reasons given for the limitation do not now justify its continuation, and in fact they never did. The rule apparently is an attempt to encourage the development of VHF television broadcasting in certain of the cities by arbitrarily restricting the service possible with VHF facilities. If this is the case, it has completely failed to take cognizance of the fact that, because UHF television broadcasting will always have a more restricted area than VHF broadcasting, its character will have to be largely local and its success in competition with VHF depends upon the ability to provide programs of local interest at a competitive commercial cost. Whether or not this can be done is yet an economic enigma. In the meanwhile, the service provided by VHF stations in zone I is arbitrarily restricted. A list of the States affected is attached.

We should point out that, with full power and greater heights, not only is the service area of a VHF television station increased, but also the quality of picture provided throughout the service area is improved. In many areas this improvement would permit the viewing public to avoid the cost of installing outdoor antennas to receive satisfactory pictures. If in the service area of any one VHF station, 10,000 set owners could avoid the necessity of outdoor antennas, the net saving to the public in that area would be approximately a half-million dollars. This is not an unreasonable assumption. If this saving could be realized throughout a large portion of the area of zone I, the saving to the United States public would amount to untold billions of dollars. This consideration has been completely outweighed by a desire to encourage the beginnings of UHF television broadcasting.

We believe provision is necessary to permit the expansion of television broadcasting in the UHF band. When the demand for additional service is great enough, and the cost sufficiently reasonable, then and only then, will UHF television be practical. Until that time, artificial stimulants will be of little or no help. Restriction of VHF service can only act to the detriment of the public interest.

Respectfully submitted.

ALFRED H. KIRCHHOFFER, *Vice President.*

STATES WITH RESTRICTED VHF TELEVISION BROADCAST SERVICE

Connecticut	Michigan (part)	Vermont (part)
Delaware	New Hampshire (part)	Virginia (part)
Illinois	New Jersey	West Virginia
Indiana	New York (part)	Wisconsin (part)
Maine (part)	Ohio	District of Columbia
Maryland	Pennsylvania	
Massachusetts	Rhode Island	

STATEMENT OF WGR CORP., BUFFALO, N. Y., PERMITTEE OF CHANNEL 2

Channels allocated to community (Buffalo-Niagara Falls) : 2, 4, 7, 17, 23,¹ 59.
 VHF stations operating in community : Channel 4.
 UHF stations operating in community : Channel 17.
 Channels applied for : Channel 7.
 Channel contested : Channel 7.
 Construction permits outstanding : Channels 2, 23.¹

STATEMENT OF GEORGE F. GOODYEAR ON BEHALF OF VHF GROUP

My name is George F. Goodyear, president of WGR Corp., known until May 3, 1954, at Niagara Frontier Amusement Corp. (NFAC). NFAC was organized in March 1953 for the purpose of bringing additional television broadcasting facilities to the Buffalo area. Instigated by Myron P. Kirk of New York City, it was formed by myself, Mr. Kirk, J. Fred Schoellkopf, and Paul A. Schoellkopf, all except Mr. Kirk being Buffalo area residents. When NFAC's application for Buffalo channel 2 was filed with the FCC in July 1953, 60 percent of its stock was held by 4 residents, including the 3 above mentioned and Seymour H. Knox, and 40 percent by 7 nonresidents headed by Mr. Kirk. The 4 residents are prominent in the business, civil, and philanthropic life of the area, holding numerous directorships in corporations and civic institutions, including the presidency or chairmanship of the following: University of Buffalo, Buffalo Society of Natural Sciences, Buffalo Fine Arts Academy, Niagara Share Corp., and Marine Trust Co. of Western New York. Two of them were combat officers during World War II. While none of the residents had any previous experience in the broadcasting or television field, this lack was satisfied by Mr. Kirk, who at one time had participated in the management of several radio stations. Mr. Kirk is now senior vice president and head of the radio and television department of the Kudner Agency, the 14th largest advertising agency in the country.

At the time NFAC filed its application for channel 2, there were three competing applicants for the channel. These were: Victory Television Corp. (a group of six prominent Buffalonians), Niagara Falls Gazette Publishing Co. (news-paper owner), and WGR Broadcasting Corp. (owner of radio station WGR, the oldest in Buffalo, enjoying a fine reputation both in the trade and among the public). Although each of the four applicants felt that it had the best chance of receiving a construction permit (CP), the delay and cost of a "comparative hearing" finally induced them to merge, all except NFAC withdrawing their applications. The original NFAC stockholders retained 50 percent interest, with Victory and the Gazette each having the right to purchase a 25-percent interest. The assets of WGR were purchased for \$1,450,000. Although this was perhaps somewhat higher than the actual value of the radio station by itself, it was felt that the combination of a TV station on channel 2 and a 5-kilowatt radio station on 550 kilocycles would be well worth the price. The merger agreement was consummated on November 2, 1953.

The decisions of NFAC and the other-mentioned applicants to file for a VHF rather than a UHF channel were based on the following reasons:

(1) The pioneering efforts of WBEN-TV, the only existing station in the area, had already built up a large market of VHF viewers.

(2) It was known that WBEN-TV had sustained substantial losses in the early period of building up this market. As UHF might initially experience similar losses, although to a lesser extent, economic wisdom decided for VHF.

(3) The prestige of participation in VHF was important for the following reasons:

(a) It offered diversified television facilities to Buffalo area viewers at no additional cost (the cost of "converting" receivers to UHF).

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(b) Buffalo would no longer be in the humiliating position of having only a single VHF channel, while many smaller communities had two or more.

(4) The prestige and economic advantages of VHF more than offset the following disadvantages:

(a) The presence of competing applicants for the channel appeared to require a comparative hearing, thus considerably delaying and increasing the cost of additional TV.

(b) As only one applicant could win a comparative hearing, the other applicants would lose their entire investments in the venture.

After the merger, it was hoped that the FCC would grant a CP the following day (November 3, 1953). Through no fault of any of the parties to the merger, however, unforeseen circumstances prevented the immediate grant of a CP.

The FCC found it necessary, in fact, to set the application for hearing, so that a CP was not granted until more than 5 months later, or on April 7, 1954. Ownership of station WGR was formally transferred to NFAC on April 30, 1954, and a few days later the name of the company was changed to WGR Corp.

Until April 30, 1954, substantially all of NFAC's activities had been directed toward the securing of a CP. From its organization to this date, it had received no income. Its expenses undergone in connection with securing a CP, including legal fees, travel and other expenses, have been in excess of \$50,000. In addition, it is estimated that the expenses in the same connection of the other parties to the merger agreement have aggregated in excess of \$25,000.

WGR Corp (formerly NFAC) is now taking active steps to commence commercial telecasting operations as soon as possible. It has obligated itself to rent studio and office space for a term of 15 years at a rental of \$90,000 per year, with an option to buy these facilities for \$600,000 at the end of the first 5 years. It is estimated that, if it were necessary to convert these facilities to other uses, the rental which could be charged would be less than \$45,000 per year. In addition, the company has become obligated, for the purchase of television equipment, in the aggregate amount of more than \$500,000, from which it has not yet of course received any income.

It is expected that WGR Corp. will commence commercial telecasting operations not later than August 1, 1954.

(Signed) GEORGE F. GOODYEAR.

STATEMENT OF GENERAL ELECTRIC Co. STATION WRGB-TV, SCHENECTADY, N. Y.,
LICENSEE OF CHANNEL 6

Channels allocated to community (Albany-Schenectady-Troy) : 6, 17,¹ 23, 35, 41.
VHF stations operating in community : Channel 6.

UHF stations operating in community : Channels 35, 41.

Channels applied for : None.

Channels contested : None.

Construction permits outstanding : 17,¹ 23.

DEVELOPMENTAL YEARS OF WRGB-TV, SCHENECTADY, N. Y., 1939-40

The full history of WRGB traces back to the early months of 1928. However, the modern era of the station, which may be considered as starting in 1939 is of particular interest at this time. And this statement traces our economic and program growth during the 11 years from 1939 to 1950.

It is significant to note that the station lost money every year during these first 11 years and it should be underlined that the loss continued during the first 3 years and 1 month of commercial operation—from late 1947 to the end of 1950.

During this 11-year period, the owners invested over \$1 million in capital equipment, while our total operating loss for this same period was \$2,181,823.

Some of the obstacles which it was necessary for us to overcome during these early years were:

1. *Small audience*

There were fewer than 100 receivers in use from 1939 to the end of the war. By the spring of 1948 set distribution had reached 2,000. One year later circulation had jumped to 25,000, doubling to 52,000 by January of 1950. At the end of 1950—the first year in which the station “broke even”—receiver installations

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had reached 133,000. Since then a steady rise has continued until today there are approximately 366,000 receivers capable of watching WRGB regularly. The UHF operators in this area estimate there are about 75,000 converted receivers. Thus there are now more converted sets in this area today than there were sets of any kind after we had been operating 10 years. But there are still over a quarter of a million receivers in use today not equipped to receive a UHF signal.

2. Program development

WRGB had to develop as a completely self-sustaining unit during its first years. An almost complete lack of film material, coupled with only extremely limited network service, put the full weight of programming on the local staff. It was even necessary for WRGB to build and operate its own intercity relay system from New York City to secure the infrequent network programs which were available.

3. Personnel training

There was no trained labor market for either program or technical personnel during the early years of WRGB. It was necessary for the station to secure the best available people from other allied arts and build and train a staff from the ground up.

4. Equipment limitations

During the early years of WRGB, commercially manufactured equipment was not available. It was necessary for the station to use equipment which was in its first stages of development and much of it had to be built by the station staff.

5. Advertiser support

Advertisers were reluctant to use WRGB because of the absence of audience. It was necessary for WRGB to break the vicious circle by investing its own money in program development and audience promotion until the quality of the programs attracted a large enough audience to warrant advertiser participation.

Like the pioneer VHF stations, to achieve substantial audience, the pioneer UHF stations will have to develop a strong local program service meeting specific community needs.

WRGB believes that progress in the electronic field, supported by an all-industry campaign seeking the expansion of economic and program resources, will within a reasonable time place the UHF stations in a strong competitive position.

STATEMENT OF SKYWAY BROADCASTING CO., STATION WLOS-TV, ASHEVILLE, N. C., PERMITTEE OF CHANNEL 13

Channels allocated to community: 13, 56,¹ 62, 78.

VHF stations operating in community: None.

UHF stations operating in community: Channel 62.

Channels applied for: None.

Channels contested: None.

Construction permits outstanding: Channel 13.

ASHEVILLE, N. C., June 9, 1954.

PIERSON & BALL,

Washington, D. C.

GENTLEMEN: As we wired you this morning you have our support of your views as outlined in the wire of May 29 from the informal committee to be presented before the Potter subcommittee investigating UHF problems.

For the record, WLOS-TV has presently spent \$62,381 on construction and is committed to spend an additional \$330,000 on construction authorized by our CP. This construction, which is now in progress, includes a 3,000-foot inclined plane railway up Mt. Pisgah in western North Carolina which will provide a transmitting antenna over 6,000 feet above sea level to adequately serve the mountainous terrain. This station will provide service to over 2 million people within its predicted grade B contour. It will provide the first primary TV signal to most of western North Carolina.

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The need for this station was vividly demonstrated by public support of the people of western North Carolina of our efforts to obtain Mount Pisgah as a transmitter site. Over 2,000 people of this area, either in person or by written statement, provided overwhelming evidence to the United States Forestry Service of the need for this station in its authorized location.

WISE-TV, UHF outlet in Asheville, owned by Harold F. Thoms, who is president of the UHF group, is presently affiliated with all four networks. It appears that in this instance, anyway, the networks have shown willingness to affiliate with a UHF outlet and have provided WISE-TV with a wonderful opportunity for service and profit.

If there is any further information which might be helpful to you or if there is anything further we can do, please let us know.

Sincerely yours,

CHARLES B. BRITT, *Executive Vice President.*

STATEMENT OF CAPITOL BROADCASTING CO., INC., RALEIGH, N. C.,
APPLICANT FOR CHANNEL 5

Channels allocated to community: 5, 22¹ 28.
VHF stations operating in community: None.
UHF stations operating in community: Channel 28.
Channels applied for: Channel 5.
Channels contested: Channel 5.
Construction permits outstanding: None.

STATEMENT ON BEHALF OF CAPITOL BROADCASTING CO., INC., APPLICANT FOR
CHANNEL 5, RALEIGH, N. C.

Capitol Broadcasting Co., Inc. is applicant for channel 5 VHF station in Raleigh, N. C. area. It is proposed to serve counties having \$296 million farm income. According to statement of January 5, 1954, of Hon. L. Y. Ballentine, commissioner of agriculture, State of North Carolina, the proposed service area will include counties producing more than one-half of the farm income in North Carolina.

Commissioner Ballentine is himself chairman of proposed agricultural programming council and council members include outstanding leaders in the agricultural field who are connected with North Carolina State College and the extension services of the United States Department of Agriculture, all of whom, with two exceptions, reside in Raleigh and are therefore available for service to the entire State of North Carolina.

The same arrangement obtains between said applicant and leaders in the educational, religious, and fine-arts fields.

Total population to be served: 1,435,242. No UHF station can serve so many North Carolina citizens. Applicant has agreed, subject to obtaining grant, to feed its programs to UHF stations in its grade B coverage area as a public service, thus making the tremendous talent pool and program resources peculiar to the capital of the State and to North Carolina State College located therein available to nearly half of the State's population.

As a practical matter, a UHF station only would localize such programming and would deprive a large percent of this area of the advantages above outlined.

Of importance also is the fact that this applicant has been planning for more than 6 years to enter the VHF television field and has spent more than \$25,000 to date and has incurred liability for more than \$25,000 additional in prosecuting its application, now in its fifth week of hearing in the city of Washington, D. C.

There is a place for both VHF and UHF and we earnestly hope, regardless of who may be the successful applicant for channel 5 in Raleigh, that the Senate Subcommittee Investigating UHF Problems will not make it impossible for a VHF station in the Raleigh area to render the service proposed. We also hope that it will not vote to destroy the large investments made by both applicants for channel 5 by canceling or delaying the use of the VHF frequency assigned to this area.

Respectfully submitted.

A. J. FLETCHER, *President.*

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896 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

STATEMENT OF DURHAM BROADCASTING ENTERPRISES, INC., DURHAM, N. C., PERMITEE OF CHANNEL 11

Channels allocated to community: 11, 40,¹ 46, 73.
VHF stations operating in community: None.
UHF stations operating in community: None.
Channels applied for: Channel 73.
Channels contested: None.
Construction permits outstanding: Channel 11.

STATEMENT ON BEHALF OF DURHAM BROADCASTING ENTERPRISES, INC., VHF CHANNEL 11

On January 20, 1954, the Federal Communications Commission issued a construction permit to Durham Broadcasting Enterprises, Inc., to construct a television station to be operated on channel 11 in Durham, N. C. At the time of the lifting of the freeze and with the announcement of the allocation of VHF and UHF channels for the Durham market, it was then our studied opinion that we could best serve the area with channel 11. To this end, we have devoted more than 2 years of time, effort, and money. We have endured the expense and effort incident to a hearing. In this connection and in the interest of bringing television to this community at an early date we participated in a merger-type agreement, a part of which required the sale of our radio facility WTIK. This sale has taken place. It is thus that we find ourselves presently with no source of broadcast income to help pay for our television construction costs. Currently, we have obligated ourselves to repay \$150,000 in debentures and have ordered \$300,000 worth of television equipment. On the strength of the construction permit issued by the FCC we have further obligated ourselves to leases in the amount of \$34,000 and have incurred preoperating expenses in excess of \$80,000.

At the time of the lifting of the freeze one commercial UHF allocation on channel 46 was made to Durham along with the reservation of UHF channel 40 for an educational station. Since that time the FCC has made an additional allocation on UHF channel 73 to Durham. The Commission has granted a construction permit covering the original commercial UHF allocation on channel 46, and the construction permit for the UHF channel 46 has been returned to the Commission.

At the present time Durham Broadcasting Enterprises, Inc. represents the only authorized effort being made to bring television to Durham, either UHF or VHF. Any deterring action on the part of the FCC would not only deprive the citizens of our area of a service to which they are entitled but would also impose an extremely severe economic hardship on Durham Broadcasting Enterprises, Inc.

Respectfully submitted.

HARMON L. DUNCAN, *President.*

STATEMENT OF WDAY, INC., STATION WDAY-TV, FARGO, N. DAK.

OPERATOR OF CHANNEL 6

Channels allocated to community: 6, 11, 34,¹ 40.
VHF stations operating in community: Channel 6.
UHF stations operating in community: None.
Channels applied for: None.
Channels contested: None.
Construction permits outstanding: None.

WDAY, INC.,
Fargo, N. Dak., June 9, 1954.

PIERSON & BALL,
Washington, D. C.

GENTLEMEN: We at WDAY-TV are following with interest the questions involved in the Senate subcommittee investigating UHF problems.

The wider coverage provided by the VHF bands is extremely essential, both from the public interest standpoint, and the economic standpoint, particularly for stations such as ours located in areas that are not densely populated. Wide

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rural coverage is absolutely necessary for stations located in agricultural areas, and particularly true in agricultural areas where large farms are prevalent.

Actually, more than half our viewers are widely scattered farmers, and we are convinced that they need and appreciate the services of TV more than the urban residents, and most of these could not be reached with the UHF signal.

We sincerely hope that the committee will do nothing to disturb the present VHF allocations.

Sincerely,

TOM BARNES, *Manager.*

STATEMENT OF CROSLLEY BROADCASTING CORP.

Operator of WLT-T, channel 5, Cincinnati, Ohio; WLW-D, channel 2, Dayton, Ohio; WLW-C, channel 4, Columbus, Ohio; WLW-A, channel 11, Atlanta, Ga.

Channels allocated to Cincinnati: 5, 9, 12, 48,¹ 54, 74.
 VHF stations operating in community: Channels 5, 9, 12.
 UHF stations operating in community: None.
 Channels applied for: None.
 Channels contested: None.

Construction permits outstanding: Channels 48,¹ 54.
 Channels allocated to Dayton: 2, 7, 16,¹ 22.

VHF stations operating in community: Channels 2, 7.
 UHF stations operating in community: None.
 Channels applied for: None.
 Channels contested: None.
 Construction permits outstanding: Channel 22.

Channels allocated to Columbus: 4, 6, 10, 34,¹ 40.
 VHF stations operating in community: Channels 4, 6, 10.
 UHF stations operating in community: None.
 Channels applied for: None.
 Channels contested: None.

Construction permits outstanding: Channel 34.¹
 Channels allocated to Atlanta: 2, 5, 11, 30,¹ 36.
 VHF stations operating in community: Channels 2, 5, 11.
 UHF stations operating in community: None.
 Channels applied for: Channel 30.¹
 Channels contested: None.

Construction permits outstanding: Channel 36.

The Crosley Broadcasting Corp. submits respectfully for the record of this hearing basic information regarding its development of four television properties, WLW-T, Cincinnati, WLW-D, Dayton, WLW-C, Columbus, and WLW-A, Atlanta, now VHF channels 5, 2, 4, and 11, respectively.

The activities of Crosley in the field of television broadcasting commenced as early as April 1937 when it began experimentation relating to equipment design and development, leading to the establishment February 1, 1939, of a regular television division in its engineering department. On February 3, 1939, Crosley filed its first application for a construction permit for an experimental television broadcast station, receiving a grant on August 28, 1940, with the call letters WSXCT. Even before this date, as early as April 26, 1939, Crosley gave public demonstrations of the use of television equipment with wire rather than wireless transmission.

Crosley's WLW-T, Cincinnati, was not only the first commercial television broadcast station in the State of Ohio, but also the first in the area served by WLW-radio, including Indiana, Kentucky, and West Virginia, the application for same being filed originally on November 15, 1944, with the original grant to Crosley dated November 21, 1946.

Crosley filed the original application for a television station in Dayton on February 26, 1945, the grant being received from the Commission April 4, 1947.

Crosley's WLW-C was the first station in Columbus, Ohio. The application was filed on January 2, 1945, and the grant received November 21, 1946.

To construct these 3 television stations, Crosley expended \$1,939,723.77, excluding here the man-hours of its staff and its legal fees. The capital investment to November 30, 1953, for these stations totaled \$2,608,692.34.

¹ Reserved for noncommercial educational use.

The operating losses of these 3 stations amounted to \$1,642,129.75 before the first dollar profit was realized. The Cincinnati station was operated at a loss from the first broadcast, February 9, 1948 (Cincinnati had but 1,300 TV receivers at that time) to November 1, 1950, losses totaling \$951,920.70. The Columbus station was operated at a loss from the first broadcast, April 4, 1949 (then only 2,000 TV receivers in Columbus), to November 1, 1950, losses amounting to \$371,534.15. The Dayton station was operated at a loss of \$318,674.90 from beginning of operations, March 15, 1949 (then only 4,000 TV receivers in Dayton), to November 1, 1950. Actually, the losses experienced were much greater than set out above in view of the fact that early development costs and initial television broadcasting expenses were borne largely by WLW-radio.

Following the original construction and upon receipt of "show cause" orders following the Commission's sixth report and order, Crosley spent in total \$200,000 in making channel changes and another \$300,000 to increase power to maximum with new high gain antennas in Cincinnati, Dayton, and Columbus.

Since the initial broadcasts on these three stations, Crosley has pioneered in the extension of operating schedules and has invested hundreds of thousands of dollars in program development.

To bring the best talent and special events to its viewers, Crosley spent \$128,560 from March 11, 1949 to June 27, 1951, to construct and operate its own microwave relay system in the absence of regular Bell System relay and cable service.

In addition to the aforementioned expenditures to stimulate an interest in television and, therefore, to purchase of receivers by the public, Crosley expended in 1 promotion alone, \$48,000 in staging a 3-day TV jubilee in each city, Cincinnati, Dayton, and Columbus. All TV set manufacturers participated in the promotion to make the public more television conscious. Yet all costs were borne by the Crosley Broadcasting Corp.

As the result of such aggressive leadership, these 3 cities (as of March 1954) have a higher percentage of set saturation than has Chicago, not only a much larger city but 1 having 4 TV stations.

On February 11, 1953, Crosley purchased WLTV, Atlanta, Ga. (then VHF channel 8, now 11), from Broadcasting, Inc., at a cost of \$1,450,000.

Immediately, Crosley invested \$136,000 in program development and as of April 13, 1953, lengthened its programing schedule from 73 hours to 107 hours per week and opened its broadcast day at 9 a. m. rather than at 1:50 p. m., forcing the 2 competitive stations to commence early morning programing service. Again, Crosley has just recently extended its Atlanta schedule and is now broadcasting 114 hours a week and is signing on at 8 a. m., Monday through Friday.

WLW-TV was, and still is, without full DuMont and ABC network service. The station is expending additional funds to bring such service from the networks through a costly cable arrangement.

Capital investments for WLW-A have been considerable and will before long approach the total originally paid for the property. Investments include a new 50-kilowatt transmitter and allied equipment, new studio equipment, a new studio building (under lease) and property for a new high tower, construction of which is the next step contemplated in improving the service of the station to the public.

Exclusive of intercompany sales, in 15 months of operation, WLW-A has made a profit only 2 months, March 1954, amounting to \$272.83, April 1954 amounting to \$2,259.20. Yet capital investments will continue to be made, including the erection of a new tower of maximum height. Crosley has faith in Atlanta's future and as a company feels financially able and competent to continue VHF pioneering in that city, looking ahead to the time when it will prove to be a profitable operation.

In summary, before Crosley made a profit on any of its television operations, it sustained total losses of \$1,642,129.75, excluding Atlanta. In spite of these losses, it made capital investments beyond the initial construction cost (\$1,939,723.77) of \$668,968.57.

In the opinion of Crosley and in view of this record, UHF development, of necessity, must undergo similar stages and must be in the hands of licensees of financial stability in order to bring it to the level which VHF enjoys today. Crosley is not acquainted with all other VHF operations but is familiar with scores of them and is aware of their experience of similar losses during the costly stages of development prior to the attainment of the present status of VHF.

In the field of UHF, Crosley has granted the use of the tower of WLW-T to the Greater Cincinnati Educational Television Foundation for WCET, channel 48. It has also granted the use of a considerable portion of its transmitter building for this educational group and has contributed both air time (on WLW-T) and all production costs for a series of programs to promote this proposed UHF station.

Crosley has cooperated closely with UHF station WHIZ-TV, Zanesville, Ohio, and has, since that station commenced operation, cooperated with it in order that it might receive NBC program service directly from the tower of WLW-C, Columbus, even though Crosley's Columbus station renders service to Zanesville.

Additionally, we respectfully submit that in order to include and provide receiver facilities for UHF reception, we are informed that the manufacturing division of AVCO expended considerable sums in pioneering as early as 1950 in ultratuner converters and licensed two other companies to manufacture it. The manufacturing division, in company with other manufacturers, has incurred very substantial losses in order to further the ability of UHF stations to have available sets able to receive their transmissions.

The policy of this company will continue to be one of the closest cooperation with UHF stations, both educational and commercial.

STATEMENT OF TULSA BROADCASTING CO., STATION KTVX, MUSKOGEE, OKLA.,
PERMITTEE OF CHANNEL 8

Channels allocated to community: 8, 45,¹ 66.
VHF stations operating in community: None.
UHF stations operating in community: None.
Channels applied for: None.
Channels contested: None.
Construction permits outstanding: Channel 8.

STATEMENT OF L. A. BLUST, JR., VICE PRESIDENT AND GENERAL MANAGER,
TELEVISION STATION KTVX, CHANNEL 8, MUSKOGEE, OKLA.

My name is L. A. Blust, Jr. I am vice president and general manager of the Tulsa Broadcasting Co., operators of radio stations KTUL, Tulsa, Okla., and KFPW, Fort Smith, Ark., and permittee of television station KTVX, channel 8 in Muskogee, Okla. KTVX was granted a construction permit by the FCC on April 9, 1954, and is presently under construction.

The Tulsa Broadcasting Co., permittee of KTVX, is owned by the principal stockholders of Griffin Grocery Co. of Muskogee, Okla. John T. Griffin is president. James C. Leake, vice president, Marjory Griffin Leake, vice president, and Bryan Mathes, secretary and treasurer. All the officers and principal stockholders of the Griffin Grocery Co. live in Muskogee, Okla., the city to which ITVX is assigned.

The Tulsa Broadcasting Co. applied for channel 8 at Tulsa shortly prior to the 1948 freeze. At that time there was no VHF channel assigned to Muskogee and channel 8 was then available for Tulsa. After the sixth report and order, channel 8 was taken away from Tulsa and assigned to Muskogee. Because the principal stockholders of the Tulsa Broadcasting Co. lived in Muskogee, it was decided to dismiss its application for channel 8 at Tulsa and apply for the Muskogee channel 8. This application was filed in June 1952.

There were UHF channels available in both Tulsa and Muskogee at the time the Tulsa Broadcasting Co. applied for VHF channel 8 in Muskogee; but since our intentions were to serve the greatest number of people possible, and since the UHF channels at that time did not seem to us to fill these requirements, we filed for the VHF channel 8 at Muskogee.

Two other applicants applied for channel 8 in Muskogee and the FCC finally set the hearing on January 6, 1954, to begin on February 5, 1944. On March 6, 1954, the examiner issued an initial decision in favor of the Tulsa Broadcasting Co., and this decision was made final by the FCC on April 9, 1954. Thus much effort and planning have gone into the television project of KTVX, channel 8, Muskogee, Okla., by the Tulsa Broadcasting Co.

It is estimated that over \$30,000 has been spent on legal fees, engineering fees, salaries, surveys, traveling expenses, hearing costs, and consultant fees to process and bring the KTVX project to a successful conclusion.

¹ Reserved for noncommercial educational use.

In our application for ITVX before the FCC we have indicated that we intend to spend approximately \$800,000 to build our television station. Substantial sums of money have already been spent on equipment and buildings and the balance is either contracted for or will be contracted for by the time the station goes on the air early in September 1954.

We, therefore, respectfully request that this committee take into consideration the case of KTVX as well as many other VHF operators before any action is taken.

In general we will oppose the following proposals made by the UHF group and its advocates:

1. The elimination of intermixture of VHF and UHF channels.
2. The allocation of all television stations to the UHF band exclusively.
3. The imposition of any freeze upon application proceedings or upon the issuance of operating authority covering permits already granted.
4. The reduction and limitation of the coverage areas of VHF stations.

We propose to support the following proposals made in the hearings:

1. All reasonable and proper steps to encourage production and distribution of receiving sets having all channel tuners.
2. The use of booster stations to improve service inside a station's coverage area.

We intend to make as many constructive suggestions as possible as to how the economic and program resources of the industry can be expanded, but we intend to oppose those proposals that would have an adverse effect upon the whole medium in its attempt to get revenue and programs.

All the rules and regulations of the FCC have been followed by the Tulsa Broadcasting Co. in their long struggle to obtain a television permit. It would be grossly unjust to change the ground rules after the game has been played. The VHF operators have also invested millions of dollars and much time and effort on facilities, which were won in fair contests before the FCC. They are rendering a service to many areas and communities which would not receive a service if their stations were required to operate on the UHF band.

There is an element of risk in the operation of any business. Some will succeed and some will fail, depending upon the resourcefulness, the energy, their know-how, and many other factors. It would seem unwise, however, to impose restrictions on the successful operators to the end that all would fail. This would be giving the television industry a blow that might well kill it instead of curing any minor ills it might have.

It is, therefore, respectfully requested that this committee thoroughly investigate the foregoing facts before taking action on the proposals of the UHF group, and that both sides of the question be thoroughly investigated before any decisions are reached. The city of Muskogee should not be further delayed in having its only television station.

STATEMENT OF WKY RADIOPHONE CO., STATION WKY-TV, OKLAHOMA CITY, OKLA.,
OPERATOR OF CHANNEL 4

Channels allocated to community: 4, 9, 13,¹ 19, 25.
VHF stations operating in community: Channels 4, 9.
UHF stations operating in community: Channels 19, 25.
Channels applied for: None.
Channels contested: None.
Construction permits outstanding: ¹ 13.

STATEMENT OF WKY RADIOPHONE CO., LICENSEE OF TELEVISION STATION WKY-TV,
OPERATING ON CHANNEL 4, USING MAXIMUM POWER PERMITTED BY THE FEDERAL
COMMUNICATIONS COMMISSION

Prior to the decision of our company to apply for a construction permit, we contacted existing stations to determine their financial history, as well as their evaluation of the future of the television industry. Among these stations were: WBKB, Chicago; KSD-TV, St. Louis; KFI-TV, Los Angeles; WTMJ-TV, Milwaukee; KLEE-TV, Houston; KBTB, Dallas; and KRSC-TV, Seattle.

It is interesting to note that not one of the stations listed above gave us any encouragement, but to the contrary we were counseled not to enter the television business because of the financial burden to the parent company.

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Our early investigations proved:

- (a) Apathy on the part of potential advertisers toward the television media.
- (b) High cost of television receivers.
- (c) Small picture tubes. (Some were 10 inches and other were even as small as 7 inches).
- (d) No estimate as to when cable facilities would be extended to the Southwest.
- (e) Program sources were practically nonexistent.

It will be noted that some of the obstacles confronting our station in 1948 are confronting UHF licensees at the present time with the exception of program sources, receiver cost and size of picture tubes.

Despite the gloomy future our president, E. K. Gaylord, decided the people of Oklahoma deserved television, and that regardless of the cost our company should provide television service to Oklahoma. When this decision was made not a single television receiver was available in the State of Oklahoma.

On April 18, 1948, we filed an application for a construction permit with the Federal Communications Commission requesting channel 4, and on June 2, 1948, a construction permit for this channel was granted and the call letters WKY-TV assigned. In less than 6 weeks, or on July 12, 1948, we had placed an order with the Radio Corp. of America for television equipment that obligated our company for \$288,378.83.

Prior to receipt of the television equipment the Federal Communications Commission, on September 30, 1948, issued its freeze order. Despite an uncertainty caused by this order, construction was commenced in accordance with the construction permit issued by the Federal Communications Commission, and commercial operation of WKY-TV began June 6, 1949.

The largest sum we lost during a single month was \$34,791.15 and the first year of our operation, 1949, we lost \$186,777.43. In 1950 we lost \$82,868.35, or a total of \$269,645 before a modest profit was shown in October 1950. Therefore, it required 16 months of continuous losses to find a month in which we broke even.

During the 5 years WKY-TV has been in operation we have obtained every technical improvement developed by the industry engineers and authorized by the Federal Communications Commission.

Currently we are operating at the maximum power permitted by the Federal Communications Commission, and recently have obligated our company for approximately \$300,000 in order to pioneer color television. WKY-TV was the first station to receive color cameras which permit the production of live color telecasts, and at present we are producing 5 hours per week of live color programming which is in excess of the combined operations of the 4 so-called national networks.

During the 5 years of our television operation we have paid only 1 dividend to our stockholders, and with this exception all of the net income has been expended to improve our television facilities and our program service to the people of Oklahoma.

We retained Pulse, Inc., of New York, to make a survey of 29 counties in Oklahoma. This survey was made in January 1954. The survey included the following counties:

Caddo	Logan	Okfuskee
Kingfisher	Payne	Hughes
Noble	Blaine	Pontotoc
Grady	Garfield	Murray
Oklahoma	McClain	Stephens
Seminole	Lincoln	Comanche
Canadian	Pottawatomie	Kiowa
Cleveland	Major	Washita
Dewey	Pawnee	Custer
Garvin	Creek	

This research company also determined the television penetration of these counties and found the VHF penetration to be 58 percent while the UHF penetration was 7.9 percent. There are approximately 250,000 receivers in this area.

In a survey also conducted by Pulse, Inc., in January, 1954, for Oklahoma City, this research company reported the VHF penetration for Oklahoma City was 73.1 percent, while UHF penetration was 14.5 percent.

Our initial operation provided approximately 18 hours of programming per week. At present we are providing 18 hours and 15 minutes of programming per day, being on the air from 6 a. m., to 12:15 a. m., Monday through Friday, with a slightly reduced schedule on Saturday and Sunday. Our total programming efforts per week amount to 121 hours and 15 minutes.

902 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

STATEMENT OF OKLAHOMA TELEVISION CORP., STATION KWTU, OKLAHOMA CITY OKLA., OPERATOR OF CHANNEL 9

Channels allocated to community: 4, 9, 13,¹ 19, 25.
VHF stations operating in community: Channels 4, 9.
UHF stations operating in community: Channels 19, 25.
Channels applied for: None.
Channels contested: None.
Construction permits outstanding: Channel 13.¹

KWTU,
OKLAHOMA TELEVISION CORP.,
Oklahoma City 14, Okla., June 7, 1954.

MR. W. THEODORE PIERSON, PIERSON & BALL,
Washington, D. C.

DEAR MR. PIERSON: When the KWTU construction permit was granted on July 23, 1953, there was only one VHF channel in Oklahoma City. As a consequence, many of the top network and transcribed television shows were not available to viewers in this area.

Realizing the importance of the situation, KWTU proceeded with the greatest possible speed, and at an extra expense of approximately \$100,000 to build temporary studios, to purchase a special 345-foot tower, and all of the other equipment necessary for the installation. This was done to make CBS shows, as well as other transcribed programs, available to this market. We are now completing our new building at a cost of approximately \$450,000. Construction on our new, 1,572-foot tower is now underway. The cost of the tower alone is \$600,000, and while we are presently operating on a 10 kilowatt transmitter, installation of a 50 kilowatt transmitter is also under way. When our plant is completed and we are operating with full power of 316 kilowatts from our 1,572-foot tower, KWTU will have an investment of almost \$2,000,000.

The construction of the 1,572-foot tower was approved by our organization to enable KWTU to give television service to areas in Oklahoma that otherwise might never be served.

When KWTU went on the air on December 20, 1953, we spent approximately \$15,000 publicizing and advertising the new channel—and a full list of CBS programs along with other film shows would be available to the viewers in our area.

Just as soon as we can determine a definite starting date (which is now projected for October 1, 1954) from our new tower, KWTU will launch another newspaper and advertising campaign—using practically every daily and weekly newspaper in Oklahoma.

Without any question, the inauguration of television service by KWTU has meant a tremendous improvement of program service to people in this area. It brought about a competitive situation that had not existed for approximately 4 years.

The viewers and listeners have profited greatly by the coming of KWTU. Needless to say, all of the troubles, trials, and difficulties were part of KWTU's problems. They were increased by the fact that we were crowding construction to make service available at the earliest possible moment.

On December 20, when KWTU inaugurated service, there were practically no UHF converters in this area. However, the best evidence that KWTU or the VHF stations in this market have not retarded UHF progress is the fact that in the last issue of Broadcasting Telecasting, it is stated that more than 100,000 sets have UHF converters in this area.

The source of this statement comes from no one other than Mr. John Esau who operates a UHF station in this market. Assuming that his figures are correct—that almost 50 percent of the television sets in the Oklahoma City have been converted in the face of two VHF stations. KWTU found with the operation of channel 4 during the 4 years prior to our channel 9, made a problem for many viewers in our class B and fringe areas. These people had all installed low-band, channel 4, antennas. We will meet this situation again when we start our operation from our 1,572-foot tower. In other words, thousands of television-set owners have found for the best reception in the outlying areas, that the installation of a channel 9, or high-band antenna—or the installation of an all-service antenna, is advisable for the best reception.

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STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 903

We feel that any change in the present allocation of television channels—or any freeze for any additional channels to be issued, would be a serious obstacle for the advancement and further progress of the television business.

Our attorney in Washington, D. C., Mr. Frank Fletcher, has been authorized to represent us in the hearings and is also authorized to cooperate with you to the fullest extent.

Cordially yours.

EDGAR T. BELL,
General Manager.

STATEMENT OF IRWIN COMMUNITY TELEVISION Co., IRWIN, PA.

APPLICANT FOR CHANNEL 4

Channels allocated to Irwin: 4.
Channels allocated to Pittsburgh: 2, 11, 13,¹ 16, 47, 53.
VHF stations operating in community: Channels 2, 13.
UHF stations operating in community: Channels 16, 53.
Channels applied for: Channels 4, 11.
Channels contested: Channels 4, 11.
Construction permits outstanding: Channel 47.

TESTIMONY OF EDWARD J. HIRSHBERG, PRESIDENT OF IRWIN COMMUNITY TELEVISION Co., IRWIN, PA.

I am Edward J. Hirshberg, president of Irwin Community Television Co., an applicant for VHF television channel 4, Irwin, Pa. I desire to oppose the suggestions which I understand have been made to this subcommittee that (1) the FCC freeze VHF hearings and grants, and (2) that all television should be removed to the UHF band.

Irwin Community Television Co. is comprised of 156 stockholders, the bulk of whom reside in Irwin and the surrounding area outside of Pittsburgh. Our company was incorporated in May 1953, for the purpose of filing application with the FCC for a television station on channel 4, which has been allocated to Irwin. Our stockholders are business and civic leaders who wish to render a television expression. Irwin is more than 15 miles from Pittsburgh—and we feel there is a definite need for a television station such as we propose which will be locally owned and operated. As you may know, Pittsburgh already has two VHF stations, WTIV on channel 2 and educational station WQED on channel 13; and two UHF stations, WENS on channel 16 and WKJP-TV on channel 53. In addition, VHF channel 11 has been allocated to Pittsburgh, with the three applicants now in a hearing contest for the frequency specifying Pittsburgh as the main studio location. The remaining Pittsburgh allocation, UHF channel 47, has been granted to WTVQ but the station is not yet in operation.

On April 21, 1954, our application for channel 4 was designated for comparative hearing with 4 other applications for this frequency. The hearing commenced May 21, 1954, with a prehearing conference, and a further hearing is scheduled for June 15, 1954. Much time, effort, and expense have been incurred by our company and its stockholders both prior to and since the filing of our application on June 23, 1953. It should be noted that all three of the Pittsburgh UHF stations were granted in a relatively short time without contest and without hearings. The time, effort, and expense incurred in obtaining such grants are small compared to that which is required of the 5 applicants going through the comparative hearing for channel 4. Moreover, present indications are that a final decision on channel 4 cannot be anticipated for a number of months.

No public purpose would be served by freezing the hearing on channel 4 now under way, or by freezing the decision upon completion of the hearing. The Irwin area needs a local television service now. The Pittsburgh stations have not endeavored to meet this need. Channel 4 represents the only possibility for local television service in our area; and to freeze the channel would indefinitely deprive the area of such service. The delays required by the hearing process in themselves are detrimental; but the imposition of a freeze would be disastrous from the public standpoint.

¹ Reserved for noncommercial educational use.

Moreover, consideration should be given to the considerable effort and expense already incurred by the 5 applicants for channel 4, which applied in reliance on the FCC allocation of the frequency to Irwin. The UHF permittees in Pittsburgh concluded, as a matter of business judgment, to apply for UHF and obtain quick uncontested grants, knowing full well they would have immediate competition from the existing VHF station WDTV, as well as competition from channels 11 and 13 in Pittsburgh when grants were made on those frequencies. It now would be unjust for them to contend that because of economic difficulties they may have encountered, a freeze should be placed on further VHF hearings or grants for stations serving the area which they serve. UHF permittees have taken a business risk; but it is not the American system to freeze competition to bail out business risks, particularly when, as here, potential viewer competitors have invested substantial time, effort, and money in reliance on a Government allocation made after careful deliberation and with full opportunity for public objections to such allocation.

Irwin community opposes any suggestion that all television be moved to the UHF band because it believes that VHF is much better adapted to serving the public in areas such as Irwin where the terrain is rugged, and because the American public has expended millions upon millions of dollars in VHF receiving sets and antenna installations. It has been proven beyond doubt that VHF can do the coverage job required in hilly areas such as ours, but there is some question whether UHF, because of its technical limitations, can do as good a coverage job. In any event, the expense of obtaining equivalent coverage in the two bands is much greater for UHF. Furthermore, the loss to the American public of its investment in VHF receivers and antennas would be many times the losses of the present UHF stations were all television to be moved to the UHF band.

STATEMENT OF WJAC, INC. STATION WJAC-TV, JOHNSTOWN, PA.,
LICENSEE OF CHANNEL 6

Channels allocated to community: 6, 56.
VHF stations operating in community: Channel 6.
UHF stations operating in community: Channel 56.
Channels applied for: None.
Channels contested: None.
Construction permits outstanding: None.

JUNE 1, 1954.

Hon. Senator CHARLES E. POTTER,
Chairman, Communications Subcommittee,
Senate Office Building, Washington, D. C.

DEAR SENATOR: In view of the many statements made by the UHF Telecasters Committee before your distinguished body, we feel it necessary that certain of our views be incorporated into the record of your hearing.

We brought television to central Pennsylvania beginning September 15, 1949, when there were approximately 1,500 sets in the entire area. Four years later, the UHF station came on the air with the set count in the neighborhood of 675,000, none of which were equipped to receive UHF. We have been exceptionally proud of the program standards held by our station, and brought out by the innumerable letters received from viewers. We have consistently carried all the top shows. Needless to say, this has made it difficult to obtain conversions for UHF reception. However, we should point out that with the type of terrain in our area, if every television set owner in metropolitan Johnstown and metropolitan Altoona were to obtain a converter and attempt to receive the UHF signal, a minimum of 40 percent of the homes would be without television. We are conservative in our figure, and from all engineering information available we know it to be true.

As you can see, in the neighborhood of \$50 million worth of television sets plus the many millions of dollars already invested in antennas would become obsolete. It is certainly inconceivable that the distinguished Members of the United States Senate on your committee would consider anything that would result in a loss of this nature to the residents of just one small area of the United States.

We might also point out, although we believe it is not necessary, that we began our television operation without any assurance whatever that we would ever make money. We had only our faith in the industry and the people of our country. This assurance and faith has been the beginning of many successful enter-

prises, and we believe, further, that it is the desire of your committee that a faith of this type remain part of the American way.

Your sincere consideration on the problems of the VHF telecasters in a terrain such as ours is most respectfully requested.

Yours very truly,

ALVIN D. SCHROTT,
Treasurer and General Manager.

STATEMENT OF ALLEGHENY BROADCASTING CORP., APPLICANT FOR CHANNEL 4 AT
MCKEESPORT, PA.

Channels allocated to Irwin: 4.
Channels allocated to Pittsburgh: 2, 11, 13¹, 16, 47, 53.
VHF stations operating in community: Channels 2, 13¹.
UHF stations operating in community: Channels 16, 53.
Channels applied for: Channels 4, 11.
Channels contested: Channels 4, 11.
Construction permits outstanding: Channel 47.

STATEMENT OF LEE W. ECKELS, ALLEGHENY BROADCASTING CORP.

I am secretary-treasurer and a member of the board of directors of Allegheny Broadcasting Corp., Pittsburgh, Pa. Allegheny Broadcasting Corp. is licensee of standard broadcast station KQV, Pittsburgh, Pa., and since October 1945, has been an applicant for a permit to construct a new commercial television station in the Pittsburgh area. Its application now requests the use of channel 4 with main studios in McKeesport, Pa., which city is a part of the Pittsburgh standard metropolitan area.

Under the Table of Assignments set forth in the rules of the Federal Communications Commission VHF channels 2, 11, and 13, and UHF channels 16, 47, and 53 are allocated for use in the city of Pittsburgh, with channel 13 being allocated for noncommercial educational use; and channel 4 is assigned to Irwin, Pa., a suburban community situated in the Pittsburgh metropolitan area. The Pittsburgh standard metropolitan area, according to the 1950 United States Census, has a population of 2,213,236. It comprises Allegheny, Beaver, Washington, and Westmoreland Counties.

The situation with respect to the channels already assigned to the Pittsburgh area is summarized as follows:

Station WDTV, licensed to Du Mont, operates on channel 2 and for more than 4½ years was the only television station in the Pittsburgh area. It carries programs furnished by the four national networks, Du Mont, Columbia, American, and National. It commenced operation in January 1949.

On July 14, 1953, station WKJF-TV commenced commercial operation on UHF channel 53. It carries some network programs furnished by the National network.

On August 25, 1953, station WENS commenced commercial operation on channel 16, and carries programs furnished by the Columbia and American networks.

There is also a construction permit outstanding for station WTVQ on channel 47, which permit expires on July 6, 1954. The station is not yet on the air, and I do not know the status of its construction.

Noncommercial educational station WQED commenced operation early in April 1954.

The two unassigned channels in the Pittsburgh metropolitan area are 4 and 11, both of which are now involved in public hearings before the Commission. There are 5 applications, including that of Allegheny Broadcasting Corp., requesting use of channel 4 and 3 applications requesting the use of channel 11.

An attempt has been made to determine the number of television sets distributed in the areas serviced by Pittsburgh television stations. The information available is not adequate to permit an accurate estimate of the number of VHF sets in use in the area or the number which have not been converted or are not capable of UHF reception. However, it is noted that station WDTV claims that there are 990,000 sets in its service area and station WENS claims approximately 307,000 television sets in its service area capable of UHF recep-

¹ Reserved for noncommercial educational use.

tion. On this basis it would appear that approximately 680,000 sets in the service area of WDTV are presently unconverted and incapable of UHF reception.

The fact that there have already been grants of stations on the 3 UHF channels, 2 of which have been in operation for about 10 months, may raise a question as to why, at the termination of the so-called freeze in 1952, Allegheny continued to request the use of a VHF channel rather than to apply for the use of one of the UHF channels assigned to the area.

This matter was carefully considered. The factors which led to our decision can be summarized as follows:

The advice given by our chief engineer and consulting engineers was to the effect that UHF channels could not, within any reasonably foreseeable time, be expected to provide as adequate a service in the Pittsburgh metropolitan area as could be provided by the VHF channels. Our engineers were aware of field surveys conducted by Westinghouse engineers in 1949 which indicated that propagation on UHF channels over the rough terrain of the Pittsburgh metropolitan area was not as indicated by the Commission's curves as then proposed and was decidedly inferior to that experienced on VHF channels. While we considered as a certainty that both UHF transmitting and receiving equipment would improve and that the difficulties presented by the rough terrain would probably be largely overcome, we had no reasonable assurance as to when such improvements might be expected. Weighing all these factors, we concluded not to abandon the prosecution of our application for a VHF channel in favor of a UHF channel.

It has been suggested in this record that the Commission adopt another "freeze" policy with respect to VHF. It has also been suggested that the Commission suspend action for a year upon the Pittsburgh area channel 4 applications. The following of either of these suggestions would unnecessarily conflict further injury upon the more than 2 million people residing in the Pittsburgh metropolitan area. It must be remembered that, because of the television "freeze" in effect between 1948 and 1952, for a period of 4½ years these people had available to them the service of only 1 station, WDTV; and in view of the fact that more than 50 percent of the sets in the area are incapable of receiving UHF, it cannot be said that the 2 UHF stations now in operation have fulfilled the need for additional television service in the Pittsburgh area.

Moreover, the interests of Allegheny Broadcasting Corp. would also be further injured. In this connection, Allegheny Broadcasting Corp. has had pending before the Commission an application for a television station since October 1945. Through April 1954, the corporation has paid out over \$92,000 as charges incident to the preparation and prosecution of such application. In addition thereto, a total sum of \$1,850,000 has been committed to the project; and the corporation is currently paying a commitment charge upon \$1,250,000 of such total amount. Thus, a further "freeze" or delay would result in extreme hardship to Allegheny Broadcasting Corp.

It has also been suggested that all television broadcasting be moved to the UHF band. This action would not serve the public interest insofar as the Pittsburgh metropolitan area is concerned. This is especially true considering the fact that, in the rough terrain of the area, UHF is substantially inferior to VHF from a technical standpoint. This has been established by the Westinghouse field measurements taken in 1949 and has been fully confirmed by the operation of other UHF stations in this and other areas of similar rough terrain. Moreover, such action would result in completely unjustified, severe economic hardship and injury to the VHF-only set owners in the Pittsburgh metropolitan area. Such sets undoubtedly represent an investment of well over \$100 million. As to many, complete loss could be avoided only by the expenditure of additional sums for conversion to UHF. But, as to others, conversion would be to no avail and their sets would be rendered obsolete.

There is no merit to the implication in this record to the effect that Pittsburgh UHF station operators were lured into their positions upon the assumption that there would be but two commercial VHF stations in the area against which they would have to compete, as indicated by the allocations set forth in the sixth report and order of the Commission. Such UHF station operators for some weeks before receiving their grants were aware of the Commission's allocation of channel 4 for use in Irwin (or some other city within 15 miles thereof) and that the station ultimately assigned the channel would serve the Pittsburgh metropolitan area. With full knowledge of this allocation, they chose to prosecute their unopposed applications for UHF facilities as an alternative to being subjected to a competitive hearing on either channel 11 or channel 4.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 907

In conclusion, it is the position of Allegheny Broadcasting Corp. that (i) a further "freeze" on the processing of applications and construction permits, or (ii) suspension of the channel 4 proceeding in the Pittsburgh metropolitan area, or (iii) any action to restrict television broadcasting to the UHF band would not serve the public interest.

LEE W. ECKELS,
Secretary-Treasurer.

STATEMENT OF WCAU, INC., STATION WCAU-TV, PHILADELPHIA, PA.

OPERATOR OF CHANNEL 10

Channels allocated to community: 3, 6, 10, 17, 23, 29,¹ 35.
VHF stations operating in community: Channels 3, 6, 10.
UHF stations operating in community: None.
Channels applied for: None.
Channels contested: None.
Construction permits outstanding: Channels 23, 29.

WCAU,
Philadelphia, June 1, 1954.

PIERSON & BALL,
Washington, D. C.

GENTLEMEN: In regard to the present Senate committee hearings on the problems of UHF, I feel it is important that the same committee be shown some of the difficulties that VHF operators encountered in their early days of telecasting.

WCAU-TV officially started commercial broadcasting as of May 28, 1948. Prior to that time, for approximately 2 months, we had been broadcasting experimentally. At that time, we had an investment in equipment and studio conversion of approximately \$680,000. Our operating loss during the year of 1948 was \$439,299. In 1949, our operating loss was \$391,357 and our operating loss through April of 1950 amounted to \$25,000. These losses were despite the fact that our radio operation carried 75 percent of all administrative overhead including real-estate rentals, building maintenance, light, heat, air conditioning, and such dual-capacity departments as administrative auditing, promotion, engineering, music, etc.

On May 28, 1948, according to the best estimates at that time, there were only about 35,000 sets in our market. Currently, in the coverage area of WCAU-TV, there are approximately 1,600,000 sets. Obviously, this large number would cause an insurmountable conversion problem if thought were given to changing all VHF broadcasting to UHF. So far as we know, there is no exact figure for the possible number of sets that have been converted to UHF.

Yours most sincerely,

DONALD W. THORNBURGH.

STATEMENT OF WCSC, INC., STATION WCSC-TV, CHARLESTON, S. C.

OPERATOR OF CHANNEL 5

Channels allocated to community: 2, 5,¹ 13, 17.
VHF stations operating in community: Channel 5.
UHF stations operating in community: None.
Channels applied for: None.
Channels contested: None.
Construction permits outstanding: Channel 2.

STATEMENT OF JOHN M. RIVERS, PRESIDENT, WCSC, INC., ON BEHALF OF WCSC-TV, CHANNEL 5, CHARLESTON, S. C.

WCSC-TV, licensed for 100,000 watts on channel 5, in Charleston, S. C., commenced construction in December of 1953. Broadcasting operations commenced June 19, 1953, under an interim authorization of 31,000 watts from a tower height of 525 feet with a 6-bay RCA antenna. Our investment, by the time we

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begin to operate at our maximum licensed power, will be approximately \$400,000 for equipment alone, plus another \$100,000 in specially designed studio built for WCSC's use and rented to WCSC for a period of 35 years. As of April 12, 1954, based on the Nielsen nationwide surveys and the monthly releases from RETMA, there are 114,000 VHF television receivers within a radius of 100 miles of this station, representing an investment of approximately \$35 million on the part of the people in this area. Approximately 40 percent of the homes are now equipped to receive television and it is reasonable to expect that there will be invested in VHF television receivers an additional \$20 million in the next 1 or 2 years.

We oppose any freeze on the granting of VHF licenses, we oppose the allocation of all television stations to the UHF band exclusively, particularly in our own case the junking of \$400,000 worth of equipment would do us irreparable damage, the economic injury being of such proportions as to probably cause the failure of this enterprise, and we can see no reasonable justification to obsolete \$30 to \$70 million of receivers in the hands of the public, bought in good faith in the expectation of receiving continuing service from stations in the VHF band.

The undersigned recalls that the Columbia Broadcasting System several years ago released a statement regarding their position about affiliation with UHF stations. This statement was widely circulated in the television trade press and a prudent investor in UHF facilities had ample warning that at least one network seriously doubted the soundness of investment in UHF equipment.

No committee of Congress, or manufacturers, or the public, have offered to underwrite our investment in frequency modulation. We made such an investment in the hope that it would prove to be profitable. The fact that frequency modulation has not in our case been profitable does not justify our asking that AM radio be moved into the FM band, nor does it justify our asking Congress to reimburse us for our unfortunate investment. WCSC has experienced substantial difficulty in gaining recognition from advertisers, from the network, from the national spot level, and from the local level. We are, at the moment, the only station in the South Carolina coastal area and within the first year of operation we have been successful in gaining recognition from sufficiently large numbers of advertisers to give us a profitable operation.

We are faced with competition in the fall of 1954, and depending upon the policies of our competitor our business may either continue to be a profitable one or it may very well, and quickly, be changed into substantial losses, therefore, an investor in television, inasmuch as it is a new media, by the very nature of the business, takes substantial economic risks, and in secondary markets such as the coastal area of South Carolina, we know of no positive assurance that television, regardless of its class of station, will automatically earn substantial returns on invested capital. We urge upon the committee every possible help that Congress can give to have manufacturers build all channel tuners to the end that the public may have the widest selectivity of program material, but we can see no reasonable justification for the elimination of intermixture of UHF and VHF and the allocation of all television to the UHF band exclusively, and respectfully ask the Congress that no such punitive step be taken to destroy our own investment and the millions invested by the public to receive programs from this and other similarly situated stations.

JOHN M. RIVERS,
President, WCSC, Inc.

STATEMENT OF CAROLINA BROADCASTING SYSTEM, INC., STATION WNCT,
GREENVILLE, S. C.

OPERATOR OF CHANNEL 9

Channels allocated to community: 9.
VHF stations operating in community: 9.
UHF stations operating in community: 9.
Channels applied for: None.
Channels contested: None.
Construction permits outstanding: None.

[Telegram]

JUNE 1, 1954.

PIERSON & BALL,
Washington, D. C.:

Carolina Broadcasting System, Inc., owners of WNCT, Greenville, N. C., channel 9, desires to join informal group you represent in protesting move of all television to UHF. Greenville is town of 18,000 in eastern North Carolina and depends completely upon population area within 60 miles to have adequate base for support television for this area. Undoubtedly would be denied if reduced in area served by moving to UHF it would obsolete more than 50,000 sets. We desire committee to take any and all measures to secure future of UHF short of destroying VHF. Please remember millions of citizens throughout Nation will be denied any television if VHF service is discarded.

A. HARTWELL CAMPBELL, *Manager.*

STATEMENT OF MOUNTAIN CITY TELEVISION, INC., CHATTANOOGA, TENN.,

APPLICANT FOR CHANNEL 3

Channels allocated to community: 3, 12, 43, 49, 55.¹
VHF stations operating in community: Channel 12.
UHF stations operating in community: None.
Channels applied for: Channel 3.
Channels contested: Channel 3.
Construction permits outstanding: None.

STATEMENT OF RAMON G. PATTERSON, PRESIDENT OF MOUNTAIN CITY TELEVISION, INC., APPLICANT FOR A VHF TELEVISION STATION AT CHATTANOOGA, TENN.

Mr. Chairman and members of the Senate Subcommittee on Communications: In view of the fact that your committee has been offered many proposals designed to cure the economic ills of those persons engaged in UHF television operation, I thought that in order to get a complete picture, you would be interested in receiving the views of persons like myself who would be severely injured should some of the recommendations made by the UHF proponents be adopted by your committee.

The most alarming suggestion, to me, was the recommendation that an immediate freeze of VHF grants be instituted by the Federal Communications Commission in order to give UHF operators an opportunity to commercially exploit their stations without VHF competition. This, to me, is certainly not the normal concept of American competition and while on a conjectural basis, it may be of some assistance to the UHF operators, it would certainly be disastrous financially to me and my associates.

Chattanooga, Tenn., has been assigned channels 3, 12, 43, 49, and 55. Channel 55 is assigned for noncommercial educational use. Mountain City Television, Inc., could, if it had desired to do so, have applied for any of the foregoing channels with the exception of channel 55. Obtaining a UHF grant in Chattanooga would have been comparatively easy however, it would have been a gamble as to whether or not the VHF channels allocated to the city were to be granted in a short time by the Commission or whether they would be so tied up in prolonged bitterly fought hearings as to give the UHF operator time to establish himself. The reason he would need time to establish himself is because fair television signals in the VHF band are received in Chattanooga from Atlanta stations. Most of the UHF operators thus knew or should have known when they applied for their stations that they were engaging in not only the television business, but in a risky gambling enterprise.

Based upon the best advice it could obtain from all available sources, Mountain City, in March of 1952 filed an application requesting VHF channel 3. When it filed its application, it knew it would have to compete with any other applicants who might file for this channel; two applications were filed for channel 3 in Chattanooga and a hearing, therefore, became mandatory.

The hearing on the Mountain City application and that of its competitor commenced before an examiner of the Commission on April 20, 1953. The hearing

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consumed many days and the record in the case was finally closed on August 20, 1954. Besides the sessions held in Washington, depositions in support of its application and its competitor's applications were taken in Chattanooga, Tenn., during May 1953 and one deposition was taken in Chattanooga in August 1953. Proposed findings of fact and conclusions of law were prepared on behalf of Mountain City Television, Inc., and were filed with the examiner. The case has been in the examiner's hands for some months and an initial decision is expected momentarily.

The expenses which Mountain City has incurred in the filing and prosecution of its application have amounted to more than \$20,000. These expenses include attorneys' fees, engineering fees, transportation of witness to Washington, D. C., hotel bills, options on land and buildings, court reporter costs, printing costs, labor costs in connection with the preparation of exhibits for the hearing and interest on money borrowed. When the examiner's initial decision is released, there undoubtedly will be additional fees and costs amounting to many more thousands of dollars before a final decision is released by the Commission.

At the present time, there are no UHF stations operating in Chattanooga. There is one VHF station operating. Assuming it is successful, Mountain City Television, Inc., can complete with this station if its application should be granted within a reasonable period of time; if, however, the granting of VHF stations should be frozen for an indefinite period so the UHF operators in other communities can operate until they show a profit, then it is doubtful whether the Mountain City station will ever be able to effectively compete with the VHF station, which by then will already be firmly established in Chattanooga. Moreover, the freezing of VHF grants in Chattanooga would not only result in giving the existing VHF station a monopoly in the area for an indefinite period of time but would also deprive not only the viewers, but the commercial interests of Chattanooga of a choice of local television stations.

As has been pointed out above, since there are no UHF stations in the city of Chattanooga, the freezing of VHF grants would in no wise benefit UHF operators either in Chattanooga or elsewhere.

Another suggestion has been made to the effect that all UHF stations should be transferred to the UHF band. This also would be disastrous to Mountain City Television, Inc., since in order to get on the air as quickly as possible (should its application be granted), approximately \$100,000 worth of television equipment has already been purchased by Mountain City and is in storage in Chattanooga, Tenn. This equipment was purchased in good faith on the premise that there would be VHF stations and, therefore, should the Mountain City application be denied, then in that event, the equipment could undoubtedly be sold, even at a discount, to some other VHF applicant. A large part of the moneys already invested in this equipment is represented by a transmitter and antenna which are only usable for VHF operations; consequently, any transfer of all television stations to the UHF band would again cause irreparable economic injury to my associates and me.

I should like the Committee to know that I am sympathetic with the plight of the UHF operators, even though they should have known that operation in mixed areas was a risky venture and could result in great losses and am hopeful that in some way a solution to their difficulties may be discovered. However, I think it would be quite unfair to endeavor to straighten out the UHF difficulties by any method which will cause serious economic injury to other persons who in good faith, have already expended many thousands of dollars.

STATEMENT OF CARTER PUBLICATIONS, INC., STATION WBAP-TV FORT WORTH, TEX.

OPERATOR OF CHANNEL 5

Channels allocated to community: 5, 11, 20, 26.¹
 UHF stations operating in community: Channel 5.
 UHF stations operating in community: None.
 Channels applied for: Channel 11.
 Channels contested: Channel 11.
 Construction permits outstanding: None.

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JUNE 2, 1954.

Hon. CHARLES E. POTTER,
*Chairman, Subcommittee of the Interstate and Foreign Commerce
 Committee, Washington, D. C.*

DEAR SIR: In connection with the hearings now being conducted by the subcommittee of the Senate Interstate and Foreign Commerce Committee investigating the problem of the ultra-high frequency television operations, the undersigned desires to submit the following information and data which may be of some help to the committee in its determination of the problem that is presently studying.

Television station WBAP-TV located at Fort Worth, Tex., was licensed to Carter Publications, Inc., and began operation under date of September 29, 1948. At the time of such operation there was a total of 500 receiving sets in the Fort Worth-Dallas area, which area had a combined population of 1,115,512. Source: Sales Management Survey of Buying Power, May 1949. Since the beginning of operations and by diligent effort as well as constant promotion in cooperation with both manufacturers and distributors, receiving sets circulation has increased in the area so that there are now some 376,000 television receivers. Since there is no ultra-high frequency television station serving the community, there has been no conversion of VHF receivers to accommodate UHF reception.

Carter Publications, Inc., originally invested in the construction of its VHF television station the sum of \$1,500,000, such expenditure covering land, construction cost, and television operating equipment. Since that time and for the sole purpose of keeping abreast with the television art, the licensee has invested an additional sum of \$1,200,000 so that its invested capital in television station WPAB-TV as of this time is \$2,700,000. The sum of \$2,700,000 so invested represents capital investment only as distinguished from any expenditure for operations.

From the date of operation, namely, September 29, 1948, and until October 31, 1950, the VHF television station continuously operated at a loss, which loss aggregated the sum of \$230,500. The average monthly loss during the 2-year period of time was \$9,583.33. In the month of November 1950, the financial picture changed so that there was a gross profit for such month of \$122.09. Since that time the station has continued to make money; however, such earnings have been of a slow and progressive nature as distinguished from a sudden and rapid return. The success of the VHF operation can be attributed to the policies initiated by its owner with respect to the furnishing of an outstanding program service (irrespective of cost) which the viewing public will accept as meritorious and worthwhile; the constant adding of additional capital to replace obsolete equipment and in keeping abreast with the new technological developments in the industry, to the end that the public receives the finest in program service.

Very truly yours,

CARTER PUBLICATIONS, INC.,
Harold Hough, Vice President.

STATEMENT OF HARBENITO BROADCASTING COMPANY, INC., STATION KGBT-TV,
 HARLINGEN, TEX.

OPERATOR OF CHANNEL 4

Channels allocated to community (Brownsville-Harlingen-Weslaco) : 4, 5, 23, 36.
 VHF stations operating in community : Channels 4, 5.
 UHF stations operating in community : None.
 Channels applied for : None.
 Channels contested : None.
 Construction permits outstanding : None.

JUNE 4, 1954.

PIERSON & BALL,
Washington, D. C.

GENTLEMEN: We wish to express our individual view regarding the proposal before the Potter Committee for the elimination of coverage of power of VHF stations.

Our market is an isolated area, agricultural in nature, and is stretched over a 75-mile area. VHF coverage at lower power is, in our opinion, the only method that can afford to operate in this market.

This organization invested money and time during the channel-allocation hearings to get a VHF channel moved to the center of the area. We went to considerable expense and time to consolidate radio facilities here to get channel 4 without a hearing. Although KGBT-TV was the first station operating here on the American side of the Rio Grande, our situation was made easier somewhat by channel 7 having been in operation from Matamoros for 2 years prior to our opening. Channel 7, from Mexico, used American programs from all networks and American films. This created a set count of approximately 25 percent saturation at the time we opened, October 4, 1953. However, with the start, we sustained some severe losses while getting network and local programming and to move our set count to a 40- to 45-percent saturation.

For the size of the market, we have a large investment in VHF equipment and in programming. All sets in the area are VHF sets. In our opinion, no UHF combination sets have been sold in the area. A switch from VHF to UHF would be the same as starting in a new area with no sets in the market. The loss in transmitting equipment and future operational losses would make operation under such a change doubtful. A reduction in coverage would segment the market and make operation possible only on such a reduced schedule as to lose much of the effectiveness of a station.

Sincerely,

TROY McDANIEL,
General Manager.

STATEMENT OF WICHITA FALLS TELEVISION, INC., STATION KWFT-TV,
WICHITA FALLS, TEX.

OPERATOR OF CHANNEL 6

Channels allocated to community: 3, 6, 16,¹ 22.
VHF stations operating in community: Channels 3, 6.
UHF stations operating in community: None.
Channels applied for: None.
Channels contested: None.
Construction permits outstanding: None.

KWFT-TV began telecasting on VHF channel 6, March 6, 1953. An interim operation with single-bay antenna and 135-foot tower was necessary until FM tower could be rebuilt and 5-bay antenna delivered. KWFT-TV began operating on full authorized power as of July 17, 1953.

At the time we went on the air, there were very few sets in the community. Our best guess was that there were probably about 500. The owners of these sets had high towers with antenna installed to receive Oklahoma City, Dallas, and Fort Worth stations. During our first month's operation, we devoted a great amount of effort and expense to promoting the sale of sets in this area. This was accelerated to some degree when our competitor, KFDX-TV went on the air April 12, 1953.

KFDX-TV is affiliated with NBC television and ABC television, and KWFT-TV is affiliated with CBS television and Du Mont.

In the early days of our operation it was very difficult to get network programs because advertisers felt that we did not have enough sets in the market. It has only been recently that our network schedule has begun to improve. There are a great many of the better programs which we have been unable to get orders for this market even though a great amount of effort has been put forth in this direction.

For the period March 1, 1953, through April 30, 1954, our total operating loss was \$89,241.68. Our loss for the month of April was \$7,632.62. We are hopeful that we will reach a break-even figure by fall.

Our total investment in television is approximately \$400,000, and we feel that it will be necessary to spend an additional \$100,000 to go to maximum power in order to provide adequate service to the area.

There are now approximately 75,000 sets in the area which we service, and since there is no UHF service at all in this area, the elimination of VHF would mean that all these sets would have to be converted. To our best knowledge there have been very few sets sold in this area which will receive UHF.

WICHITA FALLS TELEVISION, INC.
By KENYON BROWN, *President.*

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STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 913

STATEMENT OF FISHER'S BLEND STATION, INC. STATION KOMO-TV SEATTLE,
WASHINGTON

OPERATOR OF CHANNEL 4

Channels allocated to community: 4, 5, 7, 9,¹ 20, 26.
VHF stations operating in community: Channels 4, 5.
UHF stations operating in community: None.
Channels applied for: Channel 7.
Channels contested: Channel 7.
Construction permits outstanding: Channels 9,¹ 20.

JUNE 8, 1954.

Chairman of the Senate Subcommittee on Communications and Its Members:

Pertaining to the subcommittee's investigation as to UHF television, the undersigned, Fisher's Blend Station, Inc., licensee of channel 4, KOMO-TV in Seattle, Wash., respectfully submits the following observations:

1. As of May 1 there were an estimated 351,100 sets in our service area. In the event all VHF stations in this area were required to convert to UHF at least 95 percent of these sets, or 333,000, would become obsolete and require conversion for UHF at a cost ranging from \$15 to \$50 per set.

2. The 2 existing television stations in Seattle, channel 4 and channel 5, are of necessity situated on the top of one of the highest hills in Seattle with the maximum antenna height allowed by the Federal Communications Commission of 1,000 feet. Seattle is an extremely hilly terrain and even with the height of the existing television towers, a very considerable area served by these stations is unable to obtain a good signal, because of shadows and obstructions. This difficulty will be multiplied manifold if only UHF television is obtainable since the bending characteristics and the propagation of UHF signals are distinctly inferior to that of VHF signals.

3. The television set owners in this area have invested very substantial sums in home antennas situated upon their roofs in order to receive VHF signals; in many instances they have gone considerably beyond normal costs to eliminate ghosting and other reception problems caused by the hilly terrain. UHF conversion would render the present receiving antennas obsolete and would require new antennas at an additional average cost of at least \$40 per home. Even with good antennas the problem of ghosting and fill-in behind the hills could not be met with UHF. It is the opinion of competent engineers, including our own, that a very substantial percentage of homes in our primary service area would not be able to receive a satisfactory UHF picture. UHF conversion of these channels would be ruinous to the commercial value of television in Seattle.

4. KOMO-TV represents an investment in buildings and equipment alone totaling in excess of \$1,249,000. This does not include the preparation and planning costs involving a large number of personnel carried over a period of 5 years in anticipation of the ending of the 3½-year freeze. Our original application for television was filed in April 1948. Over one-half million dollars was expended in studio facilities in anticipation of our early entry into television. Our investment was predicated upon the availability to us of a VHF channel, thus enabling us to adequately cover the hilly area of Seattle and to operate as a regional station as well. Had we known or been advised that a UHF channel would be assigned to us, we would not have made the investment nor would we have applied for a television channel. In the event we are deprived of our VHF assignment of channel 4, we in effect by governmental edict have suffered a very substantial loss which in our opinion amounts to completely unjustifiable confiscation.

5. Because of the freeze we were delayed in our entry into television until December 10, 1953. While there was then a sizable ownership of television receiving sets established in the area, the profit picture to date for KOMO-TV has not been overly attractive. Our profits in fact have only approximated one-half in percentage to sales as compared to our profits in radio prior to television. A long period of risk faces us in view of the imminence of color, requiring transmitter conversion and heavy costs of studio and originating color equipment.

6. In the last analysis the value of a television station to the advertiser is in terms of cost per thousand viewers. The increasingly high cost of network programming and the very competitive situation which exists in the Seattle market today, further complicated by the addition, in the near future, of another competitive VHF station, together with the competitive bidding for film material and local talent is bringing about a steadily increasing cost to the advertiser.

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This can only be justified on the basis of increasing set ownership at the same or greater rate. If UHF is the exclusive television signal for the Seattle area, a very substantial number of people will refuse to buy television sets, and many will discard their present sets because of inability to receive a satisfactory UHF picture. In other words, television in Seattle would be in very serious jeopardy.

It is respectfully urged that the present channel assignments arrived at in a period of over 3 years' study by the Federal Communications Commission should not be disturbed. The people in this area with 3 commercial and 1 educational VHF channels and 2 UHF channels assigned to Seattle together with 2 VHF and 2 UHF channels assigned to Tacoma are more than adequately served under the present assignments. No benefit and only harm will result to the public if all channels are converted to UHF or if part of the channels are assigned to UHF.

Respectfully submitted.

DONALD G. GRAHAM.

STATEMENT OF LOUIS WASMER, SPOKANE, WASH.

PERMITTEE OF CHANNEL 2

Channels allocated to community: 2, 4, 6, 7.¹

VHF stations operating in community: Channels 4, 6.

UHF stations operating in community: None.

Channels applied for: None.

Channels contested: None.

Construction permits outstanding: Channel 2.

JUNE 1, 1954.

PIERSON & BALL,
Washington, D. C.

GENTLEMEN: Pertinent to the Potter hearings—Senate subcommittee investigating television problems.

I have read with great interest some of the preposterous proposals made by the UHF group and its advocates. In the first place, each and every applicant for a UHF channel made his or her application fully realizing that there was a difference between UHF and VHF. For these licensees and permittees to now suggest that the very high bands be abandoned is just as practical as all FM licensees requesting that AM licenses be canceled and moved to FM bands.

The complaint of the UHF licensees and permittees is akin to the age-old struggle between high and low band AM broadcasters, regional and clear channels. These debates, protests, and hearings have been going on since the organization of the first Federal Radio Commission.

In point, I personally operated an AM station on what has always been known as graveyard frequency, namely, KGA at Spokane, at a loss for many years. While it is true that I attempted to improve the frequency of the station during my period of ownership, I did not request that all licensees from 900 kilocycles to 550 kilocycles be moved into the poor band that had been allocated to me.

At this moment I am constructing a television station under a construction permit issued in March. I first made application for a television station in Spokane in May 1952, and was obliged to go through with comparative hearing in order to obtain the construction permit. The total cost of obtaining this construction permit for final decision was \$114,000. I am not engaged in constructing this television station and expect to have an investment of at least \$750,000 when it is completed. The uncertain position that I find myself in due to the improper claims and demands made by the UHF group are extremely disturbing and cause me to give serious consideration as to whether I should go forward with construction at this point.

Very truly yours,

LOUIS WASMER.

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STATEMENT OF WSAZ, INC., STATION WSAZ-TV, HUNTINGTON, W. VA.

OPERATOR OF CHANNEL 3

Channels allocated to community : 3, 13, 53.¹
 VHF stations operating in community : Channel 3.
 UHF stations operating in community : None.
 Channel applied for : Channel 13.
 Channel contested : Channel 13.
 Construction permits outstanding : None.

My name is Lawrence H. Rogers and I am the vice president and general manager of Station WSAZ-TV at Huntington, W. Va.

I. DECISION TO ENTER TELEVISION

WSAZ, Inc., filed for a television construction permit in May 1948, requesting facilities of 12-kilowatt ERP visual on channel 5, assigned to Huntington, W. Va. The permit was issued on July 29, 1948.

II. QUESTION OF THE FREEZE

The now famous freeze order was issued shortly after our construction permit arrived. Naturally this caused consternation among the stockholders, who naturally anticipated that the permit might be subject to major revision after a quarter-million dollar investment had been made. This subject was discussed with the then Chairman Coy, who said, in effect, that it was our money, and we were free to spend it any way we chose. As for any indication as to what might come of the freeze, he didn't know. We decided that the obvious potential impact of television, the tremendous importance to a town of 85,000, the know-how of a successful radio operation, outweighed the gloomy atmosphere; construction was commenced.

III. HOW OF TELEVISION, 1954

A far gloomier aspect than that of the UHF operation of today faced us in 1949. There were 154 sets in our area, and the area of that day was perforce thought to be our hometown of 85,000 since TV signals were line-of-sight signals only according to the best informed sources. No one had ever built a television station in such rough terrain as ours, or in such a small city. The gamble was made on the theory that if we covered Ashland, Ky., and Ironton, Ohio—adjacencies in the home market—we might squeak through; if we also could reach Portsmouth, Ohio, and Charlestown, W. Va., we were sure of a potential that could put us in the black.

At that point, our primary problem was the physical task of getting a signal behind the sharp ridges and into deep valleys. What to put on that signal was another matter. There was no network available to us. There was no likelihood of network connection even if they wanted to affiliate us. No one of our home communities was large enough to boast a large entertainment circuit or availability of talent. This was simply a start-from-scratch operation.

Some operators had reported considerable savings by combining studio and transmitter operations. We planned likewise. But to do so meant sacrificing all hope of success by limiting coverage to only the hometown; or to put our transmitter in a location that could not be readily reached. Thus, when matters of access of personnel, feeding personnel, access of talent or visting dignitaries, shipment of film, and many other daily operating problems were considered, we decided to build downtown studios, and a mountaintop transmitter. New studios were required on theory that combining with radio studios would seriously hamper radio operations; furthermore not enough space was available for an adequate TV studio.

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Lack of local talent required thinking of sports coverage as a sure-fire set builder. This meant in addition a complete remote unit.

Foregoing resulted in a third of a million dollars being spent to put on the air a station which in essence was as complete as any metropolitan area station in a small town—at that time underpromoted and underexploited by the national distributors and advertisers as private enterprise.

The present situation, we are convinced, will right itself if permitted to proceed along democratic, free-enterprise lines—just as has been the history of radio and all other business. The people will be served—and those who have the ability and facilities will serve them—if left alone by other than fair rules of the game. The engineering brains of the electronic industry will evolve ways and means so that public demand is met, in all parts of the country, without subsidies or protection or preferential treatment to those who through a mistaken judgment or limited abilities and experience, or both, seem to feel that they should be maintained in business despite economic realities and at the expense of those who had the courage and willingness to pioneer this field.

After all, who is complaining and raising all the hubbub? Certainly not the public. Let us not be carried away by the clamor of the few who are not crying out in behalf of the people, but rather because of their own economic plight and selfish interests.

However, it was noted that our signal was penetrating hills, and our coverage was reaching points 75 miles distant with some regularity. Thus it was felt that if service could be provided beyond the weak half-million dollar efforts to date, it might reach homes by the hundred thousand, thus becoming an effort capable of returning the investment and providing an important service.

Plans were devised for the erection of an intercity microwave relay system to interconnect us with the Cincinnati stations. Even without network orders we could then provide Cincinnati baseball and other events of similar magnitude. An additional revenue source might be advertisers who used the Ohio Valley area on a regional basis. This project was undertaken at an approximate cost of \$150,000, and not without some soul-searching and blind faith on the part of stockholders and management. There were no startlingly successful precedents to offer us hope.

VI. NEW ERA OPERATIONS

The mere fact of interconnection did not spell success. It did build the set population; but it didn't sell advertising at such a rate as might have been hoped for. As a result, expanded service hours, more regional efforts, and more showmanship, were decided upon as the answer to profitable operations. We were spending in excess of \$30,000 per month before we found the formula for profit. To attract the public's attention it was necessary to give them everything they asked for and more of it.

VII. CONTINUED TECHNICAL PROGRESS

WSAZ-TV has installed every major development for the improvement of television as it has been developed. Working closely with the Commission after the sixth report, we installed the first postfreeze transmitter and accomplished a shift from channel 5 to channel 3 with the minimum disruption of service. As soon as conditions permitted, we built and occupied a complete new production center with facilities for every type of local program. We have continued to pioneer in local and regional news and public affairs programing, and went on the air with network color in March 1954, 6 months ahead of schedule.

VIII

All of the foregoing projects have been carried on at the expense of the total earnings of the corporation in both television and AM broadcasting. Even now, an additional \$350,000 is being spent to improve and solidify the technical facilities with regard to dependable coverage in very difficult terrain. It has been seen that the corporation risked a third of a million dollars to get into television, only to see the operation lose over \$100,000 before it found the formula for profit. Then, it was as a result of spending an additional \$100,000 and more for facilities. Faith in the future of this project has prompted the company to invest almost an additional \$1,000,000 of earnings and added capital to provide permanent quarters and the greatest possible transmission facilities within the ability of our engineering force to create, and within the present and predictable regulations of the FCC.

IX. SCOPE OF SERVICE TO PUBLIC

From the risky beginnings of a "minimum" operation, we have expanded to a complete round-the-clock broadcasting service employing 150 persons and bringing new fame and fortune to the area covered. We have made every effort to promote areawide understanding and unity through an aggressive program of news, special events, and public affairs programs, via live, remote, and film operations.

We telecast nearly 120 hours a week of which nearly a quarter is live local. At last count we had 114 separate live local shows a week. To demonstrate the scope and seriousness of our public service efforts we have full-time experts serving as: Educational program director; religious program consultant; public affairs director; farm director; news and special events director.

The educational director coordinates, produces, and sometimes participates in daily programming which is presented in coordination with colleges and county boards of education from all major communities of our area. The religious director coordinates Sunday worship services, semiweekly religious advice programs, and devotional activities and special events. The farm director is a man who served for 40 years as county agent; known and revered throughout the area, he contributes much to the rural viewer. Public affairs director's duties range from production of special programming in conjunction with chemical industry, to special shows for collection of blood for Red Cross. He coordinates all public service campaigns on the station and represents the station in public service groups.

In the field of news and special events, WSAZ-TV maintains a full staff of news reporters and cameramen, with an editorial supervisor under the news director. The editorial supervisor comes to us with a background as assistant professor of journalism at West Virginia University. In addition, a staff of movie photographers is supplemented by a group of a dozen or more "stringers" in towns and villages all over the West Virginia-Ohio-Kentucky area. Daily film reports are received on all manner of local news events, customs and activities.

In addition WSAZ-TV staff and executives, as well as the company, are active in every major community or area activity for civic betterment. We have been instrumental in the success of projects as diverse as a new airport in Huntington, and a new symphony association in the village of Pomeroy, Ohio.

X. EXISTENCE THREATENED

There are over 400,000 families equipped with VHF receivers within range of WSAZ-TV. Of these, not more than 10 percent are equipped for UHF reception at present; indeed, not more than 20 percent are within range of a UHF signal even if they were so equipped. Thus a change of channel to UHF now would mean an immediate total loss of service to some 360,000 homes—representing an investment in TV installations by the public of our area of over a \$100 million. The permanent loss of service that could result in such a change in channel would be felt by as many as a quarter of a million homes, representing a public investment in sets, antennas, and service of as much as 75 millions. This estimate is based upon the coverage differential in our terrain of the channel 3 signal on 60 megacycles as against an ultra-high-frequency signal perhaps 10 times as high. The UHF signal simply will not penetrate the rugged hills, and thus must depend upon the more compact centers of population. But our area population is scattered over many thousands of square miles of hills and hollows through eastern Kentucky, southern West Virginia, and the Virginia panhandle. It does not seem feasible to deprive these Americans altogether of this TV service.

Because of the terrain difficulties scores of mountain communities have built their own multifamily antenna systems at great effort and cost. This method of picking up the WSAZ-TV signal provides these people's only contact with the outside world—a whole new world that has been opened to them by this electronic miracle. The effort and expense in some of these home installations is prodigious. I have visited the home of one mine foreman in Logan County, whose antenna lead, like hundreds of his neighbors, runs 4,000 feet up the almost sheer face of a mountain. This man's television means so much to him that he spent an entire summer of leisure hours and weekends hacking a path up the mountain for this lead wire—and in the process killed 27 rattlesnakes whose skins he proudly displayed on the backyard fence. This man, and dozens of thousands like him, would lose his investments, the fruits of his travail and his entire contact with modern-day America and the world if VHF television were abolished. The responsibility for such an action by this com-

mittee, or the Commission, must be accepted with the consciousness of the fate of the dollars spent by the mountain people, of our Nation who happen to live beyond presently possible UHF signal propagation.

The scope of operations of WSAZ-TV, constituting as it does a major contribution to every major civic area improvement program, is dependent wholly and absolutely upon the continuance of its regional coverage nature and the national advertising revenues derived therefrom. Every facet of our experience dictates that a change from this coverage picture would force the drastic reduction in personnel, operating hours, public service activities, and overall scope of programming. Retention of large staff of entertainment talent and above-listed public service specialists would be impossible, and the public would be the greatest loser. Any effort to improve nationwide service by destroying the efforts of the pioneer stations must necessarily depreciate rather than improve the benefit to the public.

LAWRENCE H. ROGERS,
Vice President and General Manager.

STATEMENT OF WKBH TELEVISION, INC., LA CROSSE, WIS.

PERMITTEE OF CHANNEL 8

Channel allocated to community: 8, 32,¹ 38, 72.
VHF stations operating in community: None.
UHF stations operating in community: None.
Channels applied for: None.
Construction permits outstanding: Channels 8, 38.

WKBH,
La Crosse, Wis., May 29, 1954.

PIERSON & BALL,
Washington, D. C.

GENTLEMEN: We have already wired you indicating our wholehearted support of the policies advocated by your group and being presented before the Potter committee hearings.

Our proposed TV station has received a construction permit and plans to go on the air August 1, 1954. As of April 30, 1954, we had already expended over \$146,000 and, in addition, had undertaken obligations pursuant to performing the construction authorized in our permit in the amount of \$315,000. I may say here that it would be financially impossible for us to pay the interest on our obligations and pay other expenses currently being incurred, should any freeze be placed upon our station materially delaying the time when we could begin commercial operation. Should a material delay or freeze be imposed upon us, it could possibly be serious enough to prevent our ever getting on the air.

As of April 2, 1954, there were over 23,000 TV sets within a 57-mile radius of La Crosse, a majority of which will not receive a good signal until we get on the air. A very large majority of these sets are not equipped to receive UHF stations, since there are no such stations within this area, and consequently should the committee propose to force all stations into the UHF band practically all of these set owners would be forced to invest more money in order to be able to receive a TV station. This would involve a large investment on their part in the purchasing of different antennas, sets, or other equipment necessary to enable them to receive UHF signals. It would obviously also involve large expenditures on the part of our company, which were never anticipated.

We would like to state here that although we are definitely opposed to Government subsidy of any kind for any type of radio or TV station, that should the Potter committee give serious consideration to this matter, we would like to point out that there will also be a given number of VHF stations who would benefit from such a subsidy as well as an appreciable number of AM and FM stations. We furthermore respectfully request that the committee, if it should ever seriously consider the matter of subsidies, that it not forget that there are many good Americans engaged in various types of enterprise outside of the radio and television field who might also benefit from financial assistance by the Government. However, let us point out here again and emphasize more

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our very definite opposition to any thought of any type of subsidy for any American by the Government of the United States.

Very truly yours,

WKBH-WKBT,
HOWARD DAHL, *Manager.*

STATEMENT OF BADGER TELEVISION Co., Inc., MADISON, WIS.

APPLICANT FOR CHANNEL 3

Channels allocated to community: 3, 21,¹ 27, 33.
VHF stations operating in community: None.
UHF stations operating in community: Channels 21,¹ 27, 33.
Channels applied for: Channel 3.
Channels contested: Channel 3.
Construction permits outstanding: None.

WIBA,
BADGER BROADCASTING Co.,
Madison 5, Wis., June 3, 1954.

Re VHF Committee

PIERSON & BALL,
Washington, D. C.

GENTLEMEN: In reply to the telegram of May 28 from the informal VHF group, the undersigned desires to present the position of Badger Television Co., Inc., of Madison, Wis., an applicant for VHF channel 3 in Madison.

Badger Television Co., Inc., is a consolidation of Badger Broadcasting Co.—WIBA, AM and FM—and Television of Wisconsin, Inc. There is one other competitor for the channel 3 allocation in Madison, Radio Wisconsin, Inc., WISC. A comparative hearing was conducted in Washington during the month of December 1953, and at this moment we are awaiting the examiner's initial decision.

Badger Broadcasting Co. first applied for a television station in Madison in February 1948. This application was for channel 9, then assigned to Madison, and before a grant could be made the FCC freeze was imposed and the application lay dormant until 1952 when the Commission announced a new allocation plan. Under this new plan, Madison was assigned VHF channel 3 and UHF channels 21, 27, and 33, with channel 21 set aside for educational use. Prior to and subsequent to the sixth report and order, our competitor, Radio Wisconsin, Inc., endeavored, through numerous petitions, to change the FCC allocations, requesting the Commission to set aside channel 3 for education and set up UHF channels 21, 27, and 33 for commercial use. These petitions all were denied. During this period, Badger Broadcasting Co. filed with the Commission a lengthy statement supporting the Commission's allocation plan insofar as it related to the channels in Madison. It was then, in 1952, and is now the opinion of this organization that channel 3 is the only channel assigned to Madison which will completely serve the Madison area, and, since Madison is the capital city of Wisconsin, also the home of the University of Wisconsin, it is essential that the rural areas of southern Wisconsin be served as well as the urban areas. It is our opinion that a VHF channel can do this job whereas several UHF channels would be necessary to accomplish the same objective. The probability of covering these outside areas through UHF is quite unlikely.

It is a little difficult to estimate how much Badger Broadcasting Co. has spent in its television efforts since 1948, but it would amount to not less than \$5 million. Badger Television Co., Inc., of which Badger Broadcasting Co. is a part, has spent in excess of \$65,000 to date. This amount includes legal and engineering fees, travel, and incidental expenses. In addition, the company has spent approximately \$10,000 as deposits on an equipment contract. What expense is involved from this point up to a construction permit is difficult to estimate since we do not know at this time what appeals may be taken from the examiner's decision. It is quite unlikely that such expenses would be under \$10,000.

We are in agreement with the group which you represent in that there should be no further freeze at this time; also that the present allocations and intermixture of VHF and UHF channels be maintained.

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920 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

I would suggest that if further information is needed with respect to the Madison situation you contact Mr. Thomas W. Wilson or Mr. John P. Carr at the office of Dow, Lohnes & Albertson. The information contained in this letter may be used by you or the VHF group in any presentation to the Senate committee.

Sincerely yours,

KENNETH F. SCHMITT, *General Manager.*

STATEMENT OF CREAM CITY BROADCASTING CO., INC.,¹ MILWAUKEE, WIS.

APPLICANT FOR CHANNEL 6

Channels allocated to community: 4, 10,² 12, 19, 25, 31.
Channels allocated to Whitefish Bay: 6.
VHF stations operating in community: Channel 4.
UHF stations operating in community: Channels 19, 25.
Channels applied for: Channels 6, 10,² 12.
Channels contested: Channels 6, 12.
Construction permits outstanding: None.

MILWAUKEE, WIS., June 1, 1954.

PIERSON & BALL,
Washington 6, D. C.

GENTLEMEN: We understand that you represent the informal group consisting of Paul R. Bartlett, Hugh Halff, Jack Harris, J. Leonard Reinsch, L. H. Rogers, P. A. Sugg, H. W. Slavick, Robert D. Swezey, which has determined to participate through its representatives in the Potter hearings—the Senate subcommittee investigating UHF problems. We understand that the group that you represent opposes certain of the proposals made by the UHF group, including the elimination of intermixture of VHF and UHF, the allocation of all television stations to the UHF band exclusively, the imposition of any freeze upon application proceedings or upon the issuance of operating authority covering permits already granted, and the reduction and limitation of the coverage areas of VHF stations. We also understand that your group proposes to support all reasonable and proper steps to encourage production and distribution of receiving sets and all-channel tuners and the use of boosters to improve service inside a station's coverage area.

We are writing you this letter in order to support your views and to authorize you to disclose our support to the Senate subcommittee.

Cream City Broadcasting Co., Inc., operates standard broadcast station WMIL in Milwaukee, Wis., and previously held a construction permit for UHF channel 31 in Milwaukee. On December 4, 1953, Cream City Broadcasting Co. surrendered its construction permit for UHF channel 31 to the FCC for cancellation in order that we might be in a position to apply for VHF channel 6 which the Commission had allocated to Whitefish Bay. We are inclosing herewith a copy of our 2-page letter dated December 3, 1953, that we filed with the Federal Communications Commission on December 4, 1953, requesting the cancellation of our construction permit for UHF channel 31.

On April 7, 1954, Senator Potter wrote us a letter asking us our reasons for surrendering our construction permit on UHF channel 31, and on April 12, 1954, we replied to Senator Potter and transmitted to him a copy of our letter on December 3, 1953, addressed to the Commission. We are also inclosing herewith a copy of our letter of April 12, 1954, to Senator Potter.

We have been advised that our letter of April 12, 1954, was introduced by Senator Potter as one of the exhibits at the start of the hearings.

On December 4, 1953, at the same time that we requested the Federal Communications Commission to cancel our construction permit for UHF channel 31, we filed with the Commission our application requesting a construction permit for a television station on VHF channel 6 at Whitefish Bay, Wis., approximately 5 miles north of Milwaukee. There are two other applicants for this channel and a competitive hearing on the three applications has been ordered by the Federal Communications Commission. That hearing commenced on May 28, 1954.

¹ Cream City Broadcasting Co., Inc. is the former permittee of channel 31, Milwaukee.

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STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 921

We are prosecuting our application for VHF channel 6 at considerable expense and we join with your group in opposing those proposals of the UHF broadcasters which would have an adverse effect upon the whole television medium.

It is our opinion that a freeze upon further authorizations would definitely be adverse to the public interest.

Very truly yours,

CREAM CITY BROADCASTING CO., INC.,
By JEROME SILL, *Secretary-Treasurer.*

MILWAUKEE, WIS., April 12, 1954.

Senator CHARLES E. POTTER,
Committee on Interstate and Foreign Commerce,
United States Senate, Washington, D. C.

DEAR SENATOR POTTER: In response to your letter of April 7, I am attaching hereto a copy of the petition for dismissal of our grant on UHF channel 31, addressed to the Federal Communications Commission. This outlines, in detail, our reasons for turning back the grant.

I would like to add one further observation. You cannot, by legislation, force an advertiser to pay too much for his advertising. To attempt to do so would be a repudiation of our way of life. If an advertiser has available a VHF station covering 600,000 homes and also has available, in the same market, a UHF station covering 200,000 homes; if, as is always the case, the cost per thousand reduces as the circulation increases, that advertiser will buy the VHF station.

By the same token, a network cannot be forced—or should not be forced—to affiliate with a station that technically offers fewer potential listeners because the network, too, if it is to survive, must offer advertisers the most economical purchase available. I have seen no evidence to indicate that superpower to UHF is economically feasible or that it would make it possible for a UHF station to cover the same number of persons as a competing VHF at the same cost to the advertiser. Nor do I find good reason for expecting consumers to pay a premium for all-channel sets and special receiving antennas.

Perhaps the fault lies in the basic Federal Communications Commission philosophy of mixing VHF and UHF stations in the same market. There may well be a technical reason for this but, from the basis on which your committee is investigating the matter, therein lies the harm.

Sincerely yours,

JEROME SILL, *General Manager.*

MILWAUKEE, WIS., December 3, 1953.

WM. P. MASSING,
Acting Secretary, Federal Communications Commission,
Washington, D. C.

DEAR MR. MASSING: Cream City Broadcasting Co., Inc., filed its application for construction permit for a commercial television station on UHF channel No. 31 on November 13, 1952. After considerable delay, the application was granted on August 19, 1953. At the time the application was filed there was only one television station on the air in Milwaukee: WTMJ-TV on VHF channel No. 3. In the Commission's sixth report and order, WTMJ-TV was ordered to move to VHF channel No. 4, and the only other commercial television channels allocated to Milwaukee were VHF channel No. 12 and UHF channels No. 19, 25, and 31.

Immediately after the Commission granted the application of Cream City Broadcasting Co., Inc., for construction permit on UHF channel 31, we undertook to take the necessary steps looking toward the construction and operation of the station. We paid General Electric a deposit on the UHF television equipment, including the UHF transmitter. We employed Adler Communications Laboratories of New Rochelle, N. Y., to do preliminary work in connection with our UHF installation. We undertook to find additional studio space and commenced lease negotiations for such space. We interviewed several potential key personnel for our UHF station and also negotiated with a number of program sources for film programs. We met with representatives of American Telephone & Telegraph Co. and Wisconsin Telephone Co. to discuss the availability of leased lines and microwave facilities to be used for program originations. Mr. Jerome Sill, our general manager and secretary-treasurer of the company went to New York and negotiated with ABC, CBS, and Du Mont looking toward an affiliation contract for our proposed UHF station and he also discussed with several national sales representatives their availability to represent our proposed UHF station nationally.

922 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

On October 8, 1953, the Commission released its proposal to allocate VHF channel 6 to Whitefish Bay in the Milwaukee area. We consulted with our communications attorney and our consulting engineer and were advised that from an engineering and legal point of view the proposal to allocate VHF channel 6 to the Milwaukee area has changed the entire situation and has caused us to reassess the television situation in Milwaukee.

It was our purpose in filing our application originally to be in a position to render service to the greatest number of persons and we believed then that UHF would be an important factor because it appeared that there would be only two commercial VHF stations. It now appears that since there will be three commercial VHF stations that it will not be possible to carry out our original plans through the medium of UHF television.

A UHF signal can be received by only a fraction of the persons who can receive a VHF signal, because of the physical limitations of UHF propagation and because of the economics involved in attempting to obtain superpower on UHF, even were superpower equipment now available from the equipment manufacturers. Moreover, only a percentage of the families among the 500,000 who now view WTMJ-TV on VHF channel No. 4 could receive a WMIL-TV signal on UHF channel No. 31.

Moreover, the addition of VHF channel No. 6 to the Milwaukee area will, in the opinion of WMIL-TV, slow down considerably the conversion to UHF in Milwaukee. Conversion can be accomplished at considerable costs only through the purchase of converters of all-band receivers and special antenna.

There are in excess of 350,000 radio homes within the half-milivolt contour of WMIL. We had hoped to serve through the medium of television as many of these persons as possible with TV. It is apparent that it is not possible to do this on UHF channel 31 but it is feasible and possible to do so with a VHF channel. For these reasons, Cream City Broadcasting Co., Inc. has decided to file an application for VHF channel 6 and requests that the Commission cancel its outstanding construction permit for UHF Channel 31.

Very truly yours,

CREAM CITY BROADCASTING CO., INC.,
By GENE POSNER, *President*.

STATEMENT OF MIDCONTINENT BROADCASTING CO., STATION KELO-TV, SIOUX FALLS, S. DAK.

OPERATOR OF CHANNEL 11

Channels allocated to community: 11, 13, 38, 44.¹
VHF stations operating in community: Channel 11.
UHF stations operating in community: None.
Channels applied for: None.
Channels contested: None.
Construction permits outstanding: None.

STATEMENT OF KELO-TV, SIOUX FALLS, S. DAK., JUNE 2, 1954

In regard to our operation in Sioux Falls, S. Dak., telecasting date set at May 19, 1953, our main problem was to get proper circulation to maintain a substantial rate from the networks that would allow telecasting to be done on a break-even basis in this area. We started out originally with 4,500 sets in a radius of 60 miles. We know at the time of our telecasting that our entire strength would lay in our surrounding area much more than in our immediate city. This is because we are a rural community and we are thinly populated in the city in comparison to other markets. We actually have in this area, a city population of 50,000 and a population of approximately 300,000 within the area of 67½ miles. This made it necessary for us to put all our operating investment into signal strength, transmitterwise, tower height, and so forth. This was so important that we were unable to afford live cameras for this market when we originally started.

Our entire area at the time of telecasting had about 4,500 sets out of a potential of 109,000 homes. We now find that we have, after a year of broadcasting, 67,000 sets in the area of which 8,000 of these sets are in the city of Sioux Falls,

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12,000 sets are in the county of Minnehaha which is the home county, which means there is a total of 55,000 sets in our rural area which would be impossible to reach 50 percent of these with a UHF signal. We have a town of Mitchell, S. Dak., that is getting a fair signal from us now and it is 70 miles west and they are requesting us to increase our power so they can get proper service. We have a town we are servicing on the north which is Watertown, 80 miles distant, with approximately 1,200 sets in the town which is requesting more power so they can install more sets. These are fringe installations. On my desk here I have a signed affidavit by more than 250 people from the town of Estelline, S. Dak., which is approximately 80 miles from Sioux Falls, requesting that we increase our power so they will have better service in the area.

It is my personal opinion that a UHF installation in the rural communities such as ours would be practically useless as far as proper set coverage is concerned and it is highly impractical because of the amount of area that is required for a station to cover to make it economically possible to have set circulation to operate on. Our original rate starting in this station was \$150. We received an increase to \$200 after 6 months of operation on the air and from our experience of operation we were losing money at the rate of \$150, however, with careful economy we have found that combining our radio operation and television at a \$200 rate, gives us an opportunity to practically break even. If we are unable to cover a large area where we could get set saturation that would bring our rate up, we could not operate and we would have to discontinue television operations in this particular Sioux Falls region.

We do not feel this market is large enough for two stations because it has only been within the last month we have been able to operate on a break-even basis. With two stations in the market, this would be actually prohibitive. However, may I reiterate, our only chance of survival is the fact that we can have a VHF signal that will take us out approximately 60 to 70 miles with fair reception so that we can get set coverage that is required to maintain a very basis but still a low rate.

JOE FLOYD.

Mr. PIERSON. That concludes the witnesses of the VHF group.

Senator SCHOEPEL. Thank you very much, Mr. Pierson, and this does expedite the matter materially, and when it becomes a matter of record, then we will have the entire picture before us.

We have about 15 minutes here before we go down to the next operation downstairs. I note that Mr. Woodall from Columbus, Ga., is the next witness. I would like to take your testimony before we recess. You may proceed as you wish.

STATEMENT OF ALLEN M. WOODALL, PRESIDENT OF WDAK-TV, COLUMBUS, GA.

Mr. WOODALL. My name is Allen M. Woodall, and I am from Columbus, Ga. I am executive vice president of WRDW-TV, a VHF station in Augusta, Ga. I am president of WDAK-TV, a UHF station in Columbus, Ga. These two Georgia cities are 250 miles apart, just in case the thought of duopoly might arise.

I have the same financial interest in a UHF station as I do in a VHF station and I think I can speak impartially. I have to stay down the middle of the road since I am working both sides of the street.

It is generally understood that a trip to Washington is educational. This one is no exception as far as I am concerned, for I really had no idea how bad the UHF situation was in certain markets until I attended these hearings.

WDAK-TV is a successful UHF station. We have been in the black since we went on the air last October. There are two television stations in Columbus, Ga.—WDAK-TV on channel 28, and WRBL-TV on channel 4. Our VHF competition came on the air 6 weeks after our first program.

We went into UHF with our eyes wide open. Not a single soul pushed us in. The Federal Communications Commission gave us no verbal, written or implied promises that we could make money. In fact, we didn't even discuss it with them. We took the UHF channel because our radio competitors were both applying for channel 4. We thought they would be tied up for years, but they fooled us; they merged.

When this happened, we were surprised but not too unhappy. We had known all the time that eventually one of them would be our competitor; it ended up with both. In the merger, a family which owns both daily newspapers in Columbus owns 51 percent and control of the VHF station. This was not altogether unfavorable for us for there are many people unsympathetic to concentration of control of advertising media. If we had it to do all over again, we would take the same course.

We have had very few local problems. There were not very many television sets in the Columbus market because reception from Atlanta, 90 air miles distant, was poor. The old sets were quickly converted and practically every new set purchased was equipped to receive channel 28. In January 1954, 3 months after we had been on the air, American Research Bureau reported 87.6 percent conversion. This was confirmed 2 weeks later by Pulse. There have been no further surveys in Columbus, but we honestly believe that 95 percent of the television receivers in the Columbus area can receive WDAK-TV, our UHF station.

Senator SCHOEPEL. I think that is splendid. That shows what can be done. The distributors, as well as the manufacturers down there must be cooperating and at least must have given the public buying sets a utility value because of your local situation.

Mr. WOODALL. That is right.

Senator SCHOEPEL. That demonstrates what can be done.

Mr. WOODALL. I would like to state that the gentleman from Salt Lake City made reference to unsightly external tuners. These tuners may be very unsightly out in Salt Lake City, but they are terribly pretty in Columbus, Ga.

As you might imagine, Columbus people were quite excited with the advent of television. We did not have too much trouble signing up a considerable number of advertising contracts. In our favor, we already had the confidence, respect, and friendship of local advertisers through our many years of association in radio.

Our AM radio station carries more local business than any other Columbus station and at times we have been favored with more business than all the other stations combined.

We held our advertising contracts despite the fact that our competitive VHF station undercut our UHF rates by 25 percent. I guess Columbus is the only market in the country where it costs more to buy advertising on a UHF station than on a VHF station.

This is justified by our program structure plus conscientious service to our advertisers. We honestly try to see that every firm who spends a dollar with us gets more than a dollar in return. The Pulse survey of January showed that we had the largest listening audience from 7:30 to 10 p. m.—Mondays through Fridays. We acquired these listeners through network programs, live local shows, plus good,

syndicated programs. In Columbus, Ga., there is no UHF or VHF—it's just television—either channel 28 or channel 4.

And I hope you note that I put channel 28 first, Mr. Chairman.

We have no complaint with the networks. We have affiliation contracts with NBC, ABC, and Du Mont. Since the VHF station also operates a radio station affiliated with CBS, they are likewise CBS-TV affiliates, too. The VHF station carries no NBC or Du Mont programs.

They do carry one ABC program for which we could not clear. The program was offered to us by ABC but since we could not clear for it, we can certainly understand that they should then offer it to the other station.

But, if my UHF friends are under the impression that a network affiliation is an open sesame to programing, some of these days they'll have a rude awakening. The average network order is for 50-odd stations.

Lever Bros. is using only 72 stations on Lux Video Theater. Since Columbus is the 101st market in the United States, you can see that we don't get network orders automatically.

Every single one is a selling job. We couldn't expect NBC, ABC, or Du Mont to spend a lot of time selling WDAK-TV in Columbus, Ga. Their sales departments are busy selling network programs, not individual markets. All in all, they have given us a lot of cooperation. The VHF station certainly has the same problem as evidenced by the fact that they have less network programs than WDAK-TV.

We have lost no business to superpower claims. If WSB-TV in Atlanta covers 5 States, it's all right with us, but they certainly don't cover Columbus which is Georgia's second largest market with a metropolitan population of 170,000 people.

In the January Telepulse, the largest percentage of the Columbus audience for any program on WSB-TV was less than 6 percent. On one of the top NBC programs, Colgate Comedy Hour, WSB-TV came up in Columbus with a nice, big, fat, juicy goose egg. This figure helped us to get the Colgate order.

On network programing, our problem has been to sell our 101st market when the network advertiser is using only 50 to 75 stations. I will say, however, that the attitude of a few network advertisers toward UHF is depressing as well as unfair.

For instance, Firestone has a set policy to use no UHF stations. This deprives people in a UHF market of good programs. Getting back to Firestone, you can understand that we were pleased when NBC made their decision to place a different program in the Firestone time.

Senator SCHOEPEL. Do you have any idea why they did that? Of course, I suppose we can find out from Firestone. They surely do not have any objection to the television viewers on UHF.

Mr. WOODALL. Why Firestone does that?

Senator SCHOEPEL. Yes.

Mr. WOODALL. No, sir, I cannot tell you, Mr. Chairman. All I know is that that was the reply we got from Firestone. We made every effort we could to get the program from recommendations of the local Firestone dealers, and from a recommendation of the district office in Atlanta. That was the reply, and I have a letter in my file.

Senator SCHOEPPPEL. The reason I mentioned that, and it was not facetiously, was because I have received some letters as a member of this subcommittee, as well as the full committee, drawing my attention to the fact that Firestone was pushed off one network, and was having difficulty finding another spot. It drew my attention to the fact that here was something that ought to be looked into.

Mr. WOODALL. I have nothing to say about them being pushed, except to say that I am glad they were pushed off, since they would not give me their program.

Senator SCHOEPPPEL. Their public-relations man will probably be looking you up.

Mr. WOODALL. Our No. 1 and worst problem is Madison Avenue, and when I say that, Mr. Chairman, I use the term typifying the people on Madison Avenue who buy time.

There are too many time buyers who are under the impression that there are no good UHF stations. When a person goes before a jury, he is presumed to be innocent until he is proved guilty.

In UHF, you are automatically guilty until you prove yourself innocent. It is a hard job to cover all the agencies and all the time buyers, but we are making every possible effort toward this end and we believe in time that we will justify our position. We know that if the average time buyer would take a good, careful look, he would find a lot of pretty sorry VHF operations, too.

From all this, you can assume that we are not too unhappy with UHF. And despite everything you have heard, we are not the only exception. There are many other successful UHF operators.

Two UHF stations are doing well in Columbia, S. C., against a VHF competitor. The UHF station in Jackson, Miss., needs no help either. Montgomery, Ala.; St. Petersburg, Fla.; Wilkes-Barre, Harrisburg, and Scranton, Pa.; Milwaukee, Wis., and Peoria, Ill., are other stations in this category of which I have knowledge.

There must be many others. Regardless of which this committee recommends and what the Commission does or does not do, we intend to stay in business and be successful in Columbus, Ga. The late Gen. Nathan Bedford Forrest gave us our television slogan, "Fustest with the mostest." We intend to continue to get there fustest with the mostest.

On the other hand, Mr. Chairman, some of our UHF brothers haven't been so fortunate and we would like to see them get some help. Of course, if any sunshine is being scattered, we won't dodge out of the way. I read the testimony from the last hearing and I have listened all this week.

In my considered judgment, many of the plans proposed to you are utterly impractical—in fact, most of them. I know that this committee is sympathetic and reasonable. I have no doubt but that the Commission would be happy to render any possible assistance to the UHF industry if it is possible.

At this point I would like to say that the Commission has been criticized on the allocation. I ended up with a UHF station, but I can certainly say, Mr. Chairman, that the Federal Communications Commission had an awfully difficult job with allocations, and I don't know if I or anyone else could have done any better.

I am sure I could have done better as far as Columbus, Ga., is concerned, but not on the overall picture.

Four suggestions have been made to the committee which sound reasonable.

1. The elimination of the excise tax on all-channel television receivers.

2. Harold Fellows asked you to explore the possibility of providing good, all-channel receivers, and nothing except good, all-channel receivers. A directive from this committee or the Commission to the manufacturers might do the job.

3. Elimination of intermixture in specific markets would certainly give the UHF station equal opportunity with his competitor. If such a thing happened in Columbus, Ga., our first thought would be of the thousands of people who have bought all-channel sets or converters. It would not be fair for them to have gone to this expense and then have UHF service eliminated. This might well be taken care of in this manner: The UHF station could be turned over to the school systems for educational television.

4. We would like very much to see the Commission allow the networks and people like George Storey and Westinghouse to operate 2 additional UHF stations along with their 5 VHF outlets. Unquestionably, this would add a lot of stature to UHF television.

Thank you very much for the privilege of appearing before you.

Senator SCHOEPEL. Thank you very much, Mr. Woodall, for your very splendid statement.

Mr. WOODALL. Thank you, Mr. Chairman.

Senator SCHOEPEL. Those of you who are here ready to testify, might I say that we will recess this hearing until 2 o'clock today in this room, when we will continue.

I think the first witness will be Mr. Ernest L. Jahnecke, Jr., of the American Broadcasting Co.

(Whereupon, at 12:03 p. m., a recess was taken until 2 p. m., the same day.)

AFTERNOON SESSION

(The hearing reconvened at 2 p. m., Senator Potter (chairman of the subcommittee, presiding.)

Senator POTTER. The subcommittee will come to order.

First, I would like to incorporate telegrams from the following into the record at this point:

James M. Donal, Plandome, Long Island, N. Y.; Tom McMahon, Tenafly, N. J.; Richard Hubbell, New York City; Joan Blower, New York City; Miss Dorothy Border, Queens Village, Long Island, N. Y.; Louis Rossilo, Brooklyn, N. Y.; James P. O'Brien, Woodside, N. Y.; Gladys Lombardi, Ozone Park, N. Y.; Merriman Holtz, Brooklyn, N. Y.; Carmine Frank Patti, Brooklyn, N. Y.; Werner Michel, New York City; Roy Sharp, Clifton, N. J.; Robert Fish Jones, Upper Montclair, N. J.; A. L. Hollander, New York City; Ed Lieberthal, New York City; Ethel Vetter, New York City; Robert L. Coe, New York City; J. Reginald Cox, New York City; Edwin G. Koehler, Stony Brook, Long Island, N. Y.; Charles B. Hilton, Do-Re-Mi Farm, Danbury, Conn.; Richard B. Stark, Dumont, N. J.; Gerald Lyons, Jackson Heights, Long Island, N. Y.; Harry Pertka, Seaford, Long Island, N. Y.

(The telegrams referred to are as follows:)

Senator CHARLES E. POTTER,
Senate Building:

NEW YORK, N. Y., June 17, 1954.

UHF needs help. The FCC created the situation as it exists today, and unless something is done, television will become a monopoly—the private property of two networks. There is room and a need for four networks.

JAMES M. DOLAN,
Plandome, Long Island, N. Y.

Senator CHARLES E. POTTER,
Senate Building, Washington, D. C.:

NEW YORK, N. Y., June 17, 1954.

Economic disaster to UHF will materially affect the competitive television industry. This condition is directly result of defective planning which would appear designed to eliminate rather than promote competitive operation. Urgent you now investigate this situation.

TOM McMAHON, *Tenafly, N. J.*

Senator CHARLES POTTER,
Senate Office Building, Washington, D. C.:

NEW YORK, N. Y., June 17, 1954.

Re UHF hearings Subcommittee on Communications. Hope you dig to bottom of monopoly situation which threatens to destroy competitive network television by perpetuating monopoly position of two networks. This monopoly situation is direct result of FCC sixth report and order. Fast action is needed.

RICHARD HUBBELL, *New York, N. Y.*

Senator CHARLES E. POTTER,
Senate Building:

NEW YORK, N. Y., June 16, 1954.

As an editor in the television industry I strongly protest the monopoly of two networks on the facilities of this new medium. Urge investigation to insure fair competition.

JOAN BLOWER, *New York City.*

Senator CHARLES E. POTTER,
Senate Building:

NEW YORK, N. Y., June 16, 1954.

Stop, look, and listen. Break up the two-network monopoly. The UHF station has a right to survive. Only guaranteed programs from "four-network delivery" can accomplish this.

DOROTHY BORDER,
Queens Village, Long Island.

Senator CHARLES E. POTTER,
Senate Building, Washington, D. C.:

NEW YORK, N. Y., June 16, 1954.

Since the airwaves belong to all the people why not give them a chance to see what they want on television? Break the two-network monopoly and give the UHF stations a break.

LOUIS ROSSILLO,
Brooklyn, N. Y.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 929

NEW YORK, N. Y., June 16, 1954.

Senator CHARLES E. POTTER,
Senate Building, Washington, D. C.:

In connection with the current Potter committee hearings on television respectfully submit my opinion for your consideration. While the problem is one that is complex and complicated from the technical point of view I believe that the only solution that could be in the best public interest culturally and economically is one that would encourage four networks and both UHF and VHF stations to exist in a truly fair traditional American competitive manner.

JAMES P. O'BRIEN,
Woodside, N. Y.

NEW YORK, N. Y., June 16, 1954.

Senator CHARLES E. POTTER,
Senate Building, Washington, D. C.:

Believe it imperative your subcommittee now hearing testimony on UHF television problem initiate necessary action to stop present monopolistic trend and insure programing from two major networks be provided to UHF television stations. This is critical situation and action is vital to development of truly nationwide free-enterprise system of television broadcasting

GLADYS LOMBARDI,
Ozone Park, N. Y.

NEW YORK, N. Y., June 16, 1954.

Senator CHARLES E. POTTER,
Senate Building, Washington, D. C.:

I urge that United States Senate take intelligent action to correct the ultra-high frequency station problem which is currently restricting free and equal competition in television broadcasting.

MERRIMAN HOLTZ,
Brooklyn, N. Y.

NEW YORK, N. Y., June 16, 1954.

Senator CHARLES E. POTTER,
Senate Building, Washington, D. C.:

As a veteran of the television industry I strongly recommend the immediate passage of legislation that will stop the two-network monopoly that exists today. It certainly is not the American way of life to stand by and watch UHF stations emerge bankrupt as a result of not receiving a proportionate share of programs. Four networks can and should exist, but will they, Mr. Senator? That's up to you.

CARMINE FRANK PATTI,
Brooklyn, N. Y.

NEW YORK, N. Y., June 16, 1954.

Chairman E. POTTER,
*United States Senate Committee on Communications,
Washington, D. C.*

Request aid from your committee to restore four networks in active competition in accordance with our free-enterprise system of government. This end may best be served by your aiding UHF.

ED LIEBERTHAL.

NEW YORK, N. Y., June 16, 1954.

Chairman E. POTTER,
*United States Senate Committee on Communications,
Washington, D. C.:*

Kindly consider assistance for UHF stations. Without aid for UHF, a monopolistic situation will prevail and service to the public will suffer.

A. L. HOLLANDER.

930 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

NEW YORK, N. Y., June 16, 1954.

Senator CHARLES E. POTTER,
Senate Building, Washington, D. C.:

As a student of commercial and industry, I feel it is my duty to urge an investigation into monopolies in television. Solution I believe could be found in the equitable allocation of VHF and UHF channels to the now available four network system.

ROBERT FISH JONES,
Montclair, N. J.

NEW YORK, N. Y., June 16, 1954.

Senator CHARLES E. POTTER,
Senate Building, Washington, D. C.:

Strongly urge adoption of Dr. Du Mont's plan for resolving inequity in channel allocation in top 100 markets in the United States. Public interest not served under present setup. A healthy competition between all networks can only be obtained by permitting equal opportunity for four television networks in the major markets of the country.

ROY SHARP,
Clifton, N. J.

NEW YORK, N. Y., June 16, 1954.

Senator CHARLES E. POTTER,
Senate Building, Washington, D. C.:

Violently protest discriminatory practices in TV industry. Strongly urge that intelligent action be taken immediately rather when it's too late.

J. REGINALD COX.

NEW YORK, N. Y., June 16, 1954.

Senator CHARLES E. POTTER,
Senate Building, Washington, D. C.:

Senate committee now completing hearings on problems of UHF stations. If we are to have nationwide competitive television service it is imperative that UHF television stations receive aid from committee in their efforts to secure programing from the two major networks. Urge you give full support to this.

ROBERT L. COE.

NEW YORK, N. Y., June 16, 1954.

Senator CHARLES E. POTTER,
Senate Building, Washington, D. C.:

Protesting what appears to be a monopoly in television channel allocation. Urge investigation for possible solution.

JOAN DONOVAN.

NEW YORK, N. Y., June 16, 1954.

Senator CHARLES E. POTTER,
Senate Building, Washington, D. C.:

Break up the two-network monopoly. Give the UHF stations a break. Enact immediate legislation in that direction.

ETHEL VETTER.

NEW YORK, N. Y., June 16, 1954.

Hon. CHARLES E. POTTER,
*Chairman, Senate Subcommittee on Communications,
United States Senate, Washington, D. C.*

MY DEAR SENATOR: As a veteran agency man and TV producer respectfully suggest that 4 competing networks essential to the American free-enterprise system and that national economy can support 4 networks with 4 stations in major markets. Unless UHF stations receive prompt assistance television will

become a monopoly in the hands of NBC and CBS. FCC will have created such a monopoly through the sixth report and order. TV has demonstrated conclusively its ability to raise our standard of living, but this will cease if this medium is sold out to monopolistic interests. As a responsible citizen I urge you not to deny full access to the spectrum to the American people who own it. Please vote for a plan which restores fair competition to us broadcasters, large and small, who work by permission and tolerance of 165 million Americans.

WERNER MICHEL.

NEW YORK, N. Y., *June 16, 1954.*

Senator CHARLES E. POTTER,
Senate Building, Washington, D. C.:

Strongly recommend positive action be taken to assist in ultra-high-frequency television stations in order to preserve a four-television network economy.

EDWIN G. KOEHLER,
Stony Brook, Long Island, N. Y.

NEW YORK, N. Y., *June 16, 1954.*

Senator CHARLES E. POTTER,
Senate Building, Washington, D. C.:

I urge that the proposals made regarding the monopoly of two networks be carried out by the FCC. The duopoly of these networks will ultimately strangle all competitors. Each station is entitled to their share of network programing. Whether UHF or VHF. Suggest immediate Senate action to relieve current situation.

CHARLES B. HILTON,
Do-re-mi Farm, Danbury, Conn.

NEW YORK, N. Y., *June 17, 1954,*

Senator CHARLES E. POTTER,
Senate Building:

I urge you to help establish equal opportunity for 4 television networks by allocating 4 channels of similar frequency in each of the 100 major cities in the country. Only in this way will the interest of the public be served and a dangerous duopoly be prevented. The longer the present confused situation continues the harder it will be to remedy it.

RICHARD B. STARK,
Du Mont, N. J.

NEW YORK, N. Y., *June 16, 1954.*

HON. CHARLES E. POTTER,
*Senate Subcommittee on Communications,
Senate Office Building, Washington, D. C.:*

May I urge that you and your Senate Subcommittee on Communications find some way to strengthen ultra-high frequency television, to the end that you may prevent a monopoly from developing in the medium which, in turn, would create a monopoly in the distribution of goods and services and be extremely harmful to our economy.

Such a monopoly could very easily result from the present trend in telecasting, which, as you know, sees 2 networks getting stronger and 2 networks getting weaker. If only 2 networks were to survive, they would be dominated by 15 to 20 national advertisers, thus barring this potent medium to their competitors as well as all regional enterprisers. Such a situation would force these competitors and regional firms to utilize less effective media and thus put them at a great disadvantage. Moreover, a monopoly in television would put a great medium of public service and information in the hands of a few men with results that you can gage from your experience during the current Army hearings. As you are aware, the two dominant networks did not cover the sessions at all on a live basis, but instead used filmed versions at hours too late to serve a mass audience.

GERALD LYONS.

NEW YORK, N. Y., June 17, 1954.

Senator CHARLES E. POTTER,
Senate Building, Washington, D. C.:

Monopoly will result unless you do something drastic and quickly regarding ultra-high-frequency stations, both network and local. Immediate action on your part is essential for the free-enterprise system to keep four competitive networks alive which our national economy can support. A minimum of four TV outlets of similar frequency in all the major markets should be established just as quickly as possible. As my representative, I urge you to move in this direction.

HARRY PERTKA.

Senator POTTER. I would also like to incorporate in the record a statement submitted by Mr. Larry H. Israel, vice president of WENS, Pittsburgh.

(The statement referred to is as follows:)

SUPPLEMENTAL STATEMENT OF LARRY H. ISRAEL VICE PRESIDENT AND GENERAL MANAGER OF TELEVISION STATION WENS, PITTSBURGH, PA.

My name is Larry H. Israel. I am vice president and general manager of Telecasting, Inc., permittee of UHF television station WENS, channel 16, Pittsburgh, Pa. In my original statement in this hearing I outlined both a short-range and a long-range plan of actions which should be taken in order to prevent the demise of UHF television and thus preserve the possibility of a nationwide competitive television service. In this supplemental statement I would like very briefly to call attention to the serious competitive disadvantages under which UHF television stations are now laboring.

In Pittsburgh proper WENS competes with WDTV, a VHF station which has been on the air since before the television freeze. The competition of WDTV alone has been a formidable obstacle to the success of WENS, particularly since during the years when WDTV was Pittsburgh's only station, the area became heavily saturated with VHF-only sets. Recently, however, it has become apparent that WENS is faced with the competition not only of WDTV but of other VHF stations located outside of Pittsburgh. The substantial coverage advantages which VHF stations have by reason of their lower frequencies and more powerful equipment coupled with the increases in power which the Commission has been granting VHF stations have made it possible for VHF stations in Steubenville, Ohio, Johnstown, Pa., and Wheeling, W. Va., to claim coverage of Pittsburgh. Their coverage claims are sufficiently convincing that WENS has lost a number of network programs to out-of-town stations.

Attached hereto is a copy of an advertisement by WSTV-TV, Steubenville, Ohio, which appeared in the May 31, 1954, issue of Broadcasting Telecasting. It will be noted that the advertisement contains a picture of Pittsburgh's Golden Triangle and that the entire advertisement is devoted to the coverage which WSTV-TV claims in Pittsburgh and other distant cities rather than its coverage of Steubenville which is the community WSTV-TV is licensed to serve. Similar advertisements have appeared on behalf of VHF stations in Johnstown and Wheeling. None of these stations contributes anything in the way of public service to the city of Pittsburgh. Their contribution is rather to extract advertising dollars from Pittsburgh to the detriment of the Pittsburgh stations. This they are able to do because of the tremendous advantage which they enjoy by reason of the excessive antenna height and power which the Commission has authorized—heights and powers far beyond what is necessary to permit them to serve the markets in which they are located.

If UHF stations are compelled to compete not only with the VHF stations in their own markets but with every VHF station within a radius of 50 miles they cannot long survive. Because of the difficulties associated with UHF transmission and reception many advertisers and a large section of the public appear to prefer distant VHF coverage and service to local UHF coverage and service. This means that if something is not soon done to redress the competitive balance between UHF and VHF the UHF stations will be driven off the air. The Commission's VHF allocation policies, particularly the excessive heights and powers which have been granted VHF stations are a threat not only to the UHF but to local television service of any kind in the smaller cities.

The attached copy of an advertisement which appeared in the May 31, 1954, issue of Broadcasting Telecasting shows the severe disadvantage which UHF sta-

tions are under even as against distant VHF stations. The advertisement shows that a Dayton, Ohio, VHF station commands the lion's share of the Lima, Ohio, market even though Lima is almost 70 miles from Dayton and has its own UHF station. Finally, I should like to refer to a telegram which WENS received on March 18, 1954, which indicates the attitude which many advertising agencies and advertisers have toward UHF television. That telegram read as follows:

We understand your station was VHF. We have just learned you are a UHF facility. Therefore, due to misunderstanding will not start Tafon wrestling schedule. Please accept this as formal notice. We will not honor or accept any billing.

FRANK J. MILLER, *President, Frank J. Miller, Advertising, Inc.*

Senator POTTER. I would also like to place in the record a speech that was made by Honorable Edwin C. Johnson on Television's New Dimension.

(Senator Johnson's speech is as follows:)

TELEVISION'S NEW DIMENSION

(Address of Hon. Edwin C. Johnson, of Colorado)

President Malarkey, ladies, and gentleman, when I was invited to speak to this Third Annual Convention of the National Community Television Association, I was quick to accept. In fact I was almost immodest about my eagerness.

Without community antenna service that large and important segment of our population living in the outer precincts and away from the larger centers of population would wait a long time for satisfactory television in their own homes. I am from the country and proud of it. The large city is not for me. I think in terms of the small towns and small communities of this great country of ours. In my book they represent the very heart and soul of America and what is good for them is good for this Nation.

The work in Washington has been so heavy this session that this is my first appearance away from the Potomac. But I could not resist the very great challenge to speak to the pioneers of this New Look in television—this new industry within an industry. Not that what I say will be important but rather that this gives me the opportunity officially to pay tribute to the importance to the Nation of community television service. I have a weakness for pioneering. In the usual sense of that term I have the honor of being pioneer in the most rugged part of the undeveloped West.

This is the electronic age, just as surely as past eras were the stone age, the bronze age, and the iron age. Centuries from now mankind will record this era as the turning point in history, perhaps the most important turning point for earth dwellers. For electronics is opening to us the secrets of nature, of earth, of space, of our own solar system and of far distant solar systems. Without electronics the secret of the atom would still be an enigma. Electronics is the key that mankind has dreamed about for centuries; it is the philosophers' stone, the alchemists catalyst, the miracle which discloses and explains other miracles.

To most of us, television is the most remarkable, and certainly the most widely appreciated of the handmaidens of electronics. No one in his right mind will believe for 1 split second that television is not humanity's greatest single blessing. In my judgment, it will have a far greater impact on the way we live than any other invention or development of modern times. It has restored the home to its rightful place as the center of family entertainment and pleasure. Any institution that makes the American home more than a place to eat and sleep is precious to national welfare and life generally.

Russian claims to the contrary notwithstanding, television is as strictly an American invention as the hotdog. If it weren't, we might not have made some of the mistakes in the way we went about developing it commercially.

Torn between an understandable desire to put no roadblocks in the way of its technical development, and at the same time anxious to insure a nationwide competitive system, the regulating agency made the insane decision to mix UHF and VHF as a child might attempt to mix oil and water and the FCC still stubbornly maintains that its original decision is correct. It's easy for the least of us to be Monday-morning quarterbacks but mistakes are still being made.

The Commission put together a mixed system. It entered 2 horses in the race; 1 a thoroughbred with breeding lines which showed it could run a long race

superbly well; the other electronically fit, but hobbled by the big boys with monopoly in their hearts. Already the eggs have been scrambled and the omelette is on the way to being fried. It would take a wizard to put the eggs back into the shell and start over now. Once you start down Niagara Falls you do not retrace your steps. So the Commission clings to the hope that by some miracle the jockey on the second horse will push him into running a dead heat.

What were the facts? First, the 12 remaining VHF channels could not provide a nationwide competitive television system. Second, the then known engineering facts about UHF indicated a clear technical advantage for the VHF station operator. Third, notwithstanding, the most optimistic beliefs of the RCA people who were the experts and knew the most about UHF, it was thought unlikely UHF could ever provide the range coverage of VHF, and that it would be many years before all receiving sets would receive both kinds of signals. Fourth, the then existing and subsequent VHF stations would become, in effect, a kind of clear-channel television station with all of the advantages and prerogatives that clear-channel radio stations enjoyed. That was the clincher. Fifth, it was thought that through the use of satellite and repeater stations in UHF the whole country could be blanketed with TV. No one thinks that now. But community television service has found a practical way to expand and extend television service without satellites and without UHF. So now we are to have what really amounts to a monopolistic clear-channel operation in television.

Both UHF and VHF television in their original aspects were primarily large city systems. Their stupendous costs of installation and operation confined them to the densely populated areas. No community of 25,000 or less could make them pay. They could thrive only on national and big-city advertising. They were not for the village and the small city. Unlike radio, their beams are limited to short distances. Hills and rolling topography are not suitable for television radiation. Satellite stations in UHF positively are not the answer.

But the scientists and electronic technicians came to the rescue and found a way to provide the whole Nation with television service. When there was an insistent demand for color television, the electronic wizards gave us color. The burning desire for television in the smaller communities challenged their ingenuity, and they suggested a practical way to extend and expand television into the far corners of our beloved country.

Now that we know how to do it, it is up to industry to accomplish the huge task of actually bringing television of excellent and even superior quality to the farms and country towns and smaller cities. Companies and corporations must be organized, finances raised, equipment manufactured, legal and political problems resolved, and associations such as we see here, created.

But every dynamic human endeavor has problems. Community television is no exception. Some of these problems seem pretty tough and roadblocks are beginning to appear. Ours is a selfish world and the chiseler and the fellow who cuts corners and does not respect the rights and the best interests of his neighbors is ever present. Ninety-nine people do not need a policeman, but the last man in the hundred needs to be supervised and regulated and regimented, or he will run roughshod over everyone.

But I recite this bit of broadcast television history for another reason. I think there may be a lesson in it for community antenna television today.

The general merit in community antenna television service is that it enables the public to receive television signals in areas where (for technical reasons or where the laws of economics make normal television broadcasting infeasible) satisfactory signals are not received from the nearest television station.

Always there will be communities, or even parts of communities, which do not now receive, and will never receive, a satisfactory television signal, either from the television station station right in that community or from a station in a neighboring community. And it is becoming increasingly clear that advertiser revenues alone can never meet the upkeep for broadcast television stations in thousands of other communities.

That should make it clear why the freeze gave impetus to the building of community antenna television service. It also explains why there is a boom market today for community television and why it may see its biggest growth in the years ahead.

Unless by some magic, satellite stations can be operated with greater satisfaction, areas with no TV service and those which cannot support a station will be potential market for community antenna television service.

A recently published survey of TV households showed that as of January 1 of this year 84 percent of all the television homes in the country were located in

340 leading markets. Thus, while 57 percent of the 47,500,000 households in the country had TV sets, 84 percent of these were clustered in 340 markets. Moreover, only 215 of these markets had 1 or more television stations, and the 356 stations operating in these 215 cities serviced the total 340 markets.

What this means to me is that the big national advertisers on television already are reaching more than 84 percent of television homes with 356 stations. How much more, in terms of additional station cost, is the remaining 15 percent of television homes worth to these national advertisers? Since the largest markets are already covered, how soon does additional station coverage reach the point of diminishing returns for national advertisers? And does this signify that the newer stations going on the air in smaller and smaller markets will have to rely exclusively on local advertiser income to keep their heads above water? If there is any validity in these surmises, the question resolves itself down to how large a community it takes to support a television station which gets no national advertising.

Since the freeze was lifted, more than 93 television stations have surrendered their building permits or surrendered their operations for economic reasons. Many more are expected to do so. Seventy-nine were UHF and 14 were VHF stations. Television is strictly a blue-chip operation. In the large centers of population profits are fantastic. However, stations in smaller communities not having popular network affiliations, which means good programs and national advertising, often find themselves in a hopeless economic situation. All of us sympathize sincerely with an enterprise that loses its heavy investment, but the communities to be served also lose. In many cases, when that happens, a community antenna system is the only method whereby the public can be given television service.

But local programs always will be popular and there will be pressures to find a way for local communities to have their own television stations. Undoubtedly some communities can be served with boosters or satellites. There is even the possibility that the costs of television station construction and operation will be lowered so materially that economic operation may become possible from local advertising revenues in medium-sized communities.

As I see it, however, there is an even stronger probability that the community antenna service may some day operate a special-occasion local studio program in connection with its piped-in programs and thereby satisfy the pressing demand for entertainment by local talent. I shall be surprised if this is not done. When that great day is here, it can be said truthfully that you have outgrown your swaddling clothes. And yet, even now, you are not exactly an infant industry. With more than 300 separate systems serving some 275,000 households, you are reaching the volume of service where you no longer can be ignored.

Television licensees and would-be licensees, the Federal Communications Commission, the State regulatory agencies, the Senators and Congressmen, are beginning to raise their eyebrows.

Yours is a risk business. It takes venture capital to go into the community antenna television business. There have been losses; some systems have tailed, and many others are scratching along, hoping for better days. Nevertheless, those systems which picked the right spots, free from the inroads of direct station competition, and have set about to increase their subscribers, are continuing to pay handsome dividends; and, what is more important, they are serving the public interest well and faithfully.

Community antenna service is premised upon picking up the signals of operating television stations and relaying the signals to subscribers through closed circuits. So, one of the burning questions today is: What rights have you to those signals? Perhaps a better way to put it is: What are the proprietary rights of the originating station or the network in the programs you deliver to your subscribers?

To put it simply, your function and role is to strengthen the signals of the originating station for distant areas where otherwise the reception would not be satisfactory.

A station's programs are free, waiting for, and available to anyone with a receiver to tune in on them and view them. In fact, stations are anxious that more and more people buy receivers and tune in their programs. They use the number of listeners they serve to attract advertising. If one of your subscribers desired, he could rig up an antenna or install a cable and bring the signals to his home with the enthusiastic blessing of the originating station. But since it is less expensive for him to join his neighbors in such an undertaking,

you have constituted yourself a sort of modified utility as an agent for the neighborhood to install the required equipment for a fee, and to deliver the service to each of them for another fee. That saves everyone time, bother, and money. Your function is one of providing a technical service which results merely in an extension and expansion of the coverage of the station and thus is helpful to the station and at the same time serves the public interest.

Your service is neither a broadcast nor a common carrier operation and, therefore, should not be subject to regulation by the Commission, or by a State utility agency in the case of a solely intrastate operation. Certainly you are not engaged in radio broadcasting nor in interstate communications for hire, but are simply furnishing a purely local antenna service. And you are no more a common carrier than is a hotel with one master antenna, which serves its 100 rooms.

However, in at least two States, such an intrastate operation has been held to fall within the regulatory scope of the State utility commission. Another arm of government, the Internal Revenue Division, assesses the same excise tax on your operations that it imposes on the communication common carriers under the theory that you are a common carrier. While neither of these actions automatically makes you a common carrier, you should take them seriously.

The Internal Revenue Division is now restudying their previous decision to impose a common carrier excise tax on you. I think their original decision was in error and that your association should make every effort to reverse it. Not only because the tax is onerous but for the more important reason that the community antenna service is not a common carrier regulation and you should not permit any decision to rest on such a premise.

Nevertheless, if your operation actually or theoretically injures any one, heavy pressures will be exerted to bring you within the scope of the Federal regulatory agency. It seems to me that prudence would command your consideration of that possibility.

Since I am not a lawyer, I prefer not to pass judgment on the question of proprietary rights. It seems likely that one of these days it will be the subject of judicial interpretation. I understand that such a test case may be in the making now, and I am sure that its outcome is going to be watched with interest by all. I merely want to observe that your business would suffer a body blow if it should be held by the courts that the proprietary right to programs permits the broadcaster to control the means by which the public receives those programs, should the broadcaster choose to assert an equity in them.

Recently in the so-called Belnap case, in which a memorandum and order was released on May 6, 1954, the Commission, with cautious evasiveness, stated:

"It should be understood that, in making this determination, the Commission is not making any express or implied decision as to the existence or extent of any jurisdiction it may have with respect to the installation and operation of any community TV distribution systems."

Belnap was not to be the operator of the community antenna distribution systems but merely to act as a sort of a little A. T. & T. carrier of signals. The issuance of a permit to install a microwave system to furnish common-carrier service to a community antenna system might very well, and probably does, give the Commission regulatory authority over a purely intrastate or interstate community antenna television system. So far as I know, no community antenna service itself is a microwave owner or operator, but purchases its common-carrier service from others. In the Casper, Wyo., operation and one other the telephone company, a regulated utility, furnishes the antenna company and, accordingly, both would be subject to FCC regulation, in my opinion.

There is still a third question which involves the regulatory concept. It was brought to the fore at the recent hearings before the Senate Communications Committee studying the problems of UHF broadcasters. I am sure you all are familiar with it. It concerns a situation in West Virginia, where the Fairmount UHF station now faces competition from Wheeling, Pittsburgh, and Johnstown stations, because the Fairmount community antenna television system pipes the program of those three stations into Fairmount. Here is an example of the Commission's allocation plan being set to naught, resulting in an unregulated media giving a struggling station unexpected but deadly competition. If this Fairmount UHF station "bites the dust" as we say in the West, there will be no doubt about who killed Cock Robin.

In my judgment this is a serious matter, and one which should give you grave concern. I am a firm believer in local enterprise in everything, including radio and television. If it were economically feasible, the ideal would be a locally

owned and locally operated radio and television station in every community of any size in this country. That can never be, and Community Antenna Service need not encroach on other stations.

Community Television Service is only asking for trouble when it attempts to serve an area already being served by its own station. Nonnetwork stations cannot withstand network competition from distant stations.

The FCC cannot sit idly by and permit one of its licensed stations to be driven off the air because distant stations have expanded their coverage into its territory. When the Fairmont station was licensed and built there was no intimation that it would have to compete with the Wheeling, Pittsburgh, and Johnstown stations. As a consequence, in good faith the station operator invested hundreds of thousands of dollars to get his station on the air so that he might bring the miracle of television to the people of Fairmont.

The philosophy back of regulation of public utilities is that since competition can destroy, it must be limited, and that a franchise or license must rest on protected territory.

There is, of course, another side on the coin. Those of us who believe in the free American competitive system find it hard to argue against competition, no matter how onerous it may be. The viewing public will have a more varied

There are many other more or less minor problems. The Commission now has program and be better served if someone pipes in network programs from afar. under way a rulemaking procedure concerned generally with spurious radiation. Some of your system, due to careless and improper installation, emit radiations which interfere with the reception of those who are not subscribers to the community-antenna systems. In my judgment, your industry cannot afford this type of shoddy operation. You must in your own interest and in the interest of your relations with television broadcasters and the public who own receiver sets, so engineer your systems as to repress completely spurious radiations. Anything less is a clarion call to the policeman, which in this case is the FCC, to regulate you. Also, you must watch carefully your installation costs and rates. I do not mean to suggest that installation costs ranging from \$75 to \$150 are exorbitant, or that monthly service charges from \$2.75 to \$7.50 are unfair. It is understandable that in a business where investors have reason to fear a limited life, initial rates and charges are made high enough to recoup their capital expenditures as quickly as possible. But continued high monthly service charges are the rock on which community-antenna systems may founder. Your business is too delicate an operation to earn the opposition of a public which might demand price regulation for its own protection.

Higher than necessary rates will compel cooperative associations to enter this field and render a nonprofit service. Farm cooperatives have brought electric energy to 90 percent of the farm homes of this country. Rural telephone companies are serving millions of farm families because the telephone companies neglected them. They will do precisely the same thing with television.

One of the outstanding developments of your business is your friendly and cooperative relations with the television broadcast industry. So far as I know, only one station license has sought to deny the pickup of his programs. This cordial relationship is understandable when it is realized that you provide the station with an additional audience and market not ordinarily reached by his signal. Most licensees with whom I have talked feel that community antenna television systems constitute a very desirable adjunct to their business.

In my own State of Colorado construction of the Climax system was thrilling and heartwarming. Prime mover in this project was Robert VerSteeg, electrical foreman for the Climax Molybdenum Co. Climax lies more than 11,000 feet above sea level, hemmed in by the tallest peaks in the continental United States. VerSteeg's effort to bring television to the 2,000 residents in Climax involved the construction of an antenna on Mount McNamee, a 13,000-foot peak, the laying of 12,000 feet of coaxial cable from the mountain to the town, and an additional 60,000 feet of cable fanning out to service the homes. Today, using the tallest community antenna in the world, the people of Climax enjoy identically the same four television programs afforded the metropolitan city of Denver. This is a fine example of the benefits flowing from a community antenna system.

The Casper, Wyo., project should be singled out for special attention. It employs the longest microwave relay yet built for any system.

Casper is over 200 miles distant from Denver by highway. The fact that the operator has obligated himself to pay the telephone company more than \$90,000 in annual tolls, backing it up with a 5-year performance bond, demonstrates investment courage of a high order. Indeed it indicates good faith in the future

of the community television business. And I, too, am genuinely enthusiastic about the community antenna television business. To me, the significant aspect is the splendid record of bringing diversified television program service to locked-in communities whose residents would otherwise be denied the magic of television.

When this business resolves the legal problems which inevitably face it, and as it continues to build up its operations so that even the smallest of its systems performs an A-1 job technically, and as it continues to render good and dependable service to the public at low rates, its future development will sweep even its most optimistic boosters off their feet.

The potential market for your services can only be described by the superword "vast." It can operate profitably in communities with as few as 5,000 people. In this country there are more than 2,500 such cities and towns. It is doubtful that half or even three-fourths of these communities will ever have television stations of their own, or receive satisfactory service from nearby cities. Here, there is a vast market of millions of people who will demand the blessings of good television entertainment in their own homes, once they learn that there is no technical reason against it.

If legal decisions involving proprietary rights in programs go against you, and circumstances force intolerable burdens upon you, there is an escape avenue for the community antenna television service. It involves doing your own programming and becoming a pay-as-you-see television service. The recent experiments by the Telemeter promoters in Palm Springs, Calif., while designed to test out audience reaction to paying for specific movie programs, may have some valuable lessons for closed-circuit operations such as yours. The problem of piping a special program into homes once, twice, or even several times a week, offers neither technical difficulties nor legal problems, since no governmental regulatory question is involved in intrastate closed-circuit operations. For example, you may be able to work out arrangements with local motion-picture exhibitors for the showing of special features, with both you and the theater exhibitor sharing in the proceeds. In smaller communities, where the movie house already is suffering from drops in attendance, you may be able to open a new home market for him. It is, of course, no simple matter, but it does have tremendous possibilities, both for you and the motion-picture industry.

This has been an interesting and fruitful experience for me. It has restored my confidence in the future to meet you pioneers in this new offshoot development of television, which in the years ahead is certain to carve a special and unique niche of its own in the fields of homemaking and electronics. And now, may I say in closing what I tried to say in the beginning—any institution that effectively restores the American home and dedicates it to family use as the center of all of its activities has earned the highest tribute of God and man.

Senator POTTER. The first witness this afternoon is Mr. Jahncke.

Mr. Jahncke, we are pleased to have you here, and I am sorry we got behind a little bit and kept you waiting.

STATEMENT OF ERNEST LEE JAHNCKE, JR., VICE PRESIDENT AND ASSISTANT TO THE PRESIDENT OF THE AMERICAN BROADCASTING CO.

Mr. JAHNCKE. Thank you, sir.

My name is Ernest Lee Jahncke, Jr. I am vice president and assistant to the president of American Broadcasting Co. My duties at ABC include supervision of the personnel engaged in station relations and I am familiar with the status and development of the ABC television network and its 196 affiliated stations, 66 of which operate on UHF channels.

ABC welcomes the opportunity to join with you, Senator, and other interested persons in a discussion of the present and future of television broadcasting. The future of television, we believe, will be vitally affected by the recommendation and actions taken by your committee.

The emphasis in this hearing has been on the UHF channels and the difficulties being experienced by many UHF operators. Although the UHF problem is the most critical in the television industry today, it is but a part of the larger problem of making available the widest possible choice of television service to the largest possible number of American citizens or, as so often has been stated in this hearing, of assuring the development of a truly national totally competitive television service.

You have heard the UHF problem described as being a vicious circle of not enough listeners, not enough all-channel receivers, not enough programs, not enough advertisers, not enough listeners, and so forth, and you have also heard that unless certain actions are taken this circle will not be broken and UHF will be destined for the same fate as FM. ABC concurs in this conclusion, and I can state to you our conviction that unless prompt remedial action is forthcoming UHF in most intermixed markets is closer to that fate than is generally realized even by informed persons in the industry.

UHF AND THE PROBLEM OF COMPETITIVE NETWORK SERVICE

The UHF problem is the principal facet of the problem facing ABC as the growing third network and it is also the principal facet of the problem facing the fourth network and whatever new networks may come along in the future.

The statistical information already supplied by the FCC and Du Mont shows conclusively in our opinion that, while two networks can exist and prosper without UHF, the third, fourth, and other potential networks will have great difficulty in becoming fully competitive unless we have UHF or unless means are found to expand the number of VHF stations.

Senator, I would like to say I appreciate the many kind things that have been said about ABC by previous witnesses, and I think, lest I give you the wrong impression, I would like to refer to the comment of Mr. Storer in pointing out the great strides that ABC has been making.

What we are talking about here is the ultimate development to a full national parity and status.

We are doing all right. We are not about to go out of business. We just signed up \$8 million worth of new business this past week.

In testimony heretofore given in this proceeding, a number of reasons have been assigned in explanation of the critical position of UHF broadcasters in intermixed markets and correspondingly many suggestions have been made as to remedies which will solve this situation.

Later on in this statement I will comment on the suggested solutions that have been offered and I will make certain recommendations which ABC believes are practicable, desirable, and necessary. Before turning to those matters, however, I would like to discuss the problem of competitive network service, which is also the problem of UHF television.

The position of dominance enjoyed by the two major television networks finds its origin in network radio broadcasting.

The problem of encouraging competition in radio network broadcasting has occupied the time and the attention of the Federal Communications Commission for many years, and, in fact, it led to the

establishment of ABC radio in 1943 as an independent, competitive network.

What are now the ABC radio and television networks originated on January 1, 1927, when NBC created the Blue Network in order to provide listeners with another choice of radio fare from that offered by its Red Network.

In 1941 the FCC in its Report on Chain Broadcasting found that it was not in the public interest for 1 company to own 2 networks. Pursuant to this report, and in its decision and order approving the sale of the Blue Network to ABC, the Commission stated that this transfer would "mean a much fuller measure of competition between the networks." (10 F. C. C. 212, 213 (1943).)

In this same report, the Commission also pointed out that the many improvements which have taken place in program quality, in engineering, and in the broadcasting of special events of national and regional interest have been due, in a considerable measure, to the advertising revenues brought to the radio broadcasting industry by the national network method of broadcasting.

The Commission concluded that radio network broadcasting "plays an essential part in the development of the broadcast industry," that "the network method of program distribution is an integral and necessary part of radio." (Report on Chain Broadcasting, supra, pp. 4, 88.)

In television, networks are even more important since individual stations would be unable to supply the high-quality program service provided by the network organizations. The commercial revenue received by the stations from network programming in turn enables them to supply locally originated services which in many instances they could not otherwise afford.

Network service alone has enabled nationwide audiences to see such special events as the Kefauver hearings, the coronation, sports programs, the forum programs participated in by Members of Congress, political leaders, Government officials, and business executives.

Without ABC, it would not have been possible to bring to the country the recent hearings involving Senator McCarthy and the Army, for the first two networks chose not to broadcast these hearings.

If I may, Senator, I would like to read an editorial which appeared in this morning's New York Times. It is entitled "The Hearings on TV":

With the close of the Senate subcommittee hearings on the Army-McCarthy dispute, congratulations are very much in order for the American Broadcasting Co. and the Du Mont Television Network. These two video networks faithfully covered on a live basis the prolonged sessions and enabled the individual to have the best possible seat at an event of vital national importance.

In suspending their normal operations for so many weeks, there can be no doubt that the financial sacrifice of the networks was substantial; but ABC and Du Mont can take pride in a public service well done and one that has added immeasurably to television's stature as a constructive educational force.

I think that says better than anything else I can say why at least 3 network program services are essential to perform television's true potential and mission in serving the public of this country, Senator.

Senator PORTER. I can well appreciate the fact that both ABC and Du Mont made quite a financial sacrifice to bring the hearings to the people in the television audience, and I wish to commend you for doing so.

Since it was a long hearing, I don't know whether it is a type of public service that even your networks could afford to do again or would want to do again; but I am sure the people received a much better knowledge of what was transpiring than they would otherwise.

Mr. JAHNCKE. Thank you, Senator.

This television service encompassed 184 hours of broadcasting, and I think it might be of interest regarding the future possibility of our being able to perform a comparable service to introduce, if I may, as part of the record an article by Jack Gould in the New York Times which appeared in the Sunday, June 13th issue, which I won't read.

Senator POTTER. Without objection, that will be placed in the official files of the committee.

Mr. JAHNCKE. Perhaps an even better illustration of the need for more than 2 networks is that afforded by the recent decision of NBC to discontinue the Voice of Firestone program because that program of fine music does not have the mass appeal that NBC expected to obtain from the program it selected to replace it. The Voice of Firestone, which is in its 26th year in radio and 6th year in television, had now moved to the ABC television and radio networks. If there had been only 2 networks, the program would either have been discontinued entirely or moved to a time when it would not have been able to reach as wide an audience.

Senator, I would like to comment on the remarks of Mr. Woodall who testified this morning, in which he indicated Firestone had no interest in UHF stations.

The Firestone program on ABC is ordered for 70 of our stations. Of these 70, 46 are VHF stations and 24 are UHF stations. Thus, the percentage of UHF stations is about 34 percent; and, if you will recall, we have 196 affiliates, of which 66 are UHF. That percentage is just a little less, about 33½, something like that.

So, you can see the Firestone program is using a slightly higher percentage of UHF stations than the percentage of the two types of stations that are affiliated with ABC.

I think the main point here is the problem of television's growth.

The Firestone Co. ordered 70 stations on ABC. We have 196 affiliates. Obviously, there were a great many UHF and VHF stations that did not receive that order; and unless there be discouragement about how to program those other stations that didn't get this order, we feel there is going to be a gradual increase in the lineup.

There were those who only in the last year said television would never reach beyond the top 60 markets of the country. It has already gone well beyond that, and we are convinced that the economic base will be there to support a network that goes into the small markets.

We have consistently affiliated small stations, whereas that has not necessarily been the policy of the other networks.

Perhaps it is our affiliation with these smaller markets that has highlighted ABC network's service in this hearings, because obviously there are more problems the smaller market during this developmental stage of television.

Senator POTTER. Is there a reluctance on the part of advertisers to purchase time in a UHF market?

Mr. JAHNCKE. Advertisers differ. I think there is definitely a psychological block on the UHF situation today.

I know, personally, from calling on national advertisers who have told me they will just not buy a UHF station—"What VHF stations have you got to order?"

I know of other, I think, more reasonable advertisers who approach the problem with a more logical basis. They are buying circulation; and if they can buy it on UHF at a reasonable cost and it suits their needs, they will buy it.

The problem of UHF is not only the psychological block, but also the fact there is a limit to the budgets of all advertisers.

Senator POTTER. Is there a difference in the rate structures to the UHF as compared with the VHF?

Mr. JAHNCKE. All stations have different rates, both UHF and VHF, depending on the—

Senator POTTER. Circulation?

Mr. JAHNCKE. Circulation.

Senator POTTER. Is that their only criteria, the circulation?

Mr. JAHNCKE. Let's use Pittsburgh as an example, Senator. The VHF station has a rate of \$1,400 an hour; the UHF station has a rate of \$500 an hour. The circulation of the VHF station is in the order of 600,000, perhaps as much as 700,000, sets; the UHF conversions in Pittsburgh are around perhaps 250,000 to 260,000. So, you relate that down to how much it costs to reach a set. Perhaps they are equal buys.

There are some advertisers who want the whole market, and it is not a question of the relative buy, which is a problem for the UHF station until conversion proceeds to the extent it apparently has in Columbus, Ga.

As television continues to grow, we will find more and more instances of outstanding programs being forced from the choice time in NBC and CBS. The consequences of such a result if we do not have other networks are self-evident.

In the 11 years in which ABC has operated as an independent radio network, it has made substantial progress. While it has not been able to provide the full measure of competition to CBS and NBC that was hoped for, its growth has been worthwhile. However praiseworthy, ABC would be first to admit that it has not been able in radio, primarily because of the dominant position of CBS and NBC and their ownership of and affiliation with the key clear-channel stations, to provide the amount of competition which the Commission hoped would flow from the establishment of ABC as an independent competitive network.

It is this dominance of NBC and CBS in radio which is already represented in television and which ABC fears will continue to exist in this new medium unless corrective steps are taken.

The disparity in the competitive situation of the four networks is well illustrated by a comparative tabulation of their published gross billings in millions of dollars for the 5-year period 1949 to 1953, inclusive.

Year	NBC	CBS	ABC	DuMont
1949.....	6.5	3.4	1.4	1.0
1950.....	21.2	13.0	6.6	3.6
1951.....	59.2	42.5	18.6	7.8
1952.....	83.2	69.1	18.4	10.1
1953.....	96.6	97.5	21.1	12.4

Certainly you can see when 2 networks have 85 percent of the bill you have some less than a full 4-network service.

Admittedly the \$21 million credited to ABC in 1953 will look better in 1954 because of new advertisers which are coming to us because of new programming and the fact we do have more and more stations all the time available.

Senator POTTER. Would this be a good time to buy stock in ABC?

Mr. JAHNCKE. I would suggest, Senator, you consult your investment counsel on that, although we are closing the gap rapidly particularly for the fall of 1954, since our merger last year with United Paramount Theaters. We are handicapped by the artificial limitation of comparable station clearances which restricts our ability to compete and is beyond our power to remove.

ABC recognized after the publication of the allocation plan adopted by the Federal Communications Commission in its sixth report and order that the objective of developing a truly competitive national television network system could only be accomplished through the use of UHF stations. We have, therefore, given UHF operators every possible support short of arbitrary action which would alienate our advertisers.

We can't tell our advertisers they have got to buy a UHF station if they don't want to.

An analysis of the third week of January 1954, based on Nielsen research, showed that on the average ABC commercial list of network stations 33 $\frac{1}{3}$ percent were UHF as compared with 27 percent for Du Mont, 20 percent for CBS and 19.3 percent for NBC.

ABC published in October 1953 a brochure entitled "The P's and Q's of V's and U's." In this book we attempted to clear up misunderstandings and provide basic information to assist the growth and appreciation and promotion of UHF.

I would like to submit a copy of that brochure for the record.

Senator POTTER. Without objection, that will be made a part of the official files of the committee.

Mr. JAHNCKE. Despite our consistent support of UHF, some broadcasters have felt that ABC should have made even greater efforts on their behalf, even at the risk of seriously damaging the entire network.

Some of the suggested solutions to the UHF problem advanced at these hearings have been directed toward the relationship between networks and their affiliates and I believe that an explanation of that relationship as it exists between ABC and its affiliates would be helpful in understanding the problem.

It has been traditional in both radio and television to consider the network-affiliate relationship in the three basic areas of program costs, sales costs, and distribution costs. Each station pays a proportionate share of these three basic costs. This share is usually paid in terms of free hours, under an arrangement whereby the station, in return for the network programming and other benefits, agrees to carry a certain number of network commercial programs each month without compensation. The network keeps the compensation derived from the sale of these hours to defray in part its cost of maintaining the network. The network and the station divide the revenue derived from the sale of broadcast time in excess of the free hours.

In the case of the ABC television network our standard inter-connected contract specifies compensation to stations of 30 percent of gross for all network programs carried in excess of 22 hours per month, or 5 a week. The 30 percent of gross is a much larger percentage of the net revenue, of course, since the network absorbs all the discounts, annual rebates, agency commissions and other costs involved in the program.

Since compensation is expressed in terms of a percentage of rate, the stations in the more important markets with wider circulation and higher rates receive more compensation for their time.

The free hours have a value only if used, but the network has fixed costs whether or not the free hours on various stations are utilized for commercial business. Therefore, wherever there is reasonable doubt of our ability initially to obtain sufficient business to use all the free hours, we have adopted a sliding-scale arrangement under which a dollar value is placed on each of the free hours, and in the event we are unable to use the free hours the station agrees to reimburse us at the agreed-upon value.

I might add, Senator, this reasonable business principle applies in our contracts to VHF stations just the same as it does to UHF stations. It is our analysis of the market, not a question of which type of station it is, and it is also obvious that if we didn't anticipate, over a period of growth, going well beyond a mere 22 hours a month, there wouldn't be much point in the affiliation in the first place.

Another normal provision of the affiliation agreement is that the affiliated station is given first call on all programs scheduled to be broadcast in its community. In many of our UHF affiliation contracts, this first-call provision has been eliminated because of the necessity, in those markets where our advertisers so demand and where we are able to secure clearance, of being able to place our programs on VHF stations which, in the present state of television development, have much greater circulation.

Because of these serious differences in circulation, we could not survive if we tried to force advertisers to buy UHF and make them forgo up to as much as 90 percent of their circulation in order to promote UHF. Therefore, wherever this problem exists, we have left the choice of the station—V or U—up to the advertiser. Any other course would have driven advertisers from our network and destroyed the every economic and programing support needed by both UHF and VHF affiliates throughout the country.

In this connection, it is not completely black or white. We have 31 UHF affiliates that we do give first call to, and 35 that we do not give first call to because of this problem.

Senator POTTER. Is that right in your contract?

Senator JAHNCKE. Yes, sir.

There are no "must" buys on ABC. The advertiser is free to choose the stations he wishes, whether to go into a market or stay out, whether to buy V or U.

It must also be pointed out that ABC's ability to serve not only the UHF broadcaster but also the VHF broadcaster has been severely limited because of the very high cost of A. T. & T. television program transmission facilities.

ABC's current expenditures are running at the rate of \$6 million a year and by fall of 1954 will be running at the rate of almost \$8 million a year.

While the A. T. & T. charges to NBC and CBS are higher in total, they are much lower for those two networks in proportion to their network billings, their number of program hours, and their program expenditures. The amount ABC spends for this type of distribution alone now runs in excess of our programing costs.

Senator POTTER. There is a difference in the rate to NBC and CBS. Is that discrimination or is it due to a graduated—

Mr. JAHNCKE. We all operate under the same tariff, Senator. It is the difference in its application to the small and large users, which I will describe.

Statements have been made in this hearing about the cost of an ABC-TV affiliation. This cost barely covers the additional cost of interconnection without any proper contribution to programing and other network services, and obviously it doesn't include such tremendous costs that all networks have in supplying what you might call trunkline facilities, such as our transcontinental cable that cannot be assigned against any one station.

The cost of feeding one 15-minute program to the west coast on a live basis is about \$2,000.

This is an actual program that we have on the air at the moment.

In fact, in some cases these costs are so high that we have not been able to interconnect some stations and must serve such markets by kinescope on a noninterconnected basis.

One of the most important factors delaying the rapid growth of the ABC network has been this disadvantageous position in making interconnected service available to its affiliates. We believe that the A. T. & T. tariffs favor the larger consumers at the expense of the small customers. As the following will show, ABC is being penalized because of these tariffs.

All live television programs are distributed throughout the country for all networks by A. T. & T. This FCC regulated monopoly provides these distribution services under tariffs approved by the FCC. The services, briefly, are as follows: At the originating point a local loop is provided between the broadcast studio and the telephone company building. At the telephone company building there is a connection which hooks up the program to the long lines. The long lines then carry the program to the telephone company building in the distant city, where a receiving connection is provided and again a local loop is used from the telephone company building to the studios of the local television station.

These services require two sets of facilities:

One to transmit the television picture, which is done by either coaxial cable or microwave relay, equally expensive, I might add; the other to transmit the audio portion of the television program, on the same type of line as is used for radio broadcasting.

Senator POTTER. Did ABC challenge the tariffs when they were submitted to the FCC?

Mr. JAHNCKE. No; we did not. We have learned since, sir.

Senator POTTER. You would do it if they did it again?

Mr. JAHNCKE. Yes, sir.

We can't challenge A. T. & T's cost, sir. I don't think we are in a position to know what the costs are. It is the operation of the tariffs I am referring to, not the basic cost. I have no way of knowing whether A. T. & T. charges the right amount, too much or too little.

These services can be purchased in 1 of 2 ways—on an occasional-use basis or by contract service.

The use of occasional service is the leasing of lines on a per program basis for each use.

The contract service is on a monthly basis which provides for 8 consecutive hours of use per day throughout the month at a flat charge.

The occasional-use charge is \$1 per mile per hour or fraction thereof for video, plus 15 cents per mile per hour or fraction thereof for audio, or a total charge of \$1.15.

The monthly 8-hour per day contract service is \$35 per mile per month for video and \$6 per mile per month for audio, or a total charge of \$41 per mile.

In addition to these long-line charges there are charges for local loops and connections as follows:

Receiving connection video—\$500 per month;

Receiving connection audio—\$75 per month;

Video and audio receiving loops priced according to the distance from the telephone company building.

The average cost of these local receiving facilities for each television station is approximately \$1,200 per month.

Without dwelling on it, Senator, I think you will understand why Mr. Woodyard, with WIFE, Dayton, was really being subsidized by ABC, because we were only charging him a thousand dollars a month, and he mentioned he was paying an exorbitant price for ABC programs. He wasn't paying enough to get the local telephone company's switchboard, much less the other costs involved in supplying the service, however limited we supplied him.

The heart of this problem is illustrated by the growing network that needs more service than that provided under the occasional-use rate formula and has not yet grown to the point where it can make efficient utilization of the full 8-hour per day contract service.

It is readily apparent how prohibitively expensive this occasional-use service is for the small user when it is realized that the cost of a full 8-hour per day service for an entire month is only 41 times more expensive than the cost of a single 15-minute program. In other words, you can buy 960 15-minute periods for only 41 times the price of a single 15-minute period. The difficulty is that you have to pay on one basis or the other—there is no middle ground.

ABC television network has used, under normal circumstance throughout the past telecasting season, an average of 4 hours per day on a full month order basis in the feed of live programming. We have thus been charged for an average of 4 unused hours of video circuits and 12 unused hours of audio circuits per day.

That 12 hours, Senator, is based on the fact that the audio line, the radio line, that tariff is based on a 16-hour day rather than an 8-hour day.

These 4 hours fall within the consecutive time bracket of our contract cable. In addition, we have purchased an additional hour per day for morning programming on an overtime additional cost basis. In contrast, NBC and CBS are using well over the minimum 8-hour contract time and, therefore, have a much more efficient purchase.

If ABC did not have to pay for this unused cable time, which it is not currently in a position to use, its cost could be reduced sufficiently

to give improved and enlarged service to both its UHF and VHF affiliates.

While, in many cases, the problems experienced by UHF broadcasters have been beyond their control, it must also be recognized that in other cases they are only the normal problems of any business and are not attributable solely to the fact that the broadcaster operates in the UHF rather than the VHF portion of the spectrum.

These general business problems include commencing operations with insufficient capital, insufficient knowledge of the television business, poor engineering installations and disregard of market potential.

It is submitted that the solution to such problems is not the responsibility of the Government.

Surely, it would be against every fundamental tenet of our present economic system for the Government to guarantee success to a given class of businessmen regardless of the manner in which the business operated by them was conducted or whether they had planned wisely in going into an overserved market.

At the same time it must be recognized that the problems of many UHF operators are completely beyond their individual power to correct regardless of their competence. It is in this area that both industry and Government action are both proper and necessary, and it is to proposed solutions which have been made to these problems that I now turn.

PROPOSED SOLUTIONS

There are before you various regulatory, economic and engineering proposals to solve the UHF problem. In general, they may be grouped in six categories.

(a) Changes in the multiple-ownership rules to encourage ownership of UHF stations by multiple-VHF owners;

(b) New network regulations to force networks to affiliate more UHF stations

(c) Tax and Government subsidy assistance for UHF;

(d) Engineering and equipment improvements;

(e) A freeze on new stations; and

(f) Revised allocation plans.

ABC has the following comments on the various proposals:

A. CHANGES IN THE MULTIPLE OWNERSHIP RULES

(1) The FCC proposal. ABC supports the FCC's proposal to amend its rules to increase the maximum permissible ownership of television stations from 5 to 7, of which not more than 5 may be in the VHF band.

On January 31, 1952, ABC originally made this suggestion to the Commission. Twenty-three months later, on December 23, 1953, the Commission proposed an amendment to its rules to adopt ABC's suggestion. On February 1, 1954, ABC filed a statement with the Commission in favor of the proposed amendment. In that statement urged earliest possible finalization of the proposal, pointing out that "any increased impetus to UHF given at this time will snowball and produce an effect far greater than could be achieved by any encouragement at a later date."

ABC suggests no arbitrary rule or limitation on the size of market in which multiple owners may acquire UHF stations, but obviously ownership of UHF stations in the largest intermixed markets of the country that have fewer than four VHF stations would contribute most to the promotion of UHF.

(2) The sliding-scale proposal of Senator Johnson, S. 3095.

In essence, this proposal would permit the ownership of up to a total of 10 UHF stations, on a 2-for-1 ratio, such as 4 V's and 2 U's, 3 V's and 4 U's, and so forth.

ABC believes that the FCC proposal is a better approach, since Senator Johnson's bill would require persons who have 5 VHF stations to relinquish 1 of such stations for each 2 UHF licenses to be acquired. We doubt that this would provide incentive to acquire UHF ownership.

(3) Partial-ownership proposal of Mr. Garrison of KACY, Festus, Mo.

This proposal suggests that multiple V owners be permitted to own up to 50 percent of 5 additional U stations.

This variation of the FCC plan has the advantage of bringing strong ownership into a total of 5 UHF stations rather than a total of 2, and deserves careful consideration, since it is designed to combine the advantages of network partnership and programing with local identity.

(4) Du Mont plan C. This is a plan which would authorize network ownership of 1 additional station for every 7 UHF stations affiliated by the network in the top 100 markets of the country. This proposal is described by Dr. Du Mont as permissive, since it could be put into operation by the FCC under its present granted powers simply by amending its multiple-ownership rules, and without requiring the detailed Government supervision and regulation necessary under Du Mont's other plans.

ABC prefers the FCC's proposal, however, since it believes that artificial limitations on the freedom of stations and networks to affiliate with each other are not the correct approach to this problem.

We concur completely with the viewpoint of Dr. Du Mont that networks are entitled to special consideration in the application of the multiple-ownership rules, for it is the networks that provide program service and need revenues from station ownership to support their program expenditures.

To illustrate, ABC has over the past 6 years million of dollars in the operation and programing of its television network; in contrast, other multiple owners that are not network organizations have profited greatly from the programs provided them by the networks. However, the purpose of the proposed amendment to the multiple-ownership rules is to aid UHF and we believe that it should be broad enough to attract all multiple owners to enter UHF.

B. CHANGES IN THE NETWORK RULES

(1) Senator Bricker's bill, S. 3456. This bill would grant to the FCC direct authority to regulate networks. At the present time, networks are regulated indirectly by the FCC through control of the types of contracts and arrangements which stations may enter into

with networks. The FCC's authority over station network relationships has been sustained by the Supreme Court.

ABC considers the Bricker bill unnecessary legislation, for it believes that the FCC already has sufficient authority to do what is necessary and desirable to aid UHF. It also believes that the solution to the problem of a competitive nationwide television service lies not in increased regulation but in making changes in the allocation plan so that the natural workings of our free-enterprise system may operate with the present artificial restrictions of unequal access to the market place removed.

Senator POTTER. Do you believe that a station operator should be able to buy programing from any company it wants to, any network?

Mr. JAHNCKE. Senator, in effect, a station does do that through an affiliation with that network.

Senator POTTER. Let's take Pittsburgh, for example. There are three V's there; is that correct?

Mr. JAHNCKE. In Pittsburgh at the present time there is 1 V and 2 UHF stations in operation. There are allocated to Pittsburgh or nearby suburbs two additional V's. So, if ultimately things proceed as they probably look, it will be a 3-VHF market and a 3-UHF market.

Senator POTTER. Three and three?

Mr. JAHNCKE. Three and three.

Senator POTTER. Now, we will assume that the other two V's go in. One will have an affiliation with NBC, 1 with CBS, and 1 with ABC, and then I assume 1 of the U's would have it with Du Mont. You have two other U's in that area if all the stations go on the air. Do you think that those stations should be able to buy programs from any of the networks?

Mr. JAHNCKE. No; I don't.

Senator POTTER. Would you explain your reasons for your answer?

Mr. JAHNCKE. Well, Senator, our problem is just the reverse. We spend all of our time trying to persuade stations to take our program.

Our whole activity is just the reverse. The last thing we could conceive of is trying to restrict the distribution of our programs. We want them to have the widest possible distribution. That is what our advertisers want.

This is our business—getting them around the country to as many stations as possible.

The whole problem at the moment is that we don't have access. We can't get programs, such as United States Steel, or any one of them, in some of the markets today because of the lack of facilities.

It is just the reverse. It is not the question that we are depriving any station of service. It is the question primarily that there are not enough stations to carry our service and, therefore, in many parts of the country ABC's fine television service is not available to the public.

Senator POTTER. We have had a certain amount of testimony here that some of the stations that have had an affiliation with one of the networks that—take a U station—when a V would come into the market they would lose their affiliation and go to the V.

Now, I am just bringing this up as a matter of discussion. There has been discussion that possibly networks should be the same as the Associated Press, for example, so that anybody who wants to purchase the service can purchase it.

Mr. JAHNCKE. Well, Senator, as I understand it, the Associated Press service is available to more than one purchaser or user in any given community.

Senator POTTER. That is what I am talking about.

Mr. JAHNCKE. I don't think it would be in the public interest, in view of the scarcity of channels available, to permit the duplication of programs in any market and thereby eliminate the choice of programs that would otherwise be available to the public served by those stations.

The most popular programs would be bought by every station in time. You destroy the whole concept of a choice of programs.

However, it goes, I think, much deeper than that. Our whole operation is based on advertiser support. Now, when we go out to sell an advertiser, we sell an advertiser the time of day he wants, depending on what audience he wants to reach. He buys circulation. He is interested in what program on our schedule he follows, and he is interested in what program on other stations he competes with at the time of the broadcast. He is also interested, if you will, in the efficiency of the circulation of each individual station that comprises his lineup.

Now, if he wants to buy the ABC network—and I will use United States Steel as an example—and he wants, because his home office is in Pittsburgh, the widest possible circulation in Pittsburgh, he buys the VHF station, WDTV.

It just seems to me it is not logical to deprive him of that opportunity because a UHF station in Pittsburgh would bid higher or would be able to buy for the same price.

Actually, stations don't buy our service. We pay them to carry the programs. The advertiser pays it, and we in turn divide that revenue with the stations.

So, it is not a question of the stations having to buy service from networks. They get them not only without charge; they get paid for broadcasting them.

That is the whole concept of the network affiliate relationship in both radio and television.

Senator POTTER. It is your testimony, then, it wouldn't be in the public interest to—

Mr. JAHNCKE. No, sir. I think it would reduce our industry to a state of great chaotic confusion.

I will say this, Senator: There is the area in which a program is not being broadcast in a market for various reasons. I would certainly like to see that worked out, but again I don't think that should be worked out by mandate or rule.

There are a lot of practical problems involved here; but if you have a program, like Firestone, which I cited, which is broadcast on 70 stations—those are the number of markets that Firestone has purchased from us. Naturally, any extension of the station list to permit more stations than those 70 to carry Firestone would be desirable; but, as a practical matter, Firestone decides how many stations carry their program, because it is their money that is supporting that program.

Senator POTTER. Say you have an affiliation with one of the stations in Detroit—take your Firestone program—and they don't want to run that program; they want to run a local program, or whatever it might be. Can you go out and place that program with another station in Detroit?

Mr. JAHNCKE. Yes, sir.

I will admit Detroit is a bad example. We own our station there. They usually carry our programs, but that is correct. When our regular affiliate does not or cannot carry our program, it is not a question of allowing any other station to carry it. We are usually the first ones to go out and try to persuade someone else to carry it.

As example of that: Our station is a UHF station, WENS, in Pittsburgh. They were unable to clear the Firestone program because they are carrying the CBS Arthur Godfrey program, and, therefore, we placed the Firestone program on the Du Mont station, WTV, to show you how many network programs you cut across in one-half hour there in Pittsburgh.

Senator POTTER. It seems to me I recall testimony that if a station has a prime contract for one of the networks, even if they didn't use that program, that other stations in that market area were precluded from getting it.

Mr. JAHNCKE. Senator, I can't speak for the other networks, but our obligation to a station under our first-call contract we feel is completely satisfied once we have offered the station that program. If they turn it down, they have no further right or hold on that program, and we feel completely free to put it on any other station we can find in that market, and we do it as a matter of everyday policy.

Senator POTTER. You don't know the policy of any other network?

Mr. JAHNCKE. No, sir.

Senator POTTER. Suppose I am an advertiser and I wanted a certain type of program. Let's say I wanted a certain news commentator. Could I get him or do I have to order just a news commentator?

I want one specific person.

Mr. JAHNCKE. No, sir. I will speak for ABC, sir. We have our own news commentators, such as John Daly, whom we offer for sponsorship to advertisers. On the other hand, if an advertiser wants to buy time and make arrangements—either have us make the arrangements or he makes the arrangements directly—for some other news commentator that is not a regular ABC commentator, that is equally permissible, providing, of course, we feel he qualifies as a commentator.

You just can't put on anybody. We feel a responsibility to make sure it is a reliable and reputable commentator; but it can either be brought in by the advertiser on ABC or an ABC commentator, such as John Daly, and it is perfectly obvious we try to sell our own first.

Senator POTTER. What network has Henry J. Taylor?

Mr. JAHNCKE. ABC, sir.

Senator POTTER. I heard a rumor that a sponsor of a program wanted to sponsor Taylor, Henry J. Taylor, and was told they could sponsor a news commentator, but they couldn't specify the person they were to receive. Now, is that from the advertising end of it, the advertising agency, or is that the network?

Mr. JAHNCKE. No, sir; I think that is the agency.

Henry J. Taylor has been identified with the General Motors Corp. for a long period of time. Henry J. Taylor is employed by General Motors, not by ABC, and I assume—it is reasonable to assume—that General Motors does not want Henry J. Taylor's identity with that particular sponsor to be diluted by his use elsewhere.

This is not a matter of network policy at all. It is even quite possible that Henry J. Taylor himself would not agree to be available for another sponsor. I doubt if he would because of his very close association with General Motors.

Senator POTTER. The question was raised to me that the network had forbidden Taylor to be used by another sponsor.

Mr. JAHNCKE. That is not correct, sir.

Senator POTTER. All right. I am glad to clear that up.

Mr. JAHNCKE. I think it is an unwritten rule and, in addition to the excise tax removal, one obvious point that everyone in this room would agree with: we love all of our advertisers.

Senator POTTER. Like we love all of our constituents.

Mr. JAHNCKE. Yes, sir.

Senator POTTER. All right.

Mr. JAHNCKE. (2) The Du Mont plan A. This plan would force all networks to affiliate UHF stations to an equal degree in the major markets. Under the plan, the 4 networks would be required to take turns in affiliating the UHF stations exclusively wherever less than 4 VHF stations exist in any 1 market. The plan is intended, as are all of Dr. Du Mont's proposals, to increase NBC's and CBS's program time on UHF stations and to increase ABC's and Du Mont's program time on VHF stations.

ABC supports Dr. Du Mont's objectives, but believes that the best approach to this problem is through voluntary industry action on a case-to-case basis rather than through inflexible regulatory measures.

Senator POTTER. Is any of that being done now?

Is there any voluntary action on that like being done now by the networks?

Mr. JAHNCKE. No, sir; not that I know of.

Each network has whatever affiliations with stations of either class that it wishes or can acquire, and—

Senator POTTER. But you think it is desirable to have it done on a voluntary basis?

Mr. JAHNCKE. Yes, sir.

There is evidence that the best-intentioned rules often create results different from planned, and sometimes directly opposite.

We believe that the proposal is unworkable, discriminatory, unduly disruptive of business relationships, and not likely to produce the result intended. In any event, there are better solutions.

(3) Du Mont plan B. This plan would require each VHF station in markets having fewer than 4 VHF stations to make available 25 percent of its time to the network not having a VHF affiliation.

ABC believes that this plan is preferable to Du Mont plan A, but it also is fundamentally the wrong approach. It would be extremely difficult to administer, and we are not convinced that it will accomplish the objective intended; that is, forcing network programming to the UHF stations.

It has been our experience that advertisers in many instances would forego buying the market entirely rather than place their program on the UHF station.

Furthermore, Dr. Du Mont in his description of the plan stated that it probably would require rate regulation. ABC believes that this is an area that should not be entered by the Government.

(4) Proposal requiring networks to affiliate a fixed minimum percentage of UHF stations: This proposal would require each network to have at least one-third of its affiliates in the UHF band within 1 year and within 2 years to have this percentage gradually increase to at least 50 percent.

It is of interest to note that at the present time one-third of ABC's affiliates are UHF stations.

We believe that this proposal also takes the wrong approach. Moreover, it does not go to the core of the UHF problem because the inevitable tendency would be to maintain the required minimum percentages by affiliating a greater proportion of UHF stations in the smaller markets without helping UHF in the larger markets.

The solution of the UHF problem, in our opinion, must come in the major markets and the small market solution will follow as a byproduct.

This proposal also would discriminate unfairly against VHF stations if networks were forced to drop VHF affiliates in order to comply with such a rule.

I think it would be appropriate to point out here, Senator, that we have adopted from the beginning a policy that television was for everybody, large and small markets, and we have adopted a policy that even where satisfactory alien signals were available to serve the community we thought that local television had a place and an importance, and we have affiliated, therefore, stations like UHF stations in places like Akron, Worcester, and Bridgeport, and Flint.

(5) Proposal to preclude the use of VHF station for delayed broadcast where a UHF station in the market is available for live-time clearance: The adoption of this rule would tend to perpetuate the dominance of NBC and CBS. ABC's only access to many 1- and 2-station VHF markets is by delayed broadcast.

Senator POTTER. What do you mean by "delayed broadcast"?

Mr. JAHNCKE. Senator, where we can't clear the time that the program usually goes over the line—

Senator POTTER. I understand.

Mr. JAHNCKE. We make a kinescope recording and arrange to put that program on at some other time.

Senator POTTER. Yes; I understand.

Mr. JAHNCKE. To give you an idea of the extent of this problem, if you recall Mr. Storer's testimony, his appendix, where he listed the number of 2 V markets—in the top hundred, there were 29—or in places where the ABC-UHF affiliated has ceased operations—how would we get our programs into Louisville and Dayton today, for example, where the UHF stations have gone off the air and there are only two V's; how would we get our programs into Rochester or Syracuse, or markets like that, or Birmingham?

If we were deprived of this access, our entire network operation would be seriously impaired, with the corresponding result that our ability to serve both UHF and VHF stations generally throughout the country would suffer.

With one minor exception, neither NBC nor CBS has ever affiliated a UHF station in markets where there are two VHF stations.

The proposed rule would damage the two networks which have the greatest number of UHF affiliates—ABC and Du Mont.

(6) Proposal to preclude network ownership of stations: The history of broadcasting shows that station ownership is essential to network operation. Without owned and operated stations in the key markets, networks would lack the facilities and the revenue to produce the superior programs that have been largely responsible for the growth and development of radio and television.

If ABC were forced to elect between station ownership and network operation, it would choose the former.

The proposal would retard, not aid UHF development.

TAX AND SUBSIDY AID FOR UHF

(1) Repeal of the 10 percent excise tax on all-channel receivers, both monochrome and color: ABC endorses this proposal for the reasons already advanced in this hearing.

(2) Government subsidy: A proposal has been made that instead of reducing the 10 percent excise tax on all-channel receivers, the money so collected be made available to subsidize UHF operators. Subsidy would be a step in Government control of program content, and ABC strongly opposes it.

Senator POTTER. So do I.

Mr. JAHNCKE. I am delighted, sir.

(3) Government loans: Government loans are an indirect form of subsidy. We have serious doubt that any short-range benefits that might flow from aid of this type would be worth the inherent risk of ultimate Government ownership of television stations.

D. ENGINEERING PROPOSALS AND EQUIPMENT IMPROVEMENTS

(1) Proposed minimum of 5 kilowatt transmitter in UHF: ABC agrees that higher power is needed in UHF, but the proposed requirement of a minimum of 5 kilowatts would work hardship on many UHF operators who find difficulty in financing their present operations. Most low-power UHF operators not only would be happy to increase their power to 5 kilowatts, but actually want and need much more power. However, we believe that it would be wiser at this stage of UHF development to leave power increases to normal growth rather than to make them mandatory by rule.

(2) Authorization of booster or satellite stations: ABC endorses any proposal that will bring UHF nearer to parity with VHF. It is hoped that this experiment will be tried.

(3) Improved UHF receivers: ABC agrees that the greatest advances in improved UHF reception can be made at the receiver end rather than at the transmitter end. The present UHF receivers are greatly inferior to their VHF counterparts. New tubes and other developments are in the offing and it is in the power of the manufacturers to speed up the timetable under which they will come into widespread public use with minimum or no price differential.

It is pertinent to observe that three of the television networks—NBC, CBS and Du Mont—and several important television station licensees manufacture and sell television receivers.

ABC is engaged exclusively in the broadcasting business with no manufacturing division.

(4) Reduction of the VHF station coverage: This proposal envisions the reduction of VHF antenna height and power to approximate the range presently obtainable by UHF stations.

ABC believes that the disadvantages of this proposal outweigh its benefits. It entails depriving large numbers of the public in outlying areas of television service they now enjoy. Its concept is negative in that it proposes to reduce everyone to the lowest common denominator rather than seek a policy of improving service for all.

E. THE FREEZE PROPOSALS

A discussion of this subject should start with a statement of the fact that television has spent most of its formative years in cold storage. The first commercial television authorization was granted in June 1941. Less than a year later, in April 1942, a wartime freeze was imposed, prohibiting new construction. This wartime freeze remained in effect until April 1946, as which time the first postwar construction permit was granted. From April 1946 until September 1948, slightly more than 2 years, television was permitted normal development. On September 30, 1948, the Commission imposed the second freeze which lasted until July 1952, almost 4 years, at which time the present allocation plan went into effect. In sum, since its inception 13 years ago, commercial television has had only 5 years in which to grow, and has spent 8 years on ice.

To those who remember the Commission's expectation of a short freeze of 60 to 90 days' duration in 1948 and who saw this grow into a freeze of almost 4 years' duration, the prospect of another temporary freeze is frightening.

We are also haunted by the fact that in AM the Commission has had the clear channels frozen since 1942, with the exception of a few months in the 1945-46 period, and the ABC radio network in particular has been the victim of this inaction.

ABC believes that another freeze is neither necessary nor desirable. Furthermore, it is manifestly unfair to the many applicants for VHF facilities who, through no fault of their own, have been held up in the judgment of their applications since as far back as 1947.

The UHF problem cannot be solved by artificially retarding the normal growth of the industry.

A freeze would preserve the dominance of NBC and CBS and retard the development of ABC. It also would remove the incentive to a quick solution that would be present in an emergency atmosphere.

F. REVISED ALLOCATION PLANS

(1) Reallocation of all television to the UHF band: The transfer of all television to the UHF band has the appeal of being the theoretically best solution. If accomplished it would eliminate the economy of scarcity and provide ample and equal facilities to all communities in the United States, large and small. It would create a true parity of facilities which would enable competition to flower in its best environment with the rewards going to those who produce the best program service. The question is whether or not it is practical.

There certainly are many well-founded objections to this proposal. In some localities, particularly those with rough terrain, VHF is

simply a better part of the spectrum in which to broadcast television. Seattle, Portland, Pittsburgh are examples of that.

Substantial question has also been raised in this hearing whether, because of allocation standards on which the UHF plan is based, there are enough UHF channels to permit a nationwide service in the UHF band alone. We believe changes in these standards to make them more comparable to the VHF standards would enable the 70 UHF channels to fill the need without any difficulty. The proposal also contemplates a gradual transition to UHF. All VHF operators would be assigned a UHF channel and given the opportunity over a period of years to broadcast either in VHF or UHF or as a simulcast, with the understanding that as of a certain date the VHF channel would cease operation. This would impose an important financial problem on every VHF operator, both on capital investment and the additional costs of operation during the transition period. In addition, many VHF towers and antenna sites might not lend themselves to the addition of a UHF antenna.

Of the 29 million television sets in the hands of the public, approximately 3 million are equipped for UHF. Therefore, this proposal would envision the conversion or replacement by all-channel receivers of about 26 million VHF-only sets over the transition period, with accompanying home antenna modifications.

The proposal imposes such large burdens on a substantial portion of 26 million American families and several hundred VHF broadcasters that ABC believes it should be considered only if other less drastic remedies are first tried and proven inadequate.

If a decision is made to switch to an all-UHF system, color television should immediately be restricted to UHF. The advent of color on UHF-only would hasten the distribution of all channel receivers.

A modification of this proposal which might spur UHF development without losing the advantages of VHF and causing the major disruptions of a switch to an all-UHF system would be to permit color on UHF-only for a period, say, of 3 to 5 years, following which color would be permitted to be broadcast on VHF as well.

VHF broadcasters who desire to duplicate programs on a UHF station during this transition period so as to broadcast color would be permitted to do so.

(2) Reallocation of the FM band to television. VHF television is presently divided into two bands: Channels 2 to 6 occupy the space between 54 and 88 megacycles; channels 7 to 13 occupy the space between 174 and 216 megacycles.

Between these two VHF bands is an area of 86 megacycles. FM occupies 20 megacycles of this space, 88 to 108 megacycles. This band would accommodate 3 additional VHF channels with a surplus of 2 megacycles which could be used to accommodate all the FM stations now in operation.

Senator POTTER. Is that right, that it will take care of all the FM stations now in operation?

Mr. JAHNCKE. That is my understanding, according to the engineering department. I am not an engineer myself.

The present FM service provides little that is not already available via AM radio. In a situation where there is no ideal solution, this proposal has merit.

(3) VHF channel 4½. ABC would endorse this proposal but we understand and the space between channels 4 and 5 will not be available for new uses until 1963. That is too far in the future to merit consideration at this time.

(4) Directional antennas. These proposals also look to a partial solution of the UHF trouble areas through the squeezing in of a few additional VHF stations. If through a combination of directionalization and less than maximum permissible power additional VHF channels can be provided in key markets, it would go a long way to solving the competitive problem of ABC. However, alone it does not provide an overall solution to the problem. Its primary merit, in our opinion, rests in its use in combination with the proposal to obtain three more VHF channels by utilizing the FM band.

(5) Reallocation of VHF educational channels: the concept behind the initial reservation of a reasonable number of stations for educational broadcasting was commendable, but perhaps the time has come to take a more practical approach to a problem to which, as we have said, there is no ideal solution.

We cannot escape the fact that the spectrum is crowded and will become more so. This fact poses the question of whether it is in the public interest to continue to reserve precious VHF channels for an uncertain future use at the expense of depriving the public of their immediate utilization for the excellent television service now available.

The concept of educational television must be weighed against the practicalities of the present situation. Of the 83 VHF channels reserved for educational television, only a handful have been sought by educators.

The report of the New York State Commission on Educational Television shows that there is serious question whether noncommercial educational television is feasible. We believe that the interests of educational television would better be served by making additional time available for educational programs on commercial stations.

I might add again referring to the 29 markets in the top hundred, to which are allocated only 2 VHF stations, that this use of presently unused VHF educational channels would solve and permit a third VHF station in 10 of these 29 markets, and certainly through possible relaxation of the Commission's present inflexible rules and with directionalization probably virtually every one of these problems could be solved.

ABC's recommendations:

ABC recommends, therefore:

That the excise tax on all channel receivers and tuners be abolished.

That the FCC adopt revisions of its multiple ownership rules to permit multiple VHF owners to acquire UHF stations;

That boosters and satellites be authorized; and that a freeze not be imposed.

With respect to the more fundamental question of whether any of the revised allocation proposals should be adopted, we believe that, in the last analysis, the answer must depend upon the definition given the concept of a truly national, totally competitive television service.

If, as a matter of policy, it is determined that only two program services are necessary to meet this definition, then the present alloca-

tion of VHF channels will provide such service, with no important exceptions.

Should this definition of totally competitive be adopted, it would strengthen the position of NBC and CBS and might mean the rapid elimination of UHF.

This, of course, is not the answer.

The second possible policy determination of what would constitute a national competitive television service would be a plan which would permit three fully competitive broadcast services. Such a system would require revisions in the present allocation plan.

The addition of relatively few VHF channels would make such a concept practical. These channels could be obtained through use of that part of the VHF spectrum between channel 6 and channel 7 presently assigned to FM broadcast, plus the possible use of educational VHF reservations.

The conversion to the new channels would be relatively simple compared to the UHF conversion problem, and would have the advantage of an absolute long-range parity once the conversion is accomplished.

Some relief could be obtained even within the limits of the existing 12 VHF channels by utilizing more flexible allocation rules, including the use of directional antennas and, in some cases, lower power.

I may be wrong, Senator, but it is my understanding that it is the application of completely inflexible and arbitrary allocation rules that create the proposals to put up television stations in phantom towns such as were referred to yesterday.

Obviously, the plan is to bring the third VHF station to Norfolk. The arbitrary and exact mileage limitation won't let them bring it any closer to Norfolk than Princess Anne, which is close enough; but if there were a slight modification of that rule, it would be a Norfolk station, which is their plan, which I think is perfectly proper.

Senator POTTER. These policy decisions that you have mentioned here—would they provide a nationwide competitive system that the FCC has recommended?

Mr. JAHNCKE. It depends on the definition. It would certainly provide three services; yes, sir.

Senator POTTER. Would it also be nationwide?

Mr. JAHNCKE. Yes, sir.

Senator, just in passing, one point: Obviously, if you solve the problem in the congested northeastern area of the country, where large metropolitan areas are very close together, automatically that solves it in the rest of the country where distances are greater, with very few exceptions.

That is the problem. You solve the Northeast and you have got in most cases more than enough for the rest of the country.

A third definition of a nationwide competitive television system would be one that requires four or more national program services. Theoretically, such a concept could best be realized by:

(a) The addition of many more VHF channels so that we might have an all-VHF system; or

(b) The shift of all television to UHF.

To obtain sufficient VHF channels, we think the entire portion of the spectrum between channels 6 and 7—88 to 174 megacycles—now employed by other important services, would have to be utilized.

While such reallocation would create 14 additional VHF channels, the attendant disruption of the other services presently using this spectrum space appears to render this plan impractical.

The alternative of moving all of television to UHF also has substantial practical difficulties and because of its expense to the public and VHF broadcasters, it should be adopted only if it appears that no other solution will work.

ABC believes that it is too early to conclude that it is necessary to abandon as unworkable our present allocation concept of using both VHF and UHF stations.

If I may refer back to the analogy of the filling station, before we moved the road away, perhaps we might be able to find a solution by just widening the road, providing one more lane on the road presently in front of the filling station.

ABC is aware that UHF television is in a critical position and that the patient may die while the doctors are debating what to prescribe. It also recognizes that while there have been many general proposals made to this committee, there is not before it definitive evidence on whether it might be possible to devise modifications of the present plan which would minimize VHF-UHF intermixture in UHF trouble areas without at the same time weakening UHF to the point that the revisions would do more harm than good. The FCC has personnel qualified to investigate these matters.

ABC, therefore, recommends that this committee request the Commission to prepare as soon as possible a report on a revised plan utilizing both VHF and UHF but reallocating to cure UHF trouble areas, such as Dayton and Louisville, in intermixed markets to the extent possible without impairing the long-range development of a national competitive television service.

Senator PORTER. Do I understand your suggestion there is that the Commission might look over their present allocation of channels that haven't been picked up as yet?

Is that what you mean? Or channels for which licenses have been turned back?

Mr. JAHNCKE. Look over their present allocation, with the thought, by modifying their present inflexible standards, to permit perhaps less than the present separation stands, distances between two stations on the same channel, through the use of directionalization and lower power, perhaps a VHF channel to solve a problem in a market such as Dayton.

Senator, as a practical matter how are you going to solve the problem of providing a third service to places like Dayton and Louisville? UHF has tried and failed there.

Whether rightly or wrongly, this is just a present fact. I am not editorializing.

How do we get our present programs into those markets?

I think the solution there, where the odds seem to be against UHF, is to try by substituting VHF for UHF in those trouble areas.

We think if that is done in a few of the key markets it will go a long way toward solving the problem.

At the same time we recognize you shouldn't go too far because if you substitute all VHF you are simply destroying UHF, because UHF has to be solved in some of the big markets for it to be able to remain as a byproduct in the smaller markets.

There I might go back to the multiple-ownership proposals. Nobody will say any multiple owner would say where they would buy or acquire a UHF station, if so permitted, but I think it is obvious and traditional that the multiple owners and the networks, a special type of multiple owners, would normally seek to acquire those UHF stations in the larger markets.

This is where the importance of owning a station, as far as the network is concerned, applies; and, obviously, without mentioning any one market, if you have the 4 networks buying and acquiring ownership of an operation, with their programming of UHF stations in, say, the top 10, 15, or 20 markets of the country, you have really struck a blow for UHF, because those are the networks and organizations that are in the best position to give UHF the greatest support. If you support UHF in markets that big, it certainly will automatically solve it in the smaller markets as a byproduct; but, coupled with that, I think a realistic revision of the Commission's present standards to solve problems, such as Dayton and Louisville, certainly are indicated and would go a long way to improving the television service and the choice of services available to the public in those problem areas.

Senator POTTER. You think in some areas, such as you have mentioned, they could squeeze in another VHF, I assume, probably with low power and directionalizing it?

Mr. JAHNCKE. Yes, sir.

This, I understand, is quite practical, although I can't comment on it from an engineering point of view, sir.

In approaching such a reallocation we recommend that the Commission abandon the rigid and inflexible concepts on which the present VHF plan is based, so that channels may be moved or applied for as they are in AM broadcasting. In addition, so that the information before the committee will be complete, we suggest that the Commission should also be requested to report on whether additional VHF channels can be obtained and whether an all UHF allocation plan would be technically feasible.

The proposals made above are designed to speed the difficult period of transition during which competitive facilities will become available. When that occurs, ABC will take its competitive chances in the market place of public good with full confidence in its ability to originate and develop a television service second to none. ABC believes that it has a television program service comparable in quality to those of its competitors and desires only a fair opportunity to demonstrate that fact.

In conclusion, ABC again desires to point out that it is now an independent network because of the FCC's recognition 13 years ago that the public interest would not be served by concentration of radio stations under the dominance and control of a single network organization.

For reasons unrelated to the merits of its television service, ABC finds itself handicapped due to the lack of competitive television outlets.

The competitive advantages enjoyed by NBC and CBS are basically attributed to denial of fair opportunity for access to the market, rather than to the superiority of their program offerings.

We can't get our programs into a market that we are not even judged; we are not even in the game.

This committee, therefore, is faced with an extraordinary decision of policy, for determinations reached now in the present period of television development will determine the availability and quality of competitive service in the future.

There may be those who will oppose any remedial action by this committee or by the Federal Communications Commission on the ground that it might deprive those who were first in the field of the fruits of their resourcefulness and labors.

The fruits currently enjoyed in limited facilities communities are not as much the result of individual initiative or superior ability as they are of VHF channel scarcities and the artificial freeze imposed between 1948 and 1952.

It is one thing to be the first in the field where competitors are free to follow. It is another thing to enjoy a clear field because competitors are enjoined from pursuit.

Senator POTTER. You have presented an excellent statement, and there are bound to be many questions that I think the committee will like to consider.

I believe you stated that you favored the multiple-ownership rule?

Mr. JAHNCKE. Yes.

Senator POTTER. And did you suggest that the multiple owner go into only the big market, the big city mixed market area?

Mr. JAHNCKE. I suggested that no arbitrary limitation or rule be laid down, but that obviously the bigger the market such a multiple owner went into, to acquire his UHF ownership, the more it would help UHF; and I think it is probable that the entrance of the multiple owners into UHF ownership beyond their VHF ownership would be in the larger markets and certainly in mixed markets.

Senator POTTER. I have been requested here to ask you a few questions. I haven't had a chance to read them myself.

On page 26 you say there should be three networks and to get them you must reduce intermixture by reallocation and an addition of channel $6\frac{1}{2}$. Will you accept the new channel for ABC?

Are they receivers for it?

Mr. JAHNCKE. At the very bottom of that same page, Senator, I point out conversion to the new channels would be relatively simple compared to the UHF conversion problem.

The addition of a channel $6\frac{1}{2}$ or $6\frac{1}{4}$ would present an additional conversion problem. Not one television set in the entire country could tune it in at the moment.

In my opinion, the conversion to enable a television set to receive that channel would be relatively simple compared to the conversion necessary to receive a UHF signal; and once accomplished, that station would have a complete parity with other VHF stations.

You have heard testimony regarding the propagation characteristics of the various channels all the way from 2 to 83.

Senator POTTER. Yes.

Mr. JAHNCKE. And the shadow problems faced, particularly in the upper part of the UHF spectrum.

All of that would be solved, and when the conversion problem is completed you could look forward to an absolute one class of stations in these trouble markets.

Senator POTTER. It would be a regular VHF station?

Mr. JAHNCKE. Sir?

Senator POTTER. It would be a regular VHF operation?

Mr. JAHNCKE. That is correct; ultimately.

The other part of that question, Senator: Would ABC affiliate such a station?

What is our choice at the moment?

Certainly we would.

Senator POTTER. On page 23 you say put color only on UHF. Wouldn't that require operation of two transmitters in all large cities?

Mr. JAHNCKE. Yes; it would.

This is not a recommendation of ABC's. This is pointing out certain possibilities.

Certainly you start with the point that if you are going to consider a transfer of all television to UHF, it just seems logical to put out the fire in color before it starts.

That is the first point.

Senator POTTER. If I recall your statement, you suggested it might be desirable to put color in for 3 or 5 years, limited color to UHF for 3 or 5 years; is that correct?

Mr. JAHNCKE. That is correct, sir.

The thought back of that idea is not to transfer television to UHF, but if color is going to come with such a mad rush and be so exciting, as I am convinced it will be, and every color set automatically is an all-channel tuner, you have gone a long way to solving the UHF problem, which ultimately gets back to an all-channel tuner.

Senator POTTER. The second part of this question, referring to the two transmitters, says: "If so, why would two transmitters for transition to UHF be so burdensome?"

Mr. JAHNCKE. I think, under this idea of putting up a UHF transmitter for color only, it would be burdensome to the same degree if you were switching ultimately and in a transition period.

It might be possible on some antenna sets. Certainly it would be a problem, but it would promote the distribution of all-channel tuners, and that is the thought back of it.

Senator POTTER. Then another question that was submitted to me: On page 20—would you confine boosters or directional antennas to the use so as to enable them to give wider and equal coverage?

Mr. JAHNCKE. Again, Senator, I am not an engineer, but I certainly would not put any flat limitations on the use of boosters as satellites. I would suggest again the FCC consider that on a case-by-case basis, whether VHF or UHF, to accomplish the job.

If a VHF station has a blind spot or a shadow area, certainly it should be permitted for VHF as well as UHF.

Both the boosters and satellites are designed to extend coverage. They don't contribute to conversion, which is the UHF problem.

Senator POTTER. Do you have any questions?

Senator BOWRING. I have no questions.

Senator POTTER. I wish to thank you for your statement.

Mr. Midlen.

STATEMENT OF JOHN H. MIDLEN, REPRESENTING TELEVISION
STATION WTVR, RICHMOND, VA.

Mr. MIDLEN. Yes, sir.

Mr. Chairman, if I might have just a minute to make a submission, I have here the original copy of the history of television station WTVR, Richmond, Va. I would like to submit that and request that it be incorporated in the hearing record in this proceeding. (Various exhibits are in the official files of committee.)

Senator PORTER. Without objection, it will be so ordered.

(The document referred to is as follows:)

In re hearing on problems concerning the status and development of UHF TV channels

THE HISTORY OF TELEVISION STATION WTVR, RICHMOND, VA.—
JUNE 18, 1954

HAVENS & MARTIN, INC.,
Richmond 20, Va.

CITY OF RICHMOND,
State of Virginia, ss:

Wilbur M. Havens, being first duly sworn on oath according to law, deposes and says that he is president of Havens & Martin, Inc., licensee of Television Broadcast Station WTVR, Richmond, Va., and is general manager of station WTVR; that the following parts I to V, inclusive with related exhibits have been prepared by him or under his supervision and direction, and that the facts stated therein are true to the best of his knowledge, information and belief.

WILBUR M. HAVENS.

Subscribed and sworn to before me this 14th day of June 1954.

[SEAL]

KATHERINE H. GERMAIN,
Notary Public.

My commission expires on June 22, 1957.

PART I.—EARLY WTVR HISTORY

On March 11, 1944, Havens & Martin, Inc., owners and operators of AM Station WMBG, Richmond, Va., filed an application with the Federal Communications Commission for a television station at Richmond. At the same time an application was also filed for a construction permit for a frequency modulation station.

Two days later the company ran a full-page advertisement (exhibit 1) in the Richmond News Leader headed "WMBG's Answer to 'What About Television.'" That same night Mr. Wilbur M. Havens, president of Havens & Martin, Inc., stated in a 15-minute broadcast that: "Of all the postwar developments promised by the progress of the art and science of radio, television presents the greatest opportunity" (exhibit 2).

EXHIBIT 2

EXCERPTS FROM WMBG RADIO PROGRAM MARCH 6, 1944

Mr. Havens

The No. 1 job for American business at present is to cooperate wholeheartedly in the winning of the war. Nothing can be permitted to obstruct that end. When this war ends, we will find ourselves in a new world, filled with many great inventions for the comfort, pleasure, and enlightenment of all mankind. Our interest this evening is confined to Virginia and Richmond. My announcement is directed particularly to those who are in the service area of this radio station. It is evidence of what the postwar era promises for you and your radio. The WMBG Planning Board has investigated all phases of postwar radio broadcasting. Many new and novel innovations have been thoroughly studied, including television, frequency modulation and facsimile. Of all the postwar developments promised by the progress of the art and science of radio, television

presents the greatest opportunity. The addition of sight to sound in radio is as revolutionary as was the addition of sound to sight on the motion picture screen. Television will open a new era of broadcasting entertainment, information, and education to the home. Furthermore, it will be a development of great economic and social significance to labor, industry, and Government.

Television can be discussed now only as a postwar development. And even as a post-war development, television services will face many technical and economic problems. Time will be required for their solution, and for the full realization of the vast possibilities of sight-and-sound broadcasting. Millions of dollars already have been invested in the foundation now laid for postwar television.

You will see your radio programs as well as hear them when the war is over.

I cannot conclude with the mere announcement that you of Virginia and Richmond will have television, for there is something even greater in store for you. I have just returned from a 4-day stay in New York where the entire planning board of WMBG and myself held conference with Mr. Niles Trammell, president of the National Broadcasting Co. and many of his officers and engineers. We have been assured that in the immediate postwar era, the National Broadcasting Co. will deliver sight and sound television programs of the world's best entertainment, sport events and educational features to you here in Virginia and Richmond through the medium of WMBG's television transmitter. Because of its extensive coverage and accepted type of highly developed program service there is no foreseeable period when sound broadcasting will become unnecessary. Therefore, WMBG will continue to maintain its sound broadcasting services at the highest peak of technical entertainment and educational excellence.

Television, bringing sight as well as sound to the many services of mass communication, adds a new dimension to radio. In conclusion I promise you the best in radio television of the future even as WMBG listeners are receiving the best in radio today.

Mr. Wood

The technique of television broadcasting will be entirely different from that of the present day broadcasting. The studios will be larger, more spacious, and equipped with high-intensity liquid-cooled mercury arc lighting. The current consumed by this lighting will more than exceed that consumed by the transmitter. The studios will be equipped with dressing and makeup rooms. There will be also a carpenter's shop to construct scenery and sets.

The personnel required to produce a television show will far exceed the number of persons required now for a sound show. It will take from two to five cameras on each production and each of these will be manned by an engineer. These cameras will be faded in and out by another engineer working with production men in a large control booth.

Important news, sports, and entertainment features in other cities will be brought to you by television network connections.

An eastern network will extend from Boston to Richmond, with stations located at such intervening points as Worcester, Providence, Hartford, Schenectady, New York, Philadelphia, Wilmington, Baltimore, and Washington. A Midwest network will develop with Chicago as its hub, and a Pacific Coast network at the great talent center of Hollywood. The regional networks will stretch out over wider areas and will themselves become linked together.

Television networks have been in operation for some time by America's No. 1 network—the National Broadcasting Co.

Networking will be accomplished through the use of coaxial cable, radio relay, or a combination of both.

I was asked to mention the receivers you will use in your home. The prewar receivers used small screens; however, when the war is over larger screens will be used by projecting the images with plastic lens on plastic screens. The prices should start at \$100. The picture will be very clear and with surprising detail. The sound receiver will be built in and a part of the sight receiver. The movement of the artist and the sound will be perfectly synchronized.

Today, we only hear those programs. Tomorrow, we will see them as well as hear them.

That is the promise of television and WMBG.

Mr. Mitchell

With his usual modesty, Mr. Havens has just announced the coming of television to Richmond, an historic event. But, he didn't tell you of the financial and material gamble this decision will require of him. Why? Well, believe it or not, oldtimers in the radio business place financial gain second to successfully giving the people what they want. Radio, to those who have been in the business for 20 years, is something living. It was born and reared only because those who first made contact with it were determined it would live and that it would add to the pleasures and education of the masses. That little baby—radio—had a tough time making the grade. There were many times when its voice was almost silenced by those who thought more of their own selfish interests than the joy and happiness of the masses. Radio, therefore, became a challenge. Those who toiled and sweat, and sacrificed not of financial gain, their uppermost thought was to keep their baby—radio—alive.

The March 1944, issue of the WMBG Transmitter—the company's house organ—was devoted completely to television, pointing out TV is here, it is not a postwar experiment (exhibit 3).

(Exhibits 3-23 and parts II-IV are on file with the committee.)

The NBC program schedule (exhibit 24) is reasonably typical of the network programming available for this period. From this it can be seen that NBC's New York station carried no programs 5 days out of 7.

EXHIBIT 24

No. 161. National Broadcasting Co.—Station WNBTV—Television program booking for week of July 24 through 30, 1944

Monday 24	Tuesday 25	Wednesday 26	Thursday 27	Friday 28	Saturday 29	Sunday 30
3:00-5:00 p. m.: Test pattern.		3:00-5:00 p. m.: Test pattern.			7:30-8:00 p. m.: Test pattern.	
7:30-8:00 p. m.: Test pattern.					8:00-10:00 P. M.—FILMS	
8:00 p. m.: Time by Eulova.					8:00 p. m.: Time by Eulova.	
8:01 p. m.: Weather by Botany.					8:01 p. m.: Weather by Botany.	
8:02 p. m.: "The Black Room" with— Boris Karloff Marian Marsh Robert Allen (Feature).					8:02 p. m.: "Girls of Missing City" with— Astria Allwyn Patricia Knox H. B. Warner (Feature).	
9:03 p. m.: Voice of Firestone. Televiews: "From Ocean to Ocean."					9:17 p. m.: Short subjects.	
9:19 p. m.: "County Fair"						
9:29 p. m.: "Children of the Nile"						
9:39 p. m.: "The War As It Happens" No. 21.						

The six original companies operating television stations in Boston, Schenectady, New York, Philadelphia, Baltimore, Washington, and Richmond were invited to meet with Mr. Niles Trammell, then the president of NBC, in his office in New York on September 3, 1948, to discuss a TV network and a contract for 1949.

On that date representatives of NBC, Westinghouse, General Electric, Philco, Hearst newspapers, and Havens & Martin, Inc., met with Mr. Trammell and were informed that if we wanted a regularly scheduled program service, all of us would have to pay for it. It was unanimously decided that we would have a minimum of 4 hours per day of network programming or 28 hours per week, and each station would program itself locally from 6 to 7:30 p. m., each night at its own expense with the network service starting on a regular basis January 1, 1949. A quota system was developed for payment of the network with the individual stations being assigned units for a total of 617 units, which was later revised to 525. WTVR's share of the cost was 34/525.

Havens & Martin, Inc., signed the first NBC connected affiliated contract as is shown here by exhibit 25.

By June 1949 the network was extended to Lancaster, Pittsburgh, Cleveland, Toledo, and Chicago where 4 or 5 other stations were already connected. This brought the NBC network up to 16 television stations.

Before the end of 1949, CBS and ABC sought allocation of time on the coaxial cable, and as there was only one cable at that time the result was the A. T. and T. allocation of this facility to the various networks. Each allocation of time brought with it program problems for Station WTVR—namely, if the cable was shifted from the network for which Station WTVR was carrying the program and the network which received the cable facilities for that time did not supply Station WTVR with its program, the station was left without a network program service and had to fill in with a local origination, frequently with little or no advance notice.

By the end of 1949 Station WTVR was carrying 5 hours per week of CBS programming and 1 hour a week of ABC programming from which the station received its only network compensation during 1949. This means that during 1949 Station WTVR did not receive one penny from the NBC-TV network which supplied most of its network television programs.

PART V.—CLOSING STATEMENT OF MR. WILBUR M. HAVENS

A. PRELIMINARY STATEMENT

In the last several years a number of persons, including many postfreeze television station applicants, seem to have had the belief that a television station construction permit was an automatic key to the road to riches irrespective of how little work or time might be spent thereafter on such television station. Obviously such believers have forgotten or were never acquainted with the early vicissitudes and enormous business risks facing the 108 VHF pioneer television stations during the first several years of operation of these stations. Television station WTVR, which is authorized to operate on VHF channel No. 6 at Richmond, Va., feels that the long-range planning, lengthy hours, hard work, resourcefulness, and general public service that were required and still are required in the operation of station WTVR are not materially unlike the case histories of many other pioneer VHF stations. The foregoing recounting of some of the significant aspects of the construction and operation of station WTVR to date, in our opinion, illustrates that the problems of present UHF operators for the most part are no greater—and in many instances considerably less—than those faced by the pioneer VHF operators in the early days. In view of the testimony developed in this hearing by certain UHF operators and the somewhat radical proposals offered by some as a suggested stimulant or cure-all for UHF operations, we believe that this presentation of the significant aspects of the WTVR construction and operation serves to develop the other side of the story, and will assist this Senate subcommittee in its study of the UHF situation. For the convenience of the subcommittee in the following paragraphs there is summarized the WTVR history as set forth in the foregoing parts I to IV, inclusive, and the position of WTVR in this matter.

B. SUMMARIZATION OF HISTORY OF WTVR

1. *Early WTVR history*

The planning for television by the owners of station WTVR was not a spur-of-the-moment or overnight reflection, but commenced as early as 1936. Then

on March 5, 1944, Havens & Martin, Inc., filed an application with the Federal Communications Commission for a television station construction permit. The application for such construction permit was granted by the Commission on May 16, 1946, at a time when many were refraining from filing television applications or dismissing those on file. In addition, a considerable number of television station construction permits in those early days were surrendered by the grantees. Many of this group that ran away in the early days of television subsequently re-entered the picture as UHF operators, and presumably some are now complaining before this subcommittee concerning the position of UHF television service.

Construction of station WTVR was started promptly following the issuance of the construction permit therefor, and the station was completed in April 1948. In those days relatively little manufactured equipment was available, and much of the studio equipment and the antenna was built in the basement of my home where I have a modern hobby machine shop.

The television projectors were purchased at an Army auction, and they were redesigned and converted by the station's engineering staff from 24 frames to 30 frames per second. In addition, the WTVR engineering staff constructed certain other equipment at the studio and transmitter including visual and aural antennas, the camera equipment, and a microwave unit.

All of these technical obstacles, however, were overcome and station WTVR presented its dedicatory program on April 22, 1948.

2. Initial WTVR operational problems

While the station commenced operation in April 1948, it was not until June of that year that the coaxial cable to our studios was installed so that until that time there was no live network programming. In those early days the National Broadcasting Co. was the only network offering any television program service, and that offered amounted to only a few programs per week.

As a result of negotiations between NBC and 6 original television permittees in Boston, Schenectady, New York, Philadelphia, Baltimore, Washington, and Richmond, a regularly scheduled network program service was developed consisting of a minimum of 4 hours per day. A quota system was set up for payment of this network with units allocated to each of the six stations, and Havens & Martin, Inc., signed the first NBC television connected affiliation contract.

Later in 1949 Columbia Broadcasting System and American Broadcasting Co. presented network programming over the coaxial cable under an allocation of the facility to the 4 television networks, as there was only 1 cable at that time. This resulted in programming problems for station WTVR as when the cable was shifted from the network for which our station was carrying the program and the network which received the cable did not supply its program to WTVR, we then had no network service for that period, and had to fill in with local programming, frequently with little or no advance notice.

By the end of 1949 station WTVR carried 5 hours a week of CBS television programming and 1 hour a week of ABC television programming from which the station received its only network compensation during that year.

3. Commercial obstacles to initial WTVR operation

In early January 1948 there were no known television receiving sets in Richmond, and six model 630TS television receivers were obtained from RCA as a result of a special trip to its Camden offices. Six more of these RCA receiving sets were received about a month later, and these were the only receivers known to be in Richmond at that time.

It was recognized that dealer education meetings were necessary prior to the commencement of the operation of station WTVR and a number of such meetings were held in the WTVR auditorium studio. By the WTVR commenced operation on April 22, 1948, Richmond dealers had sold 1,000 receiving sets; in January 1949, the number of television sets in Richmond had increased to 5,696 and a year later WTVR had 18,549 sets in its service area.

In the early days there was considerable sales resistance from the local businessmen to television advertising, and national spot business was almost non-existent. It was not until late 1949 and early 1950 that the interest of national spot advertisers began to increase appreciably, and the same was true for local advertisers in the Richmond area. In 1948 and 1949 as a result of the programming and other operational costs and the relatively small amount of revenue received station WTVR operated at a heavy financial loss.

4. Present WTVR facilities and operation

After WTVR went on the air, the studio building at 3301 West Broad Street, Richmond, Va., was enlarged and redesigned to house the most modern studios and equipment obtainable. After that followed our most remendous undertaking—the building of the new television transmitter plant adjacent to those studios and in the heart of the Richmond business district together with the construction of the tallest self-supporting structure of its kind in the country. Station WTVR is now authorized to operate with an antenna 1,049 feet above sea level and 844 feet above ground, and having an effective radiated power of 100 kilowatts.

From 21 hours of operation a week in April 1948, the WTVR program schedule has been extended to the present operating hours of 7 a. m., to midnight daily for a total of 119 hours a week. This program schedule was built from night to day rather than from morning to night by a program at a time. Moreover, such 119 hours a week programming are being presented despite the fact that the maximum requirement of operation for a television station under the Federal Communications Commission's rules is 28 hours a week.

The important thing to remember, however, is that this development did not come overnight. It was preceded by 12 years of long-range planning before television operations began, approximately 2 years in constructing the original WTVR facilities, and then after the station began operating there were long hours, hard work, the necessity to overcome countless difficult problems of varying nature, and heavy economic losses in 1948 and 1949.

C. SUGGESTIONS FOR THE DEVELOPMENT OF THE FINEST NATIONWIDE TELEVISION SERVICE

The television broadcasting industry relatively speaking is still in its infancy, and as it grows and prospers the individual stations are benefited accordingly. The ownership of station WTVR is interested, consequently, in seeing developed the very finest local and nationwide television service.

As more and more television receiving sets capable of tuning in all VHF and UHF channels are manufactured and sold to the public, the need for set conversions for UHF will be lessened and the position of the UHF broadcaster will be improved. Because strips and tuners to make possible UHF reception are readily available at this time the plight of the present UHF broadcaster commencing operation is not nearly so dire as was that of WTVR in April 1948 when there was only a smattering of any television sets in the hands of the public in the Richmond area.

As did WTVR, it is incumbent upon UHF stations to cooperate fully with the local distributors and dealers for the sale, installation, and servicing of sets with UHF characteristics to stimulate such dealer interest for UHF sales and conversion.

Moreover, by the presentation of detailed and accurate economic data concerning the individual station's service area to networks and agencies, there is enhanced the obtaining of a representative share of the desirable commercial television programs. Lastly, by presenting a type of programing which is different or superior to other programing and reception in the area, a UHF station may build a UHF audience thereby not only rendering a public service but achieving a successful economic operation.

D. ARBITRARY CURTAILMENT OF VHF SERVICE CAN ONLY RESULT IN HARM TO THE PUBLIC

Havens & Martin, Inc., has just completed the construction of the new WTVR 100-kilowatt facilities, pursuant to a construction permit from the FCC, and has pending before the Federal Communications Commission an application for license for these new facilities. To place an artificial freeze on the issuance of a license under such circumstances would constitute a gross breach of good faith.

Likewise, the suggested modification of the television allocation plan to eliminate all VHF channels in favor of UHF channels would mean obsoleting millions of dollars worth of transmitting and receiving equipment without any cogent reason, and it is inconceivable that the American public would passively tolerate such a situation. Not only would it be a criminal waste of equipment

and the financial investment in such equipment, but it would represent a waste of valuable spectrum facilities by reason of the greater coverage areas inherent to VHF propagation. Also, the suggestion by some that intermixture of UHF and VHF stations in the same area be eliminated so that the country would consist of a conglomeration of individual VHF and UHF areas would result in chaotic confusion, and with the widespread manufacture of all-channel receiving sets would be completely needless.

There has also been presented to this subcommittee proposals which would result in the forced allocation of station time to and affiliation with national television networks, irrespective of the desires of the individual station and its responsibility as a licensee to serve the public interest in the manner it deems best. Not only would this infringe the freedom to contract, but would result in the concentration of control of the television broadcasting industry in the hands of a small group of television network organizations. Moreover, if allocated as suggested there is no guaranty that such networks would actually use the time. One network might want the time and would use it, while the network with the time would not use it. The result would be a loss of service to the public.

E. CONCLUSION

From my experience in the construction and operation of television station WTVR in Richmond, Va., since 1948 there is no substitute, in my opinion, for any television station—be it UHF or VHF—for capable management, willingness to work, adequate technical facilities, and good programming. The so-called station pioneers of today that have recently commenced or are now commencing operation may face some competitive aspects not presented to the early pioneers, but they are not faced with the obstacles of scarcity of manufactured equipment, no receiving sets, and relatively few programming sources. If these 1954 television pioneers will count their blessings and go to work as is necessary to achieve success in almost any business, there is no reason why in this land of free enterprise they should not receive the same rewards as their predecessors in the industry.

Mr. MIDLEN. WTVR is one of the original 108 VHF stations, and we feel this presentation of the early obstacles of construction and operation will help to present the other side of the story for the VHF stations.

Senator POTTER. Thank you. It will be made a part of the record.

Mr. MIDLEN. I might also add if there is any question or additional testimony required Mr. Wilbur Havens, the president of the licensee corporation, will be only too happy to attend.

Senator POTTER. Thank you.

The next witness is Mr. Frank Stanton, president of Columbia Broadcasting System.

We welcome you to the committee.

I know that you probably have heard or been informed of much of the testimony that has taken place not only this week but about 2 weeks ago, and we are looking forward to hearing your statement.

STATEMENT OF FRANK STANTON, PRESIDENT, COLUMBIA BROADCASTING SYSTEM, INC.

Mr. STANTON. Thank you very much, Mr. Chairman. I have read and kept in touch with the developments and hope that I am up to date.

Mr. Chairman and members of the subcommittee, my name is Frank Stanton. I am president of Columbia Broadcasting System, Inc., which, through its television division, is engaged in both television networking and operation of the three television stations which CBS owns in New York, Chicago, and Los Angeles.

Present with me to my left today is Mr. J. L. Van Volkenburg, president of CBS Television, and slightly to my left and rear is Mr. William B. Lodge, vice president in charge of engineering of that division of our company.

As I understand it, these proceedings before this subcommittee are concerned primarily with the problems relating to the status and development of the UHF channels. Partly because UHF problems bear directly on it, and partly for reasons only remotely or indirectly related to UHF, problems and issues concerning television networking have also loomed large in the testimony before this subcommittee.

We are of course vitally interested in both these problems—UHF and television networking. We are grateful for the opportunity to appear before you. We are prepared to try to answer the questions you may have in your search for a solution to the perplexing problems before you.

We recognize the immense importance of these hearings, and we recognize too that the results of these hearings may shape, for good or for ill, the pattern of television for many, many years to come. The success of our business and the question, in my opinion, of whether we are going to have a nationwide live network television service, depend upon the sensible solution of many of the problems which have been laid before you—a solution which helps all segments of television broadcasting and which does not, for the temporary benefit of a few broadcasters, tear down the entire temple.

It is your duty to see that as much of the public as possible has the widest possible choice of television services. It is our business to try to deliver the best possible programs to the most homes possible. We want UHF to succeed; we want station facilities to be available so that nationwide competitive networks can have full opportunity to reach the public.

Thus, I believe the objectives of this subcommittee and of CBS Television are the same.

But the issues are complex; the proposed solutions are many; the public stakes in correct solutions are enormous; and the dangers of hasty and superficially attractive solutions are very great. I shall deal with these problems as briefly as I can, but the importance of these problems—to us, to the thousands of people who work for us, and to all the public—is so great that I wish to deal with them comprehensively. For the sake of convenience and clarity, I would like to divide my testimony into two parts—the first relating to UHF, and the second dealing with networking, not only as it bears on the UHF problems but also as it bears on some of the other proposals which have been suggested here and which I believe have only an indirect relationship to UHF and yet have been presented because of it.

I. At the outset I want to say as forcefully as I can that CBS Television is for UHF and wants UHF to succeed. We are for its rapid, healthy, and profitable development. That is more than lip service—our record establishes that we have long acted consistently with that position.

I should like to point out that in the 1950-52 hearings, which resulted in the present television allocations, along with others in the industry we advocated nonintermixture, urging that UHF be assigned exclusively to some of the markets and the VHF channels exclusively

to the others. Recognizing the need for UHF to provide sufficient channel assignments for maximum nationwide television service, but at the same time foreseeing the difficulties which now face UHF stations and indeed are responsible for these hearings today, we expressed the opinion that it would not be wise to assign both types of frequencies to the same market. We felt then that in general it placed too great a burden on UHF stations to require them to compete with VHF stations in the same markets.

This concept of nonintermixture, however, was not the unanimous opinion of the industry or of engineers and, as you know, the Commission for reasons which it set out in its allocations decision decided that intermixture was desirable.

It is unnecessary for me to dwell at any great length on the present status of UHF and the plight in which some of the UHF station operators now find themselves. They have already painted their own pictures quite vividly to this subcommittee.

I do think, however, that it might be useful, without in any way belittling the unhappy state in which some of them find themselves, for me to provide a more comprehensive frame of reference. Perhaps in this way I can pinpoint more accurately just what the difficulties of some of them UHF stations are and, having isolated those difficulties, point to cures which would relieve the patient's headache by means short of chopping off his head.

First, there can be no question, as to the testimony of previous witnesses have established, that a number of UHF station operators have lost and are losing money. But, if we put aside the emotion which seems to have impregnated this whole issue, this is not in itself enough to warrant Government intervention. I think all will agree that one of the hard but inescapable facts of free competitive enterprise is that there can be no guaranty of profits. There has unfortunately been a measure of perhaps unconscious expectation on the part of some broadcasters that all one has to do is press the button of a television station, no matter where, no matter by whom, and no matter in what circumstances, and by the next day the profits should flow in.

This is not the way it works in the automobile business or in the broadcasting business. After all, there are many radio stations which were not and are not now successful and some VHF grants have been surrendered. It is particularly pertinent to recall the experience of the pioneer VHF station operators and the enormous obstacles which they had to face in the beginning. Some—WCBS-TV, the station owned by CBS in New York City was one of them—began regular operations as early as 1941. Many more began operations in 1946-48.

During these early days—which are not so long ago—there were far fewer television receivers in the hands of the public than there now are UHF sets. There was very little network programming. Television receivers were much more expensive than they are now.

Television stations and networks operated for many years before they made a penny. Stations and networks lost millions annually during the years in which television was getting established. For the 3 years 1948-50 the aggregate operating losses reported by television stations and networks to the FCC were \$48 million. Of these losses, \$27,500,000 were sustained by the 4 networks including their 14 owned and operated stations and \$20,600,000 by the remaining 93 television stations. It was a long, hard pull and we did not then have the hind-

sight which we have now to comfort us in the thought that ultimately it would be worth it. Yet I cannot recall that it was ever suggested that any sort of legislative relief was due VHF broadcasters.

The mere fact that some UHF stations are losing money does not justify drastic Government action to guarantee them profits or to take away from existing stations the success which those stations worked so long and so hard and so expensively to attain. After all, only a few of these UHF stations have been on the air for more than a year; most of them have been operating for less than 12 months.

It is unrealistic to assume that any new service or any new business would automatically and immediately prosper and we are on dangerous grounds when we try to reverse some of the natural economic forces of free competitive enterprise.

Thus I think that we must put aside those cases, and there have undoubtedly been some, where the lack of present financial success is due to the reasons which obtain in all businesses and do not reflect on the viability of UHF as a part of a television broadcasting service. There undoubtedly have been such failures that have been due to attempts to operate in markets which simply cannot support any kind of television station at the present time. Some have been due to attempts to operate in markets which will not now support the number of stations allocated to those markets. It is well to recall that even the largest market in the country—New York City—does not now and never did support all seven VHF stations on a profitable basis.

In some cases the lack of success has been due to management deficiencies. The plain fact is that television broadcasting and station operation is a tough business requiring a measure of skill and a good deal of sweat, capital, and imagination. It is reasonable to assume that, like all other business, these ingredients have not been present in the case of every management.

I know that this subcommittee shares our regrets that such failures, because of these factors, do occur. But I assume, also, that the subcommittee agrees that this cannot be a matter of governmental concern warranting legislative or administrative intervention.

So, let us pass on to the special obstacles which stem directly from the particular characteristics of UHF station operation. In general, these obstacles, as previous testimony has indicated, are two in nature. First is lack of what we call circulation. The fact that of the 31,379,000 receivers now in the hands of the public, about 27 million, or over 85 percent, are not capable of receiving UHF signals. It costs the public money—a rather substantial amount—to convert these existing receivers so as to permit them to receive UHF signals; there is also quite a spread between the price of a VHF-only receiver and an all-channel receiver. This, of course, makes it hard for a UHF broadcaster in a market where VHF has been established and there are a large number of VHF-only receivers in the homes. In such a market a VHF broadcaster can go on the air and be assured that every receiver in the market can tune him in; on the other hand, a UHF broadcaster has only so much of the audience as has been persuaded to spend up to \$100 for a converter, antenna, and installation to change his set to receive the UHF signal.

The second obstacle which faces the UHF station comes from the laws of nature. We are not yet fully familiar, the engineers tell me,

with the exact characteristics of UHF propagation. One sure way of getting a lively discussion among any two or more engineers in this industry is to ask them how UHF coverage compares today and will compare tomorrow or 5 years from now with VHF coverage. There are a great many strongly held opinions on that issue. I believe, however, that there are two points of unanimous agreement today: (1) that UHF is capable of providing a reasonable and useful service; and (2) that even though UHF can get within striking distance of VHF in terms of coverage, it cannot, at least at present and for the foreseeable future, equal the coverage of VHF. This is so, both in terms of the distance out from the transmitter which the signal will reach and in terms of the solidity of the coverage within the reachable area. By this latter I mean that, owing to what the engineers refer to as shadow effects, absorption by trees and buildings and greater inability of UHF to reach behind hills and similar obstacles, there are more holes or blind spots within the coverage area of UHF than of VHF.

As I say, there does seem to be considerable unanimity on these two points. But there is a great deal less unanimity on the extent of this disparity in coverage between VHF and UHF. The disparity is there, but I have had great difficulty in getting even our own engineers to hazard a specific quantitative guess on the difference between the two. And, of course, the significance of the difference is greater or lesser, depending on the particular area involved. For example, it should be of no significance that a VHF station can reach, let us say, 10 miles further than a UHF station if that extra 10 miles of circle is a desert with nobody living on it. But it may be extremely important, competitively, for the UHF station if there is a heavy concentration of homes in the 10-mile area.

For the long run, the disparity between VHF and UHF coverage may well tend to become insignificant. These engineering problems have a way, ultimately, of being solved, although it is not always possible to predict precisely how and when. But there is reason to believe that ultimately the technical differences between UHF and VHF coverage will substantially diminish.

These then are the two crosses which UHF stations have to bear today—the inability of the vast majority of present sets to receive UHF with the consequent necessity for the public to spend money to change their sets; and the more limited coverage of UHF at present.

How serious are these two problems and what can be done about them?

Again, the testimony of the witnesses who have appeared before you establishes that these obstacles are not insuperable. You have heard some UHF operators tell you that they are in the black and have been almost from the first day of their operations. They have told you, and the known facts certainly bear them out, that within a relatively short time the job that they have done—vigorous, aggressive and in the best American tradition of courageous pioneering—has resulted in conversions by well over the majority of set owners in their areas. Their stories compel the conclusion that it is by no means necessarily fatal to be consigned to the UHF.

But when one analyzes the facts which the UHF witnesses have presented and the facts relating to similar situations, a pattern begins to emerge which seems to us to be almost inescapable. It is this: where

there has already been established a multiple VHF service in a community—at least 2 and certainly 3 or more VHF stations—the success of a new UHF station is exceedingly doubtful. On the other hand, where UHF comes in first with no existing VHF station in the community, in normal circumstances this station does well. The Portland, Oreg., and Peoria, Ill., UHF stations are examples of this. Further, where there is only one VHF service, even though it has been in the community for a considerable length of time, a vigorously and aggressively managed new UHF station in that community can do well. Station WCAN-TV, a UHF station in Milwaukee, is an example of this.

But even in cases similar to Portland, Peoria and Milwaukee, we know also that unless there has been very substantial conversion, the future of a UHF station which, after its establishment, then has to meet the competition of new VHF stations in the same city, is speculative although not by any means and in all circumstances hopeless.

I think that the lesson to be withdrawn from this plain and both the members of the subcommittee as well as many of the witnesses who have preceded me have drawn the lesson. It is that primarily because of interim problems of conversion but also because of problems of coverage, a UHF station will have difficulty in competing with reasonable equality with a number of VHF stations in the same market.

The basic problem, therefore, is what to do about it. Can this competitive inequality be ameliorated without endangering the entire medium of television—and if so, how? A variety of suggestions has been made, each with the purpose of ameliorating the inequality. Some, however, would achieve that purpose in so drastic a way that it would involve not only a serious threat to all of television broadcasting as a national public service and as a competitive medium but also would mark the sharpest kind of departure from the normal principles of free competitive enterprise on which this Nation has been built. The operation might be a success, but the patient will die. Other suggestions would at least in a measure avoid this danger of fatality but might keep the patient on crutches for life. I would like to take each of the proposals up in turn.

1. The proposal to abandon the VHF portion of the spectrum and move all stations to the UHF.

I cannot quarrel with the contention that to move all television stations to the UHF would most certainly and most clearly remove the competitive inequality between the two. But this is like saying that since the new Douglas DC-7 going into service on several airlines outperforms the DC-6, passenger service should be restricted to the slower and less efficient plane. It seems to me to be an astonishing concept that the way to achieve equal competition is to cut all sizes down to the smallest; although this proposal would indeed create a kind of unnatural and artificially stunted equality, it would have disastrous effects on the medium of television and on the public itself.

By artificially cutting down on the potential full circulation and refraining from making use of the best possible frequencies available, all of television is inevitably weakened. Obviously this will not do any television station operators any good. If we so upset the present scheme by turning our backs on VHF we may critically, if not fatally, weaken television. In an attempt to help some, we will be seriously endangering all.

This, of course, means that the public will be hurt; the advertising dollars which make possible not only the sponsored programs but which make it possible for networks and stations to put on public affairs programs in the national interest would be diminished and hence both the quantity and the quality of the programs would be lessened. Further, the 27 million set owners who have not yet converted to UHF would have to spend anywhere from \$40 to \$100 more to get fewer and perhaps poorer programs. The extra expenditure on the part of the public required by this proposal would probably exceed \$1.1 billion. This extra cost will accordingly be about 25 to 30 times as large as the total amount invested to date in the tangible broadcast property of all UHF stations. In fact, the extra cost to the general public of this proposal will probably be more than four times as large as the total amount that can be expected to be invested in the tangible broadcast property of all television stations in this country when all stations that have been applied for are finished and operating.

Aside from these costs to the public, some 3 to 5 million television set owners who are now within range of VHF signals would not, because of the lesser coverage of UHF, be able to get any signals at all if we all went to UHF. Their investments of a half billion to a billion dollars will have become lost. I for one—and, I know, the members of this subcommittee—would not like to have to face the tens of millions of people who are forced to spend a billion dollars to get less than they have been getting, let alone the 3 to 5 million people who, regardless of their expenditure, will not be able to get anything at all and will not be able to salvage their investments in their sets unless new stations, nearby, can grow and survive.

In any event, it is not established that the UHF provides sufficient space fully to accommodate the number of stations which are necessary to achieve the objective of getting as close as possible to a nationwide, multiple service, competitive television system. Indeed there is very substantial opinion to the contrary—I believe it to be the consensus that both UHF and VHF are requisite if we are to approach that objective.

Therefore, whatever surface attraction and logic there may appear to be in cutting everybody down to size by moving to UHF seems to be overwhelmingly outweighed by these compelling considerations against it.

2. The proposal to reduce the presently permissible antenna heights and power of VHF stations.

This proposal is cut from the same cloth as the proposal to move everything to UHF. Again it has a spurious attraction of equality, but it also is an extremely artificial equality of cutting everyone down to the smallest size. Such a course of action would be financially disadvantageous to many VHF stations and would prevent others from achieving their maximum potential. It would reduce the attractiveness of television as an advertising medium because it would reduce circulation. As in the case of the first proposal, limiting VHF power would deprive large segments of the public of existing and future television service—all those who live in that area which can be reached by higher-power VHF and not by UHF or low-power VHF. And it may be noted that in any event this proposal does little good in those areas where there has already been established multiple VHF

television service, since conversion would still remain the primary problem for any newcomer UHF.

3. The imposition of a freeze on VHF grants.

I am not quite clear concerning the precise limits of the proposal to impose a new freeze. I do not understand whether its purpose is to maintain the status quo while some satisfactory solution to the UHF problems is found, or whether its purpose is to attach hundred pound weights to new VHF stations in order to give new UHF stations a good head start. If it is the former, I can see almost an endless freeze because these problems are exceedingly complex. We had 40 months of freeze trying to solve them; apparently we have not solved them to everyone's satisfaction yet. Positions are held so strongly on these issues that I see little hope of ever finding a solution that is satisfactory to everyone. I am frightened by the prospect of another ice age which will leave little but rocks and stubble behind it.

If the purpose is the second one—simply to hobble new VHF stations in the competitive race in order to give UHF a head start—again I find this a rather amazing concept. It is like saying that Congress should pass legislation forbidding a filling station which has found itself a good location on a busy intersection from opening for 3 or 4 or 5 years until a competing filling station which was unfortunate enough to find space on a less well-traveled highway got a foothold. Further, a freeze of this nature would intensify the present advantages of existing VHF stations—protecting them from the competition of new VHF stations in the same market.

I think that such a freeze would be unfair to the public which would be deprived of service it would otherwise have. It would provide only temporary relief to a relatively few UHF broadcasters and, worst of all, would postpone the date on which a large part of the population will receive television service or additional choice of programs.

4. The elimination of intermixture.

As I have already indicated, it is our belief that many of the basic difficulties which now confront UHF broadcasters arise from intermixture—the term which we use to describe the assignment of both UHF and VHF channels to the same communities. We are persuaded that the events since the lifting of the freeze confirm the correctness of our view, expressed in 1950-52, that the UHF portion of the spectrum should not be used in such a way as to require it to compete with the VHF portion of the spectrum in the same markets. All the present facts relating to the experience of UHF stations seem to establish that UHF stations can do well if they are not forced to come into a market, or survive in a market, where they must compete with multiple VHF services. Hindsight, quite clearly, has confirmed the wisdom of nonintermixture.

But a lot of water has gone over the dam since the lifting of the freeze. The problem no longer is whether the policy of intermixture should or should not be adopted. The fact is that it has been adopted, and the present allocations are based on it. Thus we are faced with the far more troublesome and vexing problem whether, having gone this far in intermixing, it is now, at this date, desirable or practicable to try to force the milk back into the bottle through a process of what I shall call deintermixture.

In brief, deintermixture involves a reallocation of channel assignments so that any one community will be either all VHF or all UHF; no single community would have both UHF and VHF stations. It may well be possible, at least in virtually all of the top 150 markets, to reallocate on a deintermixed basis in order to provide in each of these markets either at least 4 VHF services or at least 4 UHF services.

It seems to me inescapable that as a theoretical matter, such a program of deintermixture may well be the only workable solution to the present UHF difficulties. Deintermixture has some very important advantages. It also has some very serious disadvantages.

Its primary advantages are two: First, it would assure a far more stable future to UHF, and on a broader basis, since it would substantially eliminate the great competitive disadvantages which a UHF station now faces as against VHF stations in the same market.

Second, deintermixture would increase the opportunities for competitive television services—both among stations and among networks. As far as station facilities are concerned—that is, whether they are VHF or UHF—each of the present networks would be on an equality in each of the important markets; full opportunity for network competition among at least four networks would thus be afforded.

Deintermixture would be far less drastic and upsetting than shifting all stations to the UHF. It would protect the vast majority of present set owners, who would continue to receive service from their present sources. Possibly not more than 10 or 15 percent of the present set owners would have to convert. Further, far fewer set owners—possible less than a million—would lose service altogether, while somewhere between 3 million and 5 million would lose such service if there were a complete shift to UHF. And of course far fewer stations, perhaps less than 100, would have to shift from the portion of the spectrum which they currently occupy than would be the case if all had to shift to UHF.

But the process of disentangling is never easy; I cannot minimize the seriousness of the problems which would be involved. Some set owners, as I have said, would lose service altogether. Several million would lose service unless they converted their set. This is hard on them; they bought their receivers assuming that it would provide them a regular service. Deintermixture would frustrate their expectations—in some cases altogether, in more cases unless they spend money to convert their receivers.

Nor can I minimize the hardship which deintermixture would impose on some stations. Stations whose owners had the foresight or the superior qualifications which won for them assignments in VHF would be shifted to UHF despite their planning, their investments and their reasonable expectations. In some cases—although perhaps the number is very small—there may be deletions of stations altogether. Thus there may be some few markets where the total number of UHF and VHF stations now on the air exceed the number of VHF channels or UHF channels which can be made available in the community under a deintermixture plan. For example, there may be a community where there are 3 VHF stations and 2 UHF stations now in operation. It may be that the process of deintermixture may yield only 4 VHF assignments to that community. If that be the case, one existing licensee would have to be eliminated.

The problem is not made easier practically or politically by the fact that not all members of the public and not all licensees will be treated equally. In most areas, owners of television receivers will not be affected; they will continue to receive all the programs they now receive—and probably even more than they have been receiving—and without any expenditure on their part. But their neighbors in another area may have to spend money to convert or may lose service altogether. So, too, some licensees will bear a heavy burden; others will be unaffected.

For example, some UHF licensees may benefit by being shifted to VHF; on the other hand, some VHF licensees would be shifted to UHF. This unequal impact on set owners and licensees will inevitably be troublesome. It is small consolation for a set owner or a station licensee to be told that while he is being singled out to be hurt, it is a sacrifice for the national interest.

In addition, in order to accomplish the objective, arising out of the exigencies of providing full opportunity for network competition, of providing at least 4 channels to each of the top 100 or 150 metropolitan areas, it will undoubtedly be necessary to move present VHF and UHF assignments in smaller towns to the larger cities.

It is interesting to note that a tabulation shows that 3 out of the original 4 have not yet been spoken for or applied for. Only about 25 percent of the communities that were assigned VHF or UHF channels in the report have been spoken for.

Senator POTTER. In other words, they made assignments in the market where the markets can afford the station.

Mr. STANTON. At any rate, local management or local enterprise has not seen fit to apply in those markets. I was surprised myself to see that the number was that large.

This involves a sacrifice of the principle of providing to the smaller communities local outlets for local expression. But I am not at all certain that, in television, this is a feasible principle in any event. As I will discuss in detail in another connection, there is serious doubt that small communities can economically support a television station at this time.

Because of these multitudinous practical problems, while deintermixture may well be the only workable, long-range solution for the problems which now confront us, it is not hard to understand why nobody is anxious to be the father of this child. No one wants to be responsible for the injury which it may do. And although the injury, as I have indicated, may be limited, and the ultimate benefits great, the blow will fall heavily on a number of members of the public and on a number of station licensees.

It would take the patience of a Job, the wisdom of a Solomon and the courage of a David to find the right way, or if there is no one right way, the best way, to accomplish deintermixture. The pressures on whoever might have the thankless task of deintermixture would be enormous and perhaps intolerable. There are bound to be difficult areas which might seem to defy solution. Certainly not everybody would be satisfied; certainly any particular plan will be vigorously criticized by those who are hurt and they will be the ones to find alternatives which would shift the injury to some other victim.

We do not know yet the full or precise dimensions of the problems of deintermixture. We do not know just who will be hurt, and how

much. We do not even know whether the price is so great that the purchase of its advantages becomes extravagantly foolish.

Because we do not know these things, and because deintermixture does appear to have such countervailing attractions, I suggest that it be immediately explored. I suggest that certain criteria can be agreed on at the outset if such an exploration is undertaken:

(1) That at least the first 100 markets, and as many more additional such areas as possible in descending order of size, be provided with 4 or more nonintermixed channels—the first 100 such areas, it may be noted, could on a deintermixed basis of at least 4 UHF or VHF channels, provide outlets for each of the 4 networks, each of which would thus serve all but 10 to 15 percent of the entire population which might reasonably expect to receive any television service at all;

(2) That, in accomplishing (1), first priority of consideration be given to preserving present investments of set owners, so that the greatest number of VHF set owners continue to receive VHF signals:

(3) That in accomplishing (1), second priority of consideration be given to preserving present investments of existing licensees, so that as few VHF licensees as possible be shifted to UHF, and, wherever shifts occur, provision be made to the greatest extent possible for substitute assignments in the same or a neighboring community to those licensees who must be shifted.

With these criteria or guideposts, it should be possible rapidly to devise one or more de-intermixture plans so as to ascertain the full dimensions—and the feasibility—of the project. I believe that all the energies and abilities of all those interested in the problem should be immediately brought to bear on this problem. Representatives of the Congress, of the Commission, and of the industry should confer promptly to test the desirability of de-intermixture.

If the decision is to go forward with de-intermixture, the greatest of self-restraint will be required. Perhaps sacrifices of which human nature is simply not capable may be necessary. Perhaps it will be found that the price is too great, and that whatever the benefits of de-intermixture, the time has passed and it is no longer possible. But it should be explored, with an open mind and with intensive effort at once. And meanwhile, it might well be wise for the Commission to adopt a liberal policy of permitting UHF licensees now having financial difficulties to suspend operations but still hold their licenses pending resolution of the question of de-intermixture.

5. Other suggestions to aid UHF.

We believe that there are other steps which might well speed the solution of the present problems.

First among these supplemental proposals, we support the suggestion that the manufacturer's excise tax be removed from UHF converters and from television sets equipped to receive both VHF and UHF. We urge that the proposal continue to be pressed by this subcommittee. If the tax is removed, the price differential between VHF and all-channel sets will be materially reduced in the case of the lower priced sets and altogether eliminated in the case of medium and higher priced sets. While we do not yet have sufficient experience to know what the rate of obsolescence and turnover is in the television receiver field, and hence cannot measure how long it would take for all of the present 31,379,000 sets to be replaced, it is clear that if all-band

sets are not more expensive than VHF-only sets, in a number of years—at least 7—virtually all sets will be capable of receiving UHF. This, of course, would by that time wholly solve the difficult problem of conversion and meanwhile each new set that is purchased would, by 1, ameliorate this problem, while now almost 8 out of each 10 sets, being VHF-only, simply accentuate the problem.

Second, the possibility of satellite stations licensed to UHF licensees should be quickly explored. Satellites may well go far toward solving the problem of unequal coverage between UHF and VHF. For example, WRGB-TV, a VHF station, serves the entire Albany-Schenectady-Troy area. None of the present UHF stations in that area can do so. If, however, the licensee of an Albany UHF station were permitted to operate two or three UHF transmitters—each one on a different channel—that licensee might well be able to deliver substantially the same potential circulation as WRGB-TV at a small increase in operating cost.

Third, we believe that there would be very considerable benefit to UHF if networks and other multiple owners of television stations were permitted to own and operate UHF stations. In order to save this subcommittee's time, I am submitting herewith as exhibit I our comments filed with the Commission in support of the Commission's proposal, which is still pending, to change its multiple-ownership rules to permit a single entity to own 2 UHF stations, in addition to the present permissible quota of 5 VHF stations. In exhibit I, we set out in full the reasons why we believe that such a proposal would be of real help to UHF.

Senator POTTER. Are you familiar with Senator Johnson's bill to trade in one VHF for two UHF stations?

Mr. STANTON. Yes, sir, and I am going to that subject right now.

Senator POTTER. Your exhibit I will be made a part of the record at this point.

(Exhibit I is as follows:)

EXHIBIT I

BEFORE THE FEDERAL COMMUNICATIONS COMMISSION

Washington 25, D. C.

Docket No. 10822

In the Matter of Amendment of Section 3.636 of The Commission's Rules and Regulations relating to multiple ownership of television broadcast stations

STATEMENT OF COLUMBIA BROADCASTING SYSTEM, INC.

Columbia Broadcasting System, Inc., hereinafter called CBS, favors the amendment of Section 3.636 of the Commission's Rules and Regulations relating to multiple ownership of television broadcast stations as proposed by the Commission. CBS suggests that the rule be amended to provide for a greater increase in the maximum permissible ownership of television stations.

The principal reasons that CBS supports the proposed amendment of rule and suggests more extensive liberalization are as follows:

1. CBS believes that it is in the public interest to impose as few restrictions as possible on the ownership of broadcast stations.

2. Increased utilization of UHF stations will make possible the maximum competition between television broadcast services.

3. Ownership of UHF stations by broadcasters of proven experience and ability should promote development of the UHF service.

Relaxation of restriction on ownership

CBS does not believe it is appropriate to argue here the desirability or undesirability of imposing a numerical limitation upon the number of television broadcast stations which may be owned by any person. The Commission resolved that question in its Report and Order released November 27, 1953, in Docket No. 8967.

CBS has advocated consistently, and will continue to advocate, that it is in the public interest for ownership of broadcast stations, both radio and television, to be subject to as few restrictions as possible. It bases its advocacy upon the conviction that, except for regulations required by the nature of broadcasting, broadcasters should not be limited by governmental action in their ability to compete with newspapers, magazines and other media which are competitors for advertising revenue.

CBS believes that no business operation can remain healthy and dynamic if it is prevented from growing. This belief leads inevitably to the conclusion that any numerical limitation upon ownership of broadcast stations should be imposed only with the greatest of reluctance and that the maximum number of stations which may be owned should be as large as possible.

Accordingly, to the extent that the proposed amendment relaxes the numerical limitation upon ownership of stations CBS supports that amendment.

Maximum utilization of the UHF band should increase competition

It has long been obvious, and the Commission recognized in its Sixth Report and Order, that the VHF band is not capable of providing a sufficient number of television broadcast channels to make possible nationwide competitive television broadcasting service. That this is so is readily apparent from Exhibit A attached. In addition, many communities are wholly dependent upon the UHF band for competitive local television service—and in some cases for their only television service.

Ownership of UHF stations by experienced broadcasters will promote growth of that service

The acceptance and success of any broadcast service is dependent upon a number of factors, among the most important of which are the programs furnished by that service and the impetus given to development of that service by the willingness of the leaders of the industry to participate in its development.

At the present time the potentialities of VHF can be predicted with a fair degree of certainty. It is an established service with an established audience in many areas. Its programs can be received on all outstanding receivers without conversion or adaptation.

The UHF television broadcast service, on the other hand, is, by comparison, a service whose ultimate potentialities can be realized only through practical operating experience. It is estimated that as of November 1, 1953, approximately 25,725,000 of the approximately 27,500,000 television families in this country have television sets which are unable to receive UHF. The sets of these families can be adapted to receive UHF service only at a conversion cost of \$20 or more per set.

In addition, while most models of sets currently being produced are available in models which will receive both UHF and VHF, there is a significant price differential (\$25 or more) between a set capable of receiving VHF only and a set of the same model capable of receiving both VHF and UHF.

Accordingly, it is only natural that persons having a choice between operating a VHF and a UHF station would select the former.

For that reason an amendment of the present multiple-ownership rule which permits ownership of UHF stations in addition to the maximum permissible ownership of VHF stations should encourage the operation of UHF stations by established broadcasters—broadcasters who have a wealth of actual operating experience and program know-how. It would enable such broadcasters to operate UHF stations without reducing the number of VHF stations they may have.

CBS believes that its experience in the operation of radio and television broadcasting and its attention to the development and production of radio and television programs have given it preeminence in the program field. Its stations have been uniformly successful in producing high quality programs which have won wide public acceptance. It believes that the experience of other multiple owners have enabled them to produce high quality programing.

Insofar as networks are concerned, it is only natural that their economic interests should impel them at the present time to seek VHF affiliates in markets

having both VHF and UHF stations. On the other hand, if a network is the licensee of a UHF station in a combination UHF and VHF market its economic interest would impel it to make its own station the network outlet in that city. Hence, that UHF station would receive the benefit of both superior local programs and popular network programs.

In the event that the rule is amended, as suggested, or to permit even greater ownership of UHF, the programming of UHF stations should attract larger audiences for those stations.

Furthermore, in addition to the program know-how of multiple owners, such owners ordinarily have resources to enable them to staff the UHF stations with exceedingly competent technical personnel. Many of them also have reservoirs of highly-trained engineering personnel. Such personnel should insure that the maximum technical potentiality for UHF stations owned by them and thus encourage ownership of receivers capable of receiving UHF signals.

In addition, the mere fact that multiple owners of television stations are willing to invest funds, time, and energy in the operation of UHF stations should foster confidence in UHF on the part of others and thus increase the number of UHF stations.

With an increase in the number of UHF stations in operation and with assured high quality programming for many of such stations, it is natural to expect that a greater number of present sets will be converted so that they may receive UHF and that the number of purchasers of new sets capable of receiving UHF will be increased. As the production of sets capable of receiving UHF is increased, it is only reasonable to expect a reduction in the price differential between such sets and VHF-only sets. Such reduction should have a cumulative effect in giving additional impetus to the purchase of UHF sets.

Further relaxation of rule

As pointed out above, CBS advocates the minimum restriction on ownership of television stations. It believes that the benefits which would flow from modification of the rule as proposed by the Commission would be increased if the limitation on the maximum ownership of stations were also increased. In view of the present limitations upon the coverage of UHF stations and in view of the aggregate number of commercial television assignments, it would seem that no undue concentration of control of television broadcasting would result from limiting maximum ownership to 10 television broadcast stations, no more than 5 of which may be in the VHF band. As appears from exhibit A, attached, an aggregate of 6 or more commercial television channels have been assigned to each of 12 of the first 20 cities in order of size and an aggregate of 5 commercial television channels have been assigned to each of 8 of such cities.

Ownership and operation of UHF stations by CBS

In view of the present relative status of VHF and UHF, CBS, as a corporation, believes that its obligation to stockholders requires that it seek to own the maximum possible number of VHF stations.

However, if it is permitted to operate UHF stations in addition to the maximum permissible number of VHF stations, CBS is willing and eager to do so.

It believes that its technical and program experience and personnel make it highly qualified to do so. It further believes that its programming will spur the industry to high program standards and also believes that its engineering experience and personnel will attain the maximum technical performance of UHF.

It also believes that its position of leadership in the industry, its willingness to invest in and to operate UHF stations will provide an inducement to others to do so.

Need for modification of footnote 10

The willingness of CBS to apply for authorization to operate UHF stations is qualified by its desire to own the maximum permissible number of VHF stations. Accordingly, in the event that the rule is amended to permit ownership of UHF stations in addition to the maximum permissible number of VHF stations, provision should be made to permit CBS and others similarly situated to apply for and own UHF stations and, at the same time, to prosecute present applications for VHF facilities to the same extent as is now permitted under footnote 10 to the Commission's Report and Order in Docket No. 8967.

Respectfully submitted.

COLUMBIA BROADCASTING SYSTEM, INC.,
By JULIUS F. BRAUNER,
Secretary and General Attorney.

JANUARY 29, 1954.

48550-54-63

984 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

EXHIBIT A

First 50 cities in order of size

[From United States Summary, 1950 Census of Population]

City	Popula- tion	Assignments			
		VHF		UHF	
		Commer- cial	Educa- tional	Commer- cial	Educa- tional
1. New York, N. Y.	7,891,957	1	7	1	1
2. Chicago, Ill.	3,620,962	4	1	2	7
3. Philadelphia, Pa.	2,071,605	3		3	1
4. Los Angeles, Calif.	1,970,358	7		2	1
5. Detroit, Mich.	1,849,568	3		2	1
6. Baltimore, Md.	949,708	3		2	1
7. Cleveland, Ohio	914,808	3		2	1
8. St. Louis, Mo.	855,796	3	1	3	4
9. Washington, D. C.	802,178	4			1
10. Boston, Mass.	801,444	3	1	3	
11. San Francisco	775,357	4	1	5	
12. Pittsburgh, Pa.	676,806	3	1	3	
13. Milwaukee, Wis.	637,392	3	1	3	
14. Houston, Tex.	596,163	2	1	3	
15. Buffalo, N. Y.	580,132	3		4	7
16. New Orleans, La.	570,445	2	1	2	
17. Minneapolis, Minn. ⁸	521,718	4	1	2	
18. Cincinnati, Ohio	503,998	3		2	1
19. Seattle, Wash.	467,591	3	1	2	
20. Kansas City, Mo.	456,622	3		2	1
21. Newark, N. J.	458,776				
22. Dallas, Tex.	434,462	2	1	3	
23. Indianapolis, Ind.	427,173	3		1	1
24. Denver, Colo.	415,786	4	1	2	
25. San Antonio, Tex.	408,442	3	1	2	
26. Memphis, Tenn.	396,000	3	1	2	
27. Oakland, Calif.	384,575				
28. Columbus, Ohio.	375,901	3		1	1
29. Portland, Oreg.	373,628	3	1	2	
30. Louisville, Ky.	369,129	2		3	1
31. San Diego, Calif.	334,387	2		4	1
32. Rochester, N. Y.	332,488	2		2	1
33. Atlanta, Ga.	331,314	3		1	1
34. Birmingham, Ala.	326,037	2	1	2	
35. St. Paul, Minn.	311,349				
36. Toledo, Ohio.	303,616	2			1
37. Jersey City, N. J.	299,017				
38. Fort Worth, Tex.	278,778	2		1	1
39. Akron, Ohio.	274,605			1	1
40. Omaha, Nebr.	251,117	3		2	1
41. Long Beach, Calif.	250,767				
42. Miami, Fla.	249,276	3	1	2	
43. Providence, R. I.	248,674	2		1	1
44. Dayton, Ohio.	243,872	2		1	1
45. Oklahoma City, Okla.	243,504	2	1	2	
46. Richmond, Va.	230,310	2		1	1
47. Syracuse, N. Y.	220,583	2			1
48. Norfolk, Va. ¹²	213,513	2		3	1
49. Jacksonville, Fla.	204,517	2	1	2	
50. Worcester, Mass.	203,486			2	

¹ Includes channel 13 allocated to Newark, N. J.

² Includes channel 50 and 60 (educational) allocated to Gary, Ind. and channel 56 allocated to Hammond, Ind.

³ Including channel 54 assigned to Belleville, Ill.

⁴ Assignments are listed as San Francisco—Oakland.

⁵ Including channel 4 assigned to Irwin, Pa.

⁶ Includes channel 6 allocated to White Fish Bay.

⁷ Buffalo including assignments to Buffalo—Niagara Falls.

⁸ Assignments will be listed as Minneapolis—St. Paul.

⁹ Channel 13, allocated to Newark, grouped with New York City totals to the list of first 50 cities.

¹⁰ Allocations for Oakland grouped with San Francisco totals in the list of first 50 cities.

¹¹ Allocations for St. Paul grouped with Minneapolis totals in the list of first 50 cities.

¹² Includes Portsmouth and Newport News, Va.

Mr. STANTON. We believe that the Commission's proposal in docket No. 10822 is a more desirable approach to ownership of UHF stations by multiple owners than is the approach embodied in Senate bill S. 3095. This bill provides that no entity may be the licensee of more

than 10 television units; it counts a UHF station as one unit and a VHF station as two units. Presumably a VHF licensee who dropped a VHF license would receive preferential treatment on his application for two UHF licenses. But we do not believe that such legislation would offer any great present inducement to UHF operation by multiple-station owners. I think that all of you have heard enough testimony to establish that there would be very few takers because of the present advantages of VHF. It seems clear to us that the Commission's proposal offers a far greater and surer inducement to multiple owners to own and operate UHF stations. I might point out that in our comments offered to the Commission and attached as exhibit I, we have already committed ourselves to seeking two additional UHF stations at once if the Commission proposal should become effective.

Up to this point, as you have no doubt noticed, I have said nothing about the relationship of network and UHF stations, and the impact of networks on the status and development of UHF stations. Nor have I commented on any of the rather reckless proposals which have been made and which would utilize CBS and NBC as the donors in a sort of forced feeding process to help UHF stations grow. I would like to devote this section of my testimony to those problems.

At the outset, however, I want to make it crystal clear that CBS believes, and has always believed, in competitive broadcasting for both radio and television—in the greatest possible opportunity for, and encouragement of, competition not only among stations but among networks. The more stations and the more networks—and there is no magic in the number four, since if the economy permits, four most certainly should not be the ceiling—the better off all the broadcasters are, and even more important, the better off the public is. Again, this is more than mere lip service.

After all, CBS reached its present position of leadership because of the opportunity for competition and because we seized on that opportunity to compete as vigorously as we knew how. And as Dr. Allen B. Du Mont has pointed out, in the 1950-52 allocations proceedings before the Commission, CBS explicitly took the position that a controlling factor in determining an allocation plan should be the need to provide an opportunity for the greatest number of networks to compete with each other.

We are willing to meet all comers and we welcome the chance to compete on a fair and open basis. We want to compete for viewers, for station affiliations, and for advertisers. We want each network—and new networks not yet in existence—to have the greatest possible opportunity to affiliate with stations which, so far as assignments in the spectrum are concerned, are on equal footing. This puts the emphasis squarely on programing—which is where it should be.

In the testimony which has preceded mine, you have learned a good deal about station operations. While I regret that it does take time, however, I think it is important, in order for you to consider these proposals in the light of all the facts, that you also have in the record some of the basic facts of television network life. It is only against such basic facts that these proposals relating to networks can properly be considered.

The fact is that getting CBS television programs to UHF stations in order to help those stations is somewhat more complicated than just turning on a spigot and letting the programs flow. If that were all

that was involved, we would be delighted to program all the UHF stations in the country. But there is a great deal more involved. The television networking business is a complicated and delicate business. Profit margins are relatively small—particularly when one takes into account the enormous investments and operating expenditures involved.

It is easy to upset the balance of television networking and sink it altogether.

Essentially a television network is an organization which is able to arrange for the broadcasting of the same television program over a number of stations. In most instances these programs are broadcast simultaneously over the stations; in some cases they are broadcast on a delayed basis over some of the stations.

Most of the stations are interconnected by American Telephone & Telegraph Co. facilities—either coaxial cable or microwave relay. The cost of such circuits for CBS television is approximately \$10 million a year. The stations which are not so interconnected or which, though interconnected, are unable to broadcast a particular program at the time of its original broadcast, are furnished with television recordings. These television recordings are films of the original program, photographed, so to speak, off the end of the picture tube. In fact, CBS television uses 16-millimeter film for this purpose at the prodigal rate of more than 50 million feet—over 10,000 miles—a year.

It is not often realized by the public that although the CBS television network, for example, comprises 163 stations in the continental United States, those stations are not owned, operated, or managed by CBS television. Of these 163 stations, CBS television owns 3, with a minority nonvoting interest in 2 other stations. All the rest are independently owned and are affiliated with CBS television through affiliation agreements.

These affiliates carry our network programs in accordance with the terms of their agreements. The agreements provide for the furnishing of the programs by the network to the stations, the broadcasting of those programs by the stations, and the payment by the network to the stations for broadcasting sponsored programs—that is, the programs for the broadcasting of which the advertiser pays the network. I am attaching hereto as exhibit II a typical form of affiliation agreement between CBS television and a station.

Senator POTTER. Exhibit II will be inserted in the record at this point.

(Exhibit II is as follows:)

EXHIBIT II

CBS TELEVISION

A division of Columbia Broadcasting System, Inc.

TELEVISION AFFILIATION AGREEMENT

AGREEMENT made this ____ day of _____, 19____ by and between CBS TELEVISION, a division of Columbia Broadcasting System, Inc., 485 Madison Avenue, New York 22, New York (herein called "CBS Television") and _____ (herein called "Station") licensed to operate television station at _____ full time on a frequency of _____ on Channel number _____.

CBS Television is engaged in operatin a television broadcasting network and in furnishing programs to affiliated television stations over program trans-

mission facilities leased by CBS Television, by "off-the-tube" TV recordings, or otherwise. Some of such programs, herein called "sponsored programs", are sold by CBS Television for sponsorship by its client-advertisers. All non-sponsored programs are herein called "sustaining programs". "Network sustaining programs", "network sponsored programs" and "network programs" as used herein mean network television programs. Station and CBS Television recognize that the regular audience of Station will be increased, to their mutual benefit, if CBS Television provides Station with television programs not otherwise locally available.

Accordingly, it is mutually agreed as follows:

1. CBS Television will offer to Station for broadcasting by Station network sustaining programs as hereinafter provided, without charge, and CBS Television network sponsored programs for which clients may request broadcasting by Station and which are consistent with CBS Television's sales and program policies. Network sustaining programs made available by CBS Television are for sustaining use only and may not be sold for local sponsorship or used for any other purpose without the written consent of CBS Television in each instance.

2. (a) Station will accept and broadcast all network sponsored programs offered and furnished to it by CBS Television during "network option time" (as hereinafter defined); provided, however, that Station shall be under no obligation to accept or broadcast any such network sponsored program (i) on less than 56 days' notice, or (ii) for broadcasting during a period in which Station is obligated by contract to broadcast a program of another network. Station may, of course, at its election, accept and broadcast network sponsored programs which CBS Television may offer within hours other than network option time.

(b) As used herein, the term "network option time" shall mean the following hours:

(i) if Station is in the Eastern or Central Time Zone, Daily, including Sunday, 10:00 A. M. to 1:00 P. M., 2:00 P. M. to 5:00 P. M. and 7:30 P. M. to 10:30 P. M. (expressed in New York time current on the date of broadcast);

(ii) if Station is in the Mountain or Pacific Time Zone, Daily, including Sunday, 10:00 A. M. to 1:00 P. M., 2:00 P. M. to 5:00 P. M. and 7:30 P. M. to 10:30 P. M. (expressed in local time of Station current on the date of broadcast).

3. Nothing herein shall be construed (i) with respect to network programs offered pursuant hereto, to prevent or hinder Station from rejecting or refusing network programs which Station reasonably believes to be unsatisfactory or unsuitable, or (ii) with respect to network programs so offered or already contracted for, (A) to prevent Station from rejecting or refusing any program which, in its opinion, is contrary to the public interest, or (B) from substituting a program of outstanding local or national importance. CBS television may, also, substitute for one or more of the programs offered hereunder other programs, sponsored or sustaining, of outstanding local or national importance, without any obligation to make any payment on account thereof (other than for the substitute program, if the substitute program is sponsored). In the event of any such rejection, refusal or substitution by either party, it will notify the other by private wire or telegram thereof as soon as practicable.

4. Station will not make either aural or visual commercial spot announcements in the "break" occurring in the course of a single network program or between contiguous network sponsored programs for the same sponsor where the usual station break does not occur.

5. CBS Television will pay Station for broadcasting network sponsored programs furnished by CBS Television as specified in Schedule A, attached hereto and hereby in all respects made a part hereof. Payment to Station will be made by CBS Television for network sponsored programs broadcast over Station within twenty (20) days following the termination of CBS Television's four or five week fiscal period, as the case may be, during which such sponsored programs were broadcast.

6. CBS Television will offer to Station for broadcasting such network sustaining programs as CBS Television is able to deliver, or cause to be delivered, to Station over coaxial cable or radio relay program transmission lines under arrangements satisfactory to CBS Television. CBS Television shall not be obligated to offer, or make available to Station hereunder, such network sustaining programs as it may have available in the form of TV recordings, unless CBS

Television has the right so to do and Station shall agree to pay CBS Television's charges therefor.

7. When, in the opinion of CBS Television, the transmission of network sponsored programs over coaxial cable or radio relay program transmission lines is, for any reason, impractical or undesirable, CBS Television reserves the right to deliver any such program to Station in the form of TV recordings, or otherwise.

8. Station agrees to observe any limitations CBS Television may place on the use of TV recordings and to return to CBS Television, transportation prepaid by Station, immediately following a single broadcast thereof, at such place as CBS Television may direct, and in the same condition as received by Station, ordinary wear and tear excepted, each print or copy of the TV recording of any network program, together with the reels and containers furnished therewith. Each such TV recording shall be used by Station only for the purpose herein contemplated.

9. Neither party hereto shall be liable to the other for claims by third parties, or for failure to operate facilities or supply programs for broadcasting if such failure is due to failure of equipment or action or claims by network clients, labor dispute or any similar or different cause or reason beyond the party's control.

10. The obligations of the parties hereunder are subject to all applicable laws, rules and regulations, present and future, especially including rules and regulations of the Federal Communications Commission.

11. If Station applies to the Federal Communications Commission for consent to a transfer of its license, or proposes to transfer all or any of its assets without which it would be unable to perform its obligations hereunder, it will procure the agreement of the proposed transferee that, upon the consummation of the transfer, the transferee will assume and perform Station's obligations hereunder, unless CBS Television shall waive this condition in writing.

12. All notices required to be given hereunder shall be given in writing, either by personal delivery or by mail or by telegram or by private wire (except as otherwise expressly herein provided) at the respective addresses of the parties hereto set forth above, or at such other addresses as may be designated in writing by registered mail by either party. Notice given by mail shall be deemed given on the date of mailing thereof. Notice given by telegram shall be deemed given on delivery of such telegram to a telegraph office, charges prepaid or to be billed. Notice given by private wire shall be deemed given on the sending thereof.

13. This Agreement shall be construed in accordance with the laws of the State of New York applicable to contracts fully to be performed therein, and this Agreement cannot be changed or terminated orally.

14. As of the beginning of the term hereof, this Agreement takes the place of, and is substituted for, any and all television affiliation agreements heretofore existing between the parties hereto, subject only to the fulfillment of any accrued obligations thereunder.

15. The term of this Agreement shall begin on _____ and shall continue for a period of two (2) years from such date; provided, however, that unless either party shall send written notice to the other at least six months prior to the expiration of the then current two-year period that the party sending such notice does not wish to have the term extended beyond such two-year period, the term of this Agreement shall be automatically extended upon the expiration of the original term and each subsequent extension thereof for an additional period of two years; and provided further, that this Agreement may be terminated at any time by CBS Television by sending written notice to Station at least twelve months prior to the effective date of termination specified therein.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

CBS TELEVISION,
a Division of Columbia Broadcasting System, Inc.
By _____
By _____

SCHEDULE A

(Attached to and forming part of the agreement between CBS Television and _____ This Schedule A contains provisions supplementary to said agreement and in case of any conflict therewith, the provisions of this Schedule A shall govern.)

I. CBS Television will pay Station for broadcasting network sponsored programs furnished by CBS Television during each week of the term hereof, thirty per cent (30%) of the gross time charges for such week, less the "converted hour" deduction and the ASCAP and BMI deduction.

II. The "converted hour" deduction for any week shall be one hundred fifty per cent (150%) of the amount obtained by dividing the gross time charges for such week by the number of "converted hours" (as hereinafter defined) in such week.

III. The ASCAP and BMI deduction for any week shall be the amount obtained by (i) deducting the "converted hour" deduction for such week from thirty per cent (30%) of the gross time charges for such week, and (ii) multiplying the remainder by the ASCAP and BMI percentage.

IV. As used herein, the term "gross time charges" for any week shall mean the aggregate of the gross card rates charged and received by CBS Television for broadcasting time over Station for all network sponsored programs broadcast by Station during such week at the request of CBS Television.

V. As used herein, the term "converted hour" means an aggregate period of one hour during which there shall be broadcast over Station one or more network sponsored programs for which CBS Television shall charge and receive its Class A time card rate for broadcasting time over Station. An aggregate period of one hour during which there shall be broadcast over Station one or more network sponsored programs for which CBS Television shall charge and receive a percentage of its Class A time card rate, such as its Class B time card rate, shall be the equivalent of the same percentage of a converted hour. Fractions of an hour shall be treated for all purposes as their fractional proportions of a full hour within the same time classification.

VI. As used herein, the term "ASCAP and BMI percentage" shall mean the aggregate of the percentages of CBS Television's "net receipts from sponsors after deductions" and of CBS Television's "net receipts from advertisers after deductions" paid or payable, respectively, to American Society of Composers, Authors and Publishers (ASCAP) and Broadcast Music, Inc. (BMI) under CBS Television's network blanket license agreements with ASCAP and BMI. (Currently such percentages are 3.025 and 1.2, respectively, so that the ASCAP and BMI percentage is 4.225%, but such current ASCAP percentage may be reduced by as much as .525 during each calendar year of the term hereof.)

VII. In the event that CBS Television shall have license agreements with ASCAP or BMI which shall provide for the payment of license fees computed on a basis other than a percentage of CBS Television's "net receipts from sponsors after deductions" or "net receipts from advertisers after deductions," as the case may be, CBS Television shall deduct from each payment to Station, in lieu of the ASCAP and BMI deduction, the proportionate share of music license fees paid or payable by CBS Television which is properly allocable to such payment.

VIII. The obligations of CBS Television hereunder are contingent upon its ability to make arrangements satisfactory to it for facilities for transmitting CBS Television network programs to the control board of Station.

Mr. STANTON. All networks—to a greater or lesser degree depending on the particular network—are something more than mere conduits by which a program gets from a certain place to its affiliates. They are in addition engaged in the important creative business of producing television programs. Most of these programs are offered by the network to advertisers for sponsorship. Programs which are not bought by advertisers but which are nevertheless carried over the network are called sustaining programs.

Under CBS television policy, some of our sustaining programs are not available for sponsorship—for example, we do not believe it appropriate to sell religious programs or to sell time for the broadcasting of such programs.

This business of creating and producing programs is, we believe, a very important part of networking. We do it partly because we believe that we can produce high quality entertainment programs as well as, if not better than, other outside organizations which do not

have the same continuous relationship to the broadcasting industry and to stations and to the viewing public, that we have.

Often we produce programs because no one else is willing to invest the time, effort and money necessary to insure the production of high quality programs. After all, the business of creating and producing programs and getting them off the ground and into the air can be, and often is, a long, tedious and expensive process. We have spent many, many months in shaping some of our programs, engaging writers, producers, directors, and talent for what we call auditions or tests. Sometimes these fall by the wayside and never see the light of day. Sometimes it is a year or two before we finally have gotten programs to where we want them in terms of quality.

As an example, I would point out to you a series which we call the Search in which we plan to do a series of 26 half-hour programs each in cooperation with a different college or university, showing the field of research or activity in which that college or university specializes and which will broaden man's horizon. We began planning that program 20 months ago; we have had 34 members of our staff working on it. We hope to begin it next fall. By then we will have spent in excess of a half million dollars on its preparation. I would think it a reasonable guess that if a network did not do that, nobody else would.

The basic reason for our engaging in the production of television programs is the recognition of our responsibility to provide individual programs of high quality and to arrange our network program schedule so that we will be able to provide a program sequence which will be attractive to listeners. This matter of program sequence is very important. An audience is built up and retained through an appropriate flow of programs. I believe that CBS more than any other organization, has pioneered and focused its primary energies on creative programing. We believe that this is the way for a network to be successful. If we have good programs, we get the listeners, and the advertisers. And for present purposes and what is even more immediately relevant, it is through good programing that we can compete successfully for the best possible stations to affiliate with us. For stations, like ourselves, are interested in getting the largest possible and most loyal audience, and the way to get the largest possible and most loyal audience is to provide them with the best possible programs. We have found by and large that the greatest assurance of such quality programing is for us to do it ourselves.

I would like to give you some idea of just what the CBS television network is in terms of facilities, departments and personnel. We supply a total of 78½ hours of network programs per week. Not all of that is commercial. About one-third of that is sustaining. Behind this number of programs are more than 60 different departments: Accounting, business affairs, construction, development of new effects, engineering, executive, graphic arts, network operations, news, press information, sales, special events, sports, station relations, television recording, and wardrobe, to name only a few. CBS television has 28 studios; 116 live black-and-white cameras; 31 black-and-white film chains; 17 live color cameras; and 5 color film chains.

We employ more than 3,700 persons of various crafts and skills such as writers, directors, producers, singers, actors, announcers, techni-

cians, stagehands, scenic editors, editors, film cutters. In order to give you some idea of the scope of these operations I have prepared as exhibit III a diagram which shows the flow of the activities and personnel that go into one typical half-hour dramatic program broadcast by CBS television.

Senator POTTER. Exhibit III will be made a part of the official files of the committee at this point.

Mr. STANTON. As you will see from exhibit III, this typical CBS television half-hour dramatic program is the product of 1,374 man-hours, involving 154 people exclusive of the services of other CBS television departments such as sales, advertising, press information and traffic. You will see the variety of skills involved, the number of personnel and the man-hours which each group must spend. For example, for this 1 half-hour, 7 members of the program staff must spend 280 man-hours, 13 stagehands must spend 195 man-hours, 10 cameramen operating 3 cameras must spend 90 man-hours; scenic construction and painting takes 24 men and 52 man-hours; and so on down the line, and across the chart.

Further, to illustrate what is involved in getting a program on the air, I have had prepared a graphic summary of all the planning, the preparations, the arrangements and the personnel which went into our broadcasting of the 1952 conventions—a type of broadcast which I have chosen because it can only be live and which I doubt could be done at all if there were no networks.

Exhibit IV represents the man-hours devoted by CBS television to cover the 1952 national political conventions.

Senator POTTER. That exhibit IV will be made a part of the official files of the committee.

Mr. STANTON. You will see that planning began in May 1951, well over a year before the conventions. It required 41,750 man-hours for 118 hours and 11 minutes of actual convention broadcasting.

Finally I have had prepared exhibit V to illustrate to you what is involved in putting on Douglas Edwards and the News, which is broadcast from 7:30 to 7:45 each week night, and which also seems to me to be a job which requires a network for it to be done at all.

Senator POTTER. Exhibit V will be made a part of the official files of the committee.

Mr. STANTON. Exhibit V-A shows that there are 259 people involved in putting on that program and that number is exclusive of the facilities and services of the operations, engineering, reference, and other departments of CBS television.

Senator POTTER. Exhibit V-A will be made a part of the official files of the committee.

Mr. STANTON. Of these 259 people, 94 are staff members and 165 are foreign and domestic camera correspondents. Exhibit V-B shows the variety of skills represented among these 259 people who contribute to this 15-minute broadcast.

Senator POTTER. Exhibit V-B will be made a part of the official files of the committee.

Mr. STANTON. Exhibit V-C may serve to give you some idea of the geographic distribution of personnel, scattered all over the world—Europe, India, South Africa, Australia, Japan.

Senator POTTER. Exhibit V-C will be made a part of the official files of the committee.

Mr. STANTON. I hope that these exhibits will give you some idea of what an immense task television network programming is and how great and complex is its scope. Each of these exhibits represents only 1 program or 1 program strip. In each week, however, the CBS television network provides 153 programs. Network programming, thus, takes skill; it takes imagination; and it takes a tremendous amount of money. Success in television networking does not come to those who will not work at it and take risks to gain it.

As I say, all of this takes money. To maintain these facilities, to employ these people, and to put on these programs we must have income. And that income comes from one source and one source alone—from advertisers. If advertisers will not support CBS television or any other television network, CBS television would cease to exist and so would every other network.

It must not for a moment be forgotten that network television is competing for the advertiser's dollar with all other advertising media—radio, magazines, newspapers, billboards, and many other media. In evaluating network television as one of these many media advertisers examine their costs very carefully. Their touchstone, like yours and mine, is what are they getting for their dollar? If television cannot furnish circulation at competitive costs, advertisers will not use network television; the advertisers' dollars will go elsewhere and television networks will cease to exist.

Then there would be no facilities for bringing to the people on a nationwide basis television broadcasts, presidential speeches, speeches and discussions by legislators, sports events and other special events as they occur. True, as I will discuss a little later, many methods of programming television stations can bring entertainment and local events to the television audience. But I want to stress live network programming is the only method by which events of national interest can be seen throughout the country as they happen.

I will not deny the entertainment and informative qualities of film programs. Some programs as a matter of fact require film and are better because of it. But good as they are, it is the live quality, the sense of seeing the event or the play, at the same time that it takes place, in front of your eyes as you sit in your living room, which is the real magic of television. Take the live quality out of television and you have diluted its excitement and impact. And more importantly, you have destroyed the single most effective means of communicating to the entire country in times of national emergency.

Next is the problem of affiliation. It is what the affiliate can deliver in terms of circulation that is the crux of what a network can offer to the advertiser. We cannot be arbitrary, whimsical, or eleemosynary in our choice of affiliates. We must do our best to affiliate with those stations which will give to the national advertiser the largest circulation at the lowest possible cost. The advertisers insist on lowest possible post-per-thousand.

By cost-per-thousand we mean the dollar cost to the advertisers for the facilities—that is, for the stations—which carry the programs; and the computation is made for each thousand of television homes. This is what is known as cost-per-thousand of circulation. A television's circulation is the total number of homes in which the station is viewed.

It is these hard facts of circulation, coverage area, and cost-per-thousand which must determine our selection of offiliates. If we selected on any other basis, we would be ignoring the advertiser whose litmus paper test is, as I have said, cost-per-thousand.

We do not discriminate in favor of VHF stations or against UHF stations. We must accept the potential circulation of each station as we find it. We must attempt to select the affiliates in such a manner that each of them provides the maximum amount of circulation which is unduplicated by any other affiliate. The public is not best served by a duplicated service. And except in unusual circumstances, duplicated circulation is a wasteful luxury and an advertiser does not want to pay twice for the same thing.

Thus, putting together an effective nationwide network of stations so as to provide the largest possible circulation without overlap and duplication is like putting together pieces of geography of different size and shape in a jig saw puzzle.

As a result, in some instances—though frankly I am afraid that for quite a while those instances will be few in number—our basis of selection will result in picking a UHF station in preference to a VHF station. An example is Erie, Pa. There the circulation of VHF station WICA is greater than the circulation of the UHF station WSEE. However, the excess of the WICA circulation over the WSEE circulation is almost entirely a duplication of circulation of other CBS television affiliates in Buffalo and Cleveland. Hence, we affiliated with the UHF station WSEE.

At the present time, CBS television has affiliation agreements or arrangements of one kind or another with 51 UHF stations in 47 markets. In 37 of these markets, CBS television is using only UHF affiliates. Wherever we can do so without seriously injuring our network business and without making it impossible for us to meet the demands of advertisers for the lowest cost-per-thousand, we do affiliate with UHF stations. And, while you have heard 1 or 2 witnesses who would create the impression that we have some distaste for affiliating with UHF stations and that we are uncooperative, I can assure you that no considerations enter into it other business considerations. To indicate to the subcommittee that this is not all one-sided, and that at least some UHF Stations with which we have affiliated do not share the views concerning our attitudes which have been expressed by some of the previous witnesses, I am attaching hereto as exhibit VI a letter from H. Moody McElveen, Jr., of WNOK-TV, a UHF station in Columbia, S. C. This letter came to us in the midst of these hearings completely unsolicited and out of the blue.

Senator POTTER. Exhibit VI will made made a part of record at this point.

(Exhibit VI is as follows:)

EXHIBIT VI

STATIONS WNOK AND WNOK-TV.
Hotel Jefferson, Columbia, S. C.
May 28, 1954.

Mr. FRANK STANTON,
President, Columbia Broadcasting System, Inc.,
485 Madison Avenue, New York, N. Y.

DEAR MR. STANTON: We have been acutely aware for some time and more recently have become quite disturbed by the criticism being directed at the networks in reference to alleged discrimination against UHF television stations.

I would like to go on record in behalf of WNOK-TV as offering any active assistance that you may desire in showing that in the case of this UHF station we have always received courteous, sympathetic, and understanding treatment from the CBS television network.

I should like to chronologically set forth our dealings with CBS for the past year and a half. This station received its construction permit from the Federal Communications Commission on September 18, 1952. On September 19 I had an appointment with Mr. Akerburg in his office in New York to discuss the possibility of an affiliation contract between WNOK-TV and the CBS television network. It was brought out in our conversation that the day our construction permit was granted the Federal Communications Commission also granted a construction permit for WCOS-TV on channel 25. It was also noted that in the not too distant future VHF channel 10 would be assigned to either WIS or WMSC, both of which had applied. At that time we had been advised by Allen B. Du Mont Laboratories that equipment would be available to allow us to be on the air in January of 1953. On September 24 WNOK-TV entered into an affiliation contract with the CBS television network with an effective date of January 1953. By the latter part of November 1952 it became apparent to us that Du Mont would not make delivery of equipment as promised by January. After several trips to the transmitter division of Allen B. Du Mont Laboratories in Clifton, N. J., we were promised delivery of a 5,000-watt UHF transmitter in April of 1953. The first week of December I arranged again for an appointment with Mr. Akerburg in his office in New York and during that meeting I explained to him our situation and because of the delay I offered to return the affiliation contract and consider the affiliation null and void. We, of course, were extremely anxious for the affiliation with CBS but felt in fairness to the network we should make the offer of termination. Much to our delight Mr. Akerburg was exceedingly gracious and understanding of our problem and informed me that the network regretted, as we did, the delay but would go along with us and for me to go back to Columbia, S. C., and not worry about the affiliation.

As it turned out we were not on the air in April as the manufacturers had promised, nor in June as promised, nor in August as promised. The network was always very considerate and as each subsequent delay appeared imminent we discussed it with either Mr. Snyder or Mr. Akerburg. At no time did the network ever question our integrity and good intentions. The latter part of July 1953, a very disturbing situation arose with reference to Lever Bros. It seems that the VHW station, which was not then on the air but planned to be the latter part of the year, had contacted the advertising manager of Lever Bros. and had persuaded him to demand that CBS television order his facilities for LUX Video Theater and Big Town rather than to order WNOK-TV which was and is the CBS affiliate in Columbia. Although this account exerted tremendous pressure on the network-CBS television at no time wavered from the position that either Lever Bros. could buy WNOK-TV in Columbia or not have its programs released in this market. The network flatly refused to allow its programs to be fed to the station which was not its affiliate although that station was a VHF station. In passing, I think it should be noted that several months after this situation arose Lever Bros. decided to place their program on a competitive network.

The above indicates to me beyond a shadow of a doubt that as far as this station is concerned the CBS television network not only has not discriminated against UHF but rather has championed the cause.

At the present time WNOK-TV is carrying approximately 23 hours of network commercial time per week from the CBS television network which is comparable to the amount of commercial time that the VHF station here in Columbia is carrying from the NBC network.

I trust that some of the facts enclosed in this letter will be of some value in dispelling, at least as far as CBS television is concerned, the idea that there is network discrimination against UHF stations.

Cordially,

H. MOODY McELVEEN, Jr.

Mr. STANTON. Obviously, therefore, there are cases, and a rather substantial number of them, where we find it good business to affiliate with the UHF station, where we do so and where our relationships are excellent. But candor compels me to report the obvious fact that in the majority of the markets, business reasons have compelled us

to affiliate with a VHF station in preference to a UHF station, where we had the choice.

We have always been perfectly frank with potential affiliates about this. For example, immediately after the lifting of the freeze and the opening up of the UHF in 1952, we told our radio affiliates who were contemplating entering television that the hard facts of networks economics would often require us to affiliate with VHF station, where we had the choice, even though our radio affiliate of long standing might have acquired a UHF license.

This choice is compelled simply because the circulation of a VHF station is generally greater than the circulation of a UHF station. Let me give you an example of this: Exhibit VII is a rough engineering map showing the comparative contours of KWTW and KTVQ, Oklahoma City and KRLD-TV, Dallas.

Senator PORRER. Exhibit VII will be made a part of the official files of the committee.

Mr. STANTON. Illustrated is the important difference of coverage between KWTW, the VHF station with which CBS television made its affiliation, and the other alternative, KTVQ, a UHF station in the same market. In respect to the open area of approximately 25 miles between the 2 contours of KWTW and KRLD-TV (VHF), Dallas, one should not get the impression that homes there are being denied television service. It is a well-established and accepted fact that actual viewing of a station extends out beyond the more conservative engineering definitions of coverage.

From this exhibit, it becomes obvious why we affiliated KWTW for Oklahoma City in preference to KTVQ. Not only do we realize greater coverage, but KWTW puts us on a par with NBC's WKY-TV.

Now wholly apart from the differences which may obtain at present between UHF and VHF, there are other considerations, which I would like to describe briefly to the subcommittee which led us to conclude that we cannot economically affiliate with some particular stations. These fall roughly into two types of cases and, I repeat, they have nothing to do with whether the station is VHF or UHF.

The first type is represented by the small station—the station which can deliver unduplicated circulation but the market is not sufficiently large to attract advertisers. It is a well-known fact that as the size of a market decreases—that is, as its potential circulation is smaller—the cost per thousand of circulation increases. Obviously, there comes a point where the increase of cost for the particular station makes it uneconomical for the advertiser to use it at all. In such a case, whether the station is VHF or UHF, we just cannot afford to affiliate with the station. Let me see whether I can explain the reasons for this.

It is important because I think a number of complaints which have come to you about our not affiliating with certain stations come from these small stations which cannot understand why we will not affiliate with them. As I say, it stems from this inevitable fact that the smaller the market, the greater the cost per thousand for the advertiser.

First let us consider this from a theoretical standpoint. Station A has a television homes circulation within an effective reception area of 400,000. With a base hour rate of \$1,200 at night, its cost per thousand would be \$3 (\$1,200 divided by 400,000). Station "B" with

half that circulation—200,000 television homes—could have a rate around \$700; its cost per thousand would then be \$3.50 instead of \$3.

In practice, it works out this way: WCBS-TV, New York, with a base rate of \$5,500 and a television homes circulation of 4,170,300, has a cost per thousand of \$1.32. Minot, N. Dak., however, with a circulation of 5,500 television homes and a base rate of \$150 has a cost per thousand of \$27.27; \$1.32 per thousand for New York, \$27.27 per thousand for Minot, N. Dak.

You will note that one of the factors which we must have present in order to determine the cost per thousand is the station rate. It is the relationship between station rate and circulation which establishes cost per thousand. The process of establishing station rates is complicated, reflecting as it does the necessity for satisfying both the station owner as the seller and the advertiser as the buyer. It must not only satisfy each of them but it must be set so that it can successfully meet the competition of other broadcasters in the same medium and the competition of other media. The precedent established in radio and the methods of pricing magazines and newspaper rates enter into the problem. It may be surprising to you to learn that rates are not proportional to station circulation. Actually, television rates do not decrease as rapidly as circulation. If they did, stations in small markets would find it difficult or impossible to obtain sufficient revenue and this is why you find on the one hand that stations with larger circulation do not have a card rate proportionately higher than that of a smaller station.

In other words, it simply is not true that a station with, let us say, one-hundredth the circulation of a New York station will have a rate which is 1 percent of the New York station rate. This pattern of increasing cost per thousand as circulation decreases is consistent with other media.

All this, I admit, is not very simple and may be a little confusing. The determination of rates is complex and even the measurement of the actual circulation or number of homes delivered by the station requires a great deal of judgment and skilled use of slide rules. I believe, however, that we at CBS television have approached this on a businesslike and scientific basis in an effort to be fair to our affiliates, to be competitive within our medium and to give our clients fair value for their expenditures.

We have been wrestling with this problem of cost per thousand ever since our operations began. As I have said, it is crucial in the whole business of network advertising. It may seem to be hard on the little stations that they cannot offer a cost per thousand more nearly equal to that of stations in larger markets. But our success in keeping costs per thousand down is indicated by the fact that for CBS television, the cost-per-thousand circulation has dropped from \$3.93 in 1949 to \$2.03 in 1951 to \$1.59 in 1953. But that is a factor which one must constantly take into consideration is seen in the fact that in January 1954 our cost per thousand went up 16 cents to \$1.75, although our projection for January 1955 is that we will get the costs back to \$1.59.

We are met quite often with the question, why, if the cost per thousand stems from the rate which the advertiser is charged for the particular station, we cannot solve the problem by accepting the sta-

tion's offer to carry our commercial programs free. In fact, I have noticed that one or two witnesses who have appeared before this subcommittee have stated with rather shocked dismay that we were not even willing to put our programs on their station free of charge.

It is quite true that this would solve the problem of increasing our overall cost per thousand which occurs by taking on very small stations. But it should not be forgotten that the basis of the economic relationship between network and station is that while the advertiser is charged the total of each station's rates which he uses for his program, the money which the station and we receive comes from a sharing, controlled by contract, of that station rate paid by the advertiser. In other words, if an advertiser uses a station whose rate is \$500, we get a part of that \$500 and the station gets a part of the \$500. If the station's rate is zero, not only does the station get nothing; we do not get anything either. Not only do we get nothing, we lose money in such an arrangement.

Let me try to show you why taking stations on a free basis is a losing proposition for the network by showing you the network costs involved in handling 22 of our small market stations. Even if we allocate to these smaller affiliates only their share of incremental expenses in special servicing of those stations, we find that such out-of-pocket expenses per smaller-market station come to \$50 a week. This ignores any assignment to them of any share of selling, programming, or administrative costs.

But this \$50 per week per station is only a minor portion of our out-of-pocket expense. To the weekly incremental overhead of \$50 per station must be added the costs of getting the program to the affiliate—that is, the A. T. and T. charges which CBS television must pay. The cable or relay cost on an occasional basis is \$1.15 per mile per hour.

Let us assume a station is 100 miles away from the nearest service point. Let us assume also that, as is often the case, the station does not qualify for full-time use of the cable. An examination shows that our 22 small-market affiliates average approximately 2 hours of commercial business each per week. For purposes of determining profit or loss, let us consider that these 2 hours are contiguous hours so as to compute cable costs on the most economical basis. The weekly cable cost for our example would be \$230. To this must be added approximately \$170 per week—the A. T. and T. connection charge and local loop on a part-time basis. Therefore, including the \$50 overhead figure, the weekly cost of such an affiliation to CBS television would be \$450.

Senator POTTER. I wonder if it might not be desirable that we take a little break at this time. I know how tiresome it is. I think probably you might like just a slight break at this time.

Mr. STANTON. I would welcome it.

Senator POTTER. We will suspend and recess for 5 minutes.

(Whereupon a short recess was had.)

Senator POTTER. The subcommittee will come to order.

Before Mr. Stanton continues with his statement, I would like to announce that we will not be able to conclude the hearings tonight as we had originally planned, so rather than meet tomorrow we will meet the first available day that we can receive the committee room, which will be Wednesday afternoon at 1 o'clock.

NBC will be the first witness and then the rebuttal statements by the UHF, the VHF, and Commissioner Hennock and Chairman Hyde of the Federal Communications Commission will be presented.

Proceed, Mr. Stanton.

MR. STANTON. Mr. Chairman, this figure of \$450 is almost twice the gross time receipts CBS television would realize after advertising agency commission and network discounts from 4 half-hours of commercial time on this station with an hourly rate of \$150. With 22 such small-market stations presently on our lineup, this means a total weekly loss of over \$4,500—or almost a quarter of a million dollars a year, even on the limited basis of allocating to them only our incremental expenses.

You can see, in these circumstances, why it is expensive for us to affiliate with stations which cannot pay their own way—and why we cannot afford to take on stations on a free basis.

I hope that these rather detailed figures will throw some light on why it is more difficult than it sounds, and a great deal more uneconomical, for us to affiliate with stations which offer to take our programs with no charge. That may be fine for those stations; it may be fine for advertisers. It cost neither of them anything. But it's a mighty poor way to run a railroad.

Thus far I have dealt with the case of the small station which cannot support a rate which would justify our affiliating with it. That is the first type. The second type of station where we have refused affiliation is the station which is located in a different city from a present affiliate and may be able to deliver what appears to be a reasonably large circulation which would justify a rate of \$150 or more. But the fly in the ointment in this second type of station is that its circulation, while seemingly large, does in fact significantly duplicate the circulation of other existing affiliates.

Here again, the principle is the same, whether the station is UHF or VHF. In such cases we ordinarily deny affiliation to the station because its circulation is costly and of little value to advertisers or the public. In other words, it does not fit our jigsaw puzzle of national coverage.

We have had a number of complaints when we have refused to affiliate in this type of situation. I think it may be helpful, therefore, for me to give you an example of what is involved here. Such an example is KCEN-TV, Temple, Tex., which recently approached CBS television for an affiliation and was refused. KCEN-TV, incidentally, is a VHF station operating on channel 6.

Exhibit VIII to my statement will help explain why we considered affiliation with this station unwise.

Senator POTTER. Exhibit VIII will be made a part of the official records of the committee.

MR. STANTON. The exhibit has several transparent overlays which may be interleaved with the map of a portion of Texas. The large, blue, crosshatched area on the top transparent sheet shows the area which our engineers compute will be served by our Dallas affiliate, KRLD-TV, operating on channel 4. This station is building a new transmitting station almost midway between Fort Worth and Dallas, and the blue crosshatched area represents the conditions that should exist when this construction is completed later this year. The blue,

crosshatched area in the lower right shows a similar service area for our affiliate in Galveston, KGUL-TV.

The second transparent sheet illustrates the engineers' computed service area of KTBC, our affiliate in Austin, Tex., which operates on channel 7, with a power of 100 kilowatts and an antenna height of 740 feet. This service area is shown crosshatched in green. You will notice a shaded ring around the service area of each station, intended to show the tapering off or gradual deterioration of service in the extreme fringe.

It would probably be advisable for me to be more specific as to the basis for these computations. To be precise, the outer boundary of the KRLD-TV and KCEN-TV crosshatched area corresponds to a computed field intensity (signal strength) of $100 \mu\text{V/m}$ (also described by engineers as 40 dbu). Similarly, the outer boundary of the KTBC-TV and KGUL-TV service areas corresponds to a field intensity of $316 \mu\text{V/m}$ (50 dbu). The higher field intensity is required for service in the fringe on channels 7 to 13.

I might add that the relationship between the engineers' computations and actual tune-in or listener habits has been checked rather thoroughly by our engineers and audience research experts and there is a high positive correlation.

When the third transparent sheet is placed over the map, you will see the relationship of the area served by KCEN-TV with respect to that served from Dallas and Austin. The small, hourglass-shaped area is in the extreme fringe of KRLD-TV and KTBC-TV, and in this area KCEN-TV will give a better signal. Of the total homes served by the Temple station, approximately 76 percent would be served by the affiliates we already have in Dallas and Austin.

Furthermore, many of the homes in the hourglass-shaped area (the remaining 24 percent of KCEN-TV's total) have usable, though less-than-perfect, reception of CBS television programs from KRLD-TV or KTBC-TV.

Thus you will see that while KCEN-TV might at first blush appear to make a good case for affiliation on the basis of its circulation, when duplication with the existing affiliates in Dallas and Austin are eliminated, plain, ordinary economic business judgment compels us to deny an affiliation. After weighing these factors, along with such factors as television-set ownership, buying power, importance of market, familiarity of the station-city to advertising time buyers, the strength of competing television signals and the probable circulation we would have throughout the area, we decided the number of homes which would be added by KCEN-TV, the salability of the market and the wasteful duplication in the areas already receiving good television service would not justify affiliation of KCEN-TV.

While all this description of the factors which govern our determinations concerning affiliations may seem rather detailed, I can assure you that I have really oversimplified it and have only scratched the surface. But I do hope that I have said enough to indicate to you the basic fact which I want to drive home—that is, that we must do the best possible job in putting together a network and that this best possible job can be done only by careful, conscientious and reasonably scientific decisions on our part in respect of each proposed affiliation.

And I hope that what I have said indicates to you that it is a complex, delicate and difficult job to which we bring to bear the careful thought and skills of many departments in the CBS television organization—engineering, research, station relations and sales.

I hope further that I have been able to indicate to you, therefore, that these difficult and in many ways unique business judgments which we must make go to the heart of networking. They simply do not lend themselves to broad and arbitrary formulas imposed from without. I do not believe that this is an appropriate area for Government regulation. For the Congress or the Commission to intervene in this field to command with whom networks should affiliate, and when and how many and in what circumstances, is to interpose the Government in what will inevitably be a morass of the most detailed business regulation and a substitution of Government fiat for what has been, and must be, careful business discretion.

Before turning to some of the particular proposals for network regulation in the field of affiliations, however, I would like to treat as briefly as I can two other topics which seem to me from reading the testimony up to now to have played a substantial part in the notion that there ought to be some regulation in this field. The first is the concept, usually implicit but sometimes explicitly stated in these hearings, that a station cannot survive unless it has a network affiliation.

I must confess that quite naturally I am delighted that what CBS television has to offer is considered to be so desirable that it is a matter of life or death for a station to get it. I must also confess that I find that the facts compel me to deny that there is a full measure of truth in the concept that we are indispensable to the success of a station.

It is a little hard for me to come before you and state publicly that we are not quite as invaluable as some people say we are. But I think that that is the fact.

First, and this is something which is particularly true of some of the stations whose representatives have appeared before you, an affiliation with CBS television is by no means a guaranty of financial success for the station. While some stations in major markets form a "basic required group" which an advertiser who wishes to use the CBS television network must buy, this group obviously cannot include stations in smaller markets. For the latter type of station, the advertiser has an option of picking any one or more.

Therefore, in order for an affiliation with such an "optional" station to ripen into any programming or economic return for the station, there is still the not inconsiderable problem of getting the advertiser to order that station. The mere fact that we affiliated with such a station does not mean that the advertiser will order it automatically. I think we find vivid illustration of this in the fact that, as I have already pointed out, we have on our network rate card some 22 affiliates in small markets which average only about 2 hours of commercial business a week.

Second, it is unpleasant for me as a network spokesman to have to remind you that networks are not the only sources of programs. The number of outside packagers making films for television is legion and is increasing. Some managements of local stations, with ingenuity, imagination, and drive, have found that they have a real role to play in the community and can build up an important and loyal audience through local live programming as well.

Many radio stations have been exceedingly prosperous without network programs; some of these nonnetwork stations have earned far higher profits than the network affiliates in the same city. While the problem may be somewhat more difficult at this stage of television's development, we are certain that there are nonnetwork television stations that have done well financially without a network. Certainly it takes more work for a station which does not rely on a network. It is far easier to patch in the network and have a full day and a full night's programming. I do not blame stations for preferring that course of life. I would myself. In fact, we try our best to make this an attractive way of life. But it is well to emphasize that perhaps there is a substitute of self-reliance, good management, and plain hard work.

There is another premise which is, I believe, wholly false, and yet which has apparently loomed large in the thinking of some who have appeared before you. I think it is clear not only from the testimony in these hearings but from some of the comments which have been made outside these hearings, that some of these proposals for network regulation have been colored and have been rationalized by the demagogic slogan that something ought to be done, that anything is justified, because there is a monopoly. CBS and NBC, it is said, are a "monopoly." And I must say that I find it extremely disturbing to read that this charge has been made publicly and in the context of these hearings by one of the very people, an experienced lawyer, who, as a member of the FCC, sits in judgment on us in determining whether or not our applications for licenses should be granted and renewed.

Yet by no stretch of the imagination can the word "monopoly" be accurately applied to us. I have asked our lawyers what a monopoly is. They tell me that the law says that where facts like those here are involved, mere size is not an offense against the antitrust laws unless it does amount to a monopoly. And there is no monopoly at least until a single entity in an industry controls more than two-thirds of the market.

As exhibit IX clearly shows, it is obvious that CBS television does not control anywhere near two-thirds of the market—even if the market is defined as merely limited to network billings—without taking into account other competing methods by which the national advertiser advertises his products either through television or through other media.

Senator POTTER. Exhibit No. IX will be made a part of the official files of the committee.

Mr. STANTON. The gross billings of CBS television network fall far short of two-thirds of the total television network billings. It is a travesty of reality to lump the gross billings of the CBS television network with the NBC television network in order to justify this monopoly charge. I would suppose that no fact in the broadcasting industry is better known than the intense—and that word is an understatement—competition between CBS and NBC. We fight each other—we fight each other hard—and we never stop fighting. We try to take audience from NBC, programs from NBC, advertisers from NBC, stations from NBC. They try to take them from us. While sometimes some people think that the competition between us is so bitter that it becomes absurd, I have never heard anybody say there is not enough of it. And I believe that this intense competition,

despite what some people may have thought are excesses, has kept us all on our toes and has benefited the public in terms of the programs and the services which they have received.

Because these issues of monopoly have been raised, I believe it would be useful to trace as rapidly as possible just how the networks got where they did in this competitive race. The fact is that there is nothing sinister about it. In the customary and natural way which prevails both in American business and in track meets, it is nothing more than the race going to the swift.

Let me start at the beginning. Television networking is not very old; it goes back only to 1948. Each of the present four television networks were in business then. That is an important fact, because this is not a case of a latecomer trying to get into a closed market. As a matter of fact, I note with interest that the Du Mont network testimony claims that Du Mont itself was the first actually to engage in television networking.

At the end of the first quarter of 1949—the first days of television networking—the position of the four networks in terms of gross billings was this:

The network gross billings of NBC for that quarter were just a little over \$1 million; the gross billings of CBS were \$431,000, the gross billings of ABC were \$51,000; and the gross billings of Du Mont were \$250,000.

As you will see from exhibit IX, for 1949 there was no very great dollar difference between the network billings, and the combined total billings of CBS, ABC, and Du Mont were less than NBC alone. Although CBS was second, it was not a very good second. The gross billings of NBC for the third quarter of 1950 were a little under \$4.5 million; the gross billings of CBS were a little over \$1.5 million; the gross billings of ABC were just under a million, and the gross billings of Du Mont during that period and in fact during the whole year were not reported. Thereafter, the gross billings of NBC and CBS television rose very rapidly with CBS finally passing NBC in the second quarter of 1953. The two other networks also rose, although far less rapidly and now ABC is beginning to outstrip Du Mont.

We all started from scratch. I don't know what the facilities of the other networks were back in 1949 and 1950. But I do know that we certainly were no giants of the television earth then; at the end of 1949, our personnel devoted to television network broadcasting numbered 409; we had only 4 studios and only 17 cameras.

There was no magic which accounts for the way these lines rise on the graph. There was nothing but the hardest kind of work, the most courageous kind of investment in plant, facilities, talent, and creative programing; there was the most vigorous pavement pounding and the hardest kind of selling. This is a business in which there are no free rides; you must spend money to make money, and you must work awfully hard at it to boot. We made tremendous investments in programing and in such plants as Television City in Hollywood. Those who were more cautious, or less courageous, thought we were foolish and extravagant. But we took the chance where some of the others did not. And it paid off—as this chart shows. Some of the others who made no such investment and had no such courage now complain that we should get no return on our investment in order to cut us down to their level.

It is important for this subcommittee and the public to realize that we invested over \$43 million in television prior to 1952 before we got back a single penny in profits. And CBS television did this under a handicap that was unique among the four networks. It is an established fact that the backbone of profits in the television broadcasting business is not networking at all, but in the profits from station ownership.

Even today, despite our enormous investments and enormous expenditures, the profits attributable to television networking are relatively modest. While we are not privy to the profits of individual stations, I am sure that it would be very easy for us to pick three independent stations affiliated with us whose combined profits in 1953 exceeded the profits of the entire networking operation of CBS television.

Yet, despite the importance to a network of owning stations, in terms of revenues, CBS television, alone among the 4 networks, only owned 1 station until 1951, and even now we own only 3, with a minority interest in 2 others. Du Mont owns and has owned 3 from the beginning; NBC and ABC each owns and has owned 5.

We were under another important financial disadvantage: We were 1 of the 2—ABC was the other—of the 4 networks which did not have the immense financial advantage of being in the television receiver manufacturing field during these critical formative years of television broadcasting. It is also a well known fact that until 1952, it was not the television broadcaster but the set manufacturer who reaped the profits from television.

I call to your attention a few interesting facts which we have gleaned from the annual reports of Du Mont, which now urges that our television network should be cut down to its size. In 1948, Du Mont, whose business was exclusively in television—manufacturing and broadcasting—earned net profits of \$2,700,000—when television broadcasters were losing their shirts. In 1950 its gross income exceeded \$76 million. Its current assets exceeded \$31 million and its net earnings after taxes were just short of \$7 million. In that year I note that the net earnings of the entire operations of CBS were only \$4,100,000.

So Du Mont, which now advances these drastic proposals, was hardly a little business which was struggling along at a loss in television. Its profits from television were very substantial. What actually happened was that it chose for reasons of its own not to take its profits from television manufacturing and invest them in network broadcasting—while we, with no television manufacturing profits, and no television station ownership profits, did invest in network broadcasting. I find the policy adopted by Du Mont stated in its 1952 annual report, in which it is said that the "primary aims" of Du Mont "are maximum service and volume from advertisers within the structure of divisional operation at a profit."

I think that one can find a rather vivid illustration of the attitude of DuMont—its unwillingness to take the risks and make the investments and do the job which some of the rest of us in the early days took and did—in Du Mont's Pittsburgh story. For a number of years, beginning on January 11, 1949, Du Mont had about the purest monopoly in the broadcasting business; it had the only television station in Pittsburgh—the sixth largest market in the country, and the largest

single station market. And yet despite the obligations that one would think would be accepted by the only television broadcaster in such a large community—the obligations to serve the local needs of the community—it was not until November 1950, when there were about 140,000 receivers in the market that Du Mont's Pittsburgh station even got around to acquiring a single live studio camera. Bear in mind too in relation to that fact that Du Mont manufactured studio cameras and equipment at the time.

I think that these contentions that the Congress should now intervene to bring other networks down to the level of Du Mont must be judged in the light of these facts. It seems to me wholly inconsistent with the principles of American free competitive enterprise, that circumstances such as these warrant Government intervention to induce artificial equality by reducing all to the lowest common denominator.

Because the short of it—and I think that this conclusion is inevitable—is that the proponent of these suggestions does not like and does not want competition at all. Under the guise of equalizing competition, it wants to discourage competition by depriving those who have competed from the fruits of their successful competition. It chose not to start running at post time; now it wants to start the race all over again by bringing everybody back to its position behind the field. And it asks the Government to do that job for it.

And I would call to this subcommittee's attention that there is nothing in the present affiliation agreements which would prevent any network, old or new, from making a good try at entering the race now. It is important to recall that even where a network has a primary affiliation, which gives it option time during certain hours on the affiliated station, no other network may be precluded from that option time.

The Commission's network regulations specifically provide that no option time given to a network is good against any other network. Experience shows that where a network does a good job of producing outstanding programs and a good job of selling itself to advertisers and to stations, there is an opportunity to come in even on stations which have primary affiliations with a competing network. CBS television's programs are accepted on a number of primary affiliates of NBC; and vice versa. ABC, too, has managed in the last year to gain time during our option hours for some of its programs on our primary affiliates.

With these facts as background, let me turn specifically to the proposals which have been made under the guise of helping UHF stations.

First is the proposal—referred to as Du Mont plan A—that in each of the first hundred cities where there are less than four VHF stations the networks should be compelled to take turns in selecting UHF affiliates. As I understand the proposal, it would work out something like this, using the city rankings selected by Du Mont:

In each of the first 3 cities there are 4 or more VHF stations. Accordingly, each of the four networks could have a VHF affiliate in each of those cities.

In Philadelphia there are 3 VHF stations and 3 UHF stations so that networks 1, 2, and 3 could have a VHF affiliate and network 4 would be compelled to take a UHF affiliate; in Boston there will be 3 VHF stations and 4 UHF stations. Networks 1, 2, and 4 this time

could have a VHF affiliate and network 3 would be required to take 1 of the UHF stations as an affiliate; in Detroit there are 3 VHF stations and 2 UHF stations. Networks 1, 3, and 4 could affiliate with the VHF stations and network 2 could be compelled to affiliate with a UHF station; in Pittsburgh there will be 3 VHF stations and 3 UHF stations. Network 1 would be required to take a UHF station as an affiliate and networks 2, 3, and 4 could affiliate with VHF stations. The same procedure would be followed in each of the remaining 93 cities.

It seems to me that the difficult and exacting task of putting together a network hardly lends itself to a procedure of choice by lot. But in any event, the proposal is unwise, impractical, and unsound. It creates an apparent present equality by taking away the advantages which have been earned. In some instances stations would be deprived of their present desirable network affiliations for the benefit of other stations in their own communities and would be required to accept network programs which they believe to be less desirable than those furnished by the network of their choice. In other instances, networks would be deprived of affiliations which they had obtained through free competition.

As a matter of fact, under the Du Mont plan A, in those cities where there are less than four VHF stations, competition among networks for affiliates and among stations for network affiliations would be seriously restricted. For example, in Philadelphia none of the three VHF stations could compete for an affiliation with network 4, in my earlier example, because network 4 would be obligated to affiliate with a UHF station in Philadelphia.

Even more important is the threat, inherent in Du Mont plan A to the survival of live network television itself. This is a subject with which I shall deal in more detail in connection with my discussion of S. 3456—the bill which proposes to license networks. Suffice it to say here that Du Mont plan A, by making it impossible for any network to offer to an advertiser the largest possible circulation—and by necessarily excluding him from a substantial portion of television homes in a number of important markets—may well drive some advertisers either away from network use or away from television altogether.

The same objections obtain to an even greater degree to Du Mont plan B, the remarkable proposal that each station must relinquish on demand of a network 25 percent of its network class A time, 25 percent of its network class B time and 25 percent of its network class C time to the network which makes the demand. This is not competition; this is not free enterprise. This is the antithesis of both.

This radical proposal turns its back on the basic concept which has always been controlled: The Commission itself has always insisted that a broadcasting licensee must, to perform his statutory obligation to operate in the public interest, exercise his own judgment in deciding what programs to accept and what programs to reject. Yet this proposal is directly contrary to the established principle of licensee responsibility. It would force the licensee, in picking programs from one network to take an equal percentage of programs from each other network regardless of the relative desirability and content of those programs.

This not only would destroy the entire concept of licensee responsibility but it would inevitably rebound to the disadvantage of the

public by forcing down its throat whatever the law says that station has to take. To determine how this would ignore public tastes and preferences, one need only turn to those cities where each of the networks has a VHF outlet—where, in other words, in terms of station facilities, each is competing on an equal basis, and where the public thus has an opportunity most clearly to indicate its choice among the network stations. Consistently the network programs of one network far surpass the popularity of the programs of another network by huge margins. There the public makes its own choice. But under this proposal of requiring each station to divide its time among the networks, where there are not four VHF stations, the public choice is ignored; instead the viewer would be required to look at the programs for which the same public in another area has expressed little enthusiasm.

Du Mont plan B, like Du Mont plan A, also gravely threatens the very future of live television networking—and television itself—by driving advertisers to seek other means of advertising.

I would like also to comment on S. 3456. On its face this bill is a simple one, providing for the licensing of networks. But since the Commission already exercises rather considerable powers over the networks through its licensing of the stations owned by networks, as well as through its licensing of stations affiliated with networks, the implications of S. 3456 are rather large.

In effect, it would license anyone entering into the business of networking irrespective of the fact that that network owns no stations and thus makes no use of any portion of the spectrum. And it is the use of the spectrum which has always provided the basis in law for licensing of broadcasters. This concept is abandoned by S. 3456—which thus enters into a novel and dubious realm. Perhaps the bill can most clearly be viewed as though it proposed to license a network as a supplier of programming material—just as do film producers, independent program packagers, or advertising agencies which produce programs.

This I believe is an extreme concept and we have a number of comments about it. But I think that for the present I should limit my comments here to the particular context of these hearings—that is in the context of the regulation of network affiliations.

If the bill is designed to empower the Commission to require networks to supply particular stations with programs or is designed to require stations to give up particular portions of their time to each network, this is an extremely radical proposal. Constitutional problems of free speech are involved. Keeping in mind that this is an attempt to regulate networks per se and wholly apart from station licensing, it is no different from saying that newspaper wire services or newspaper syndicates should be licensed in order to permit a rule which would provide that if a newspaper chose to carry AP dispatches, it must carry UP and INS dispatches, or if it chose to carry Walter Winchell, it must also carry Drew Pearson, Walter Lippmann, and Leonard Lyons.

I cannot believe that such a proposal can be seriously considered. After all, television and radio are media of communication and information. Any regulation of networks is necessarily a regulation of freedom of speech. There has been no showing that so extreme a proposal is required in the public interest.

I hope that my testimony up to this point has made it clear why we believe so strongly that in any event proposals to regulate affiliations, at least in the form and the substance in which they have been presented so far, present extremely serious threats to television networking as we know it. They are attempts to solve a relatively limited, albeit serious, problem; but they have within them the seeds of total destruction of television networking. For if the advertiser finds that no network can give him substantially full circulation on a national basis, he will either turn away from television altogether, or he will turn to film programs placed on a spot or market-by-market basis, simply choosing in each market that station which will give him the largest circulation.

This will hardly help the weaker stations; the business will flow more swiftly to the stronger stations. And it will destroy all of networking, whether by CBS television or by any of the other networks. With such destruction all of live networking is likely to disappear—not only the great live entertainment programs but also the program which can only be done live: The public events, the conventions, and those other types of programs which have become so much a part of American social and political life but which by themselves cannot economically justify the maintenance of a network.

Further, proposals such as this may well critically weaken television as an advertising medium. As I have described to you in some detail, it is the cost per thousand which is so important to an advertiser. If perforce we limit an advertiser's potential circulation, inevitably his cost per thousand increases. And if that cost per thousand does increase, it is also inevitable that, short of national spot purchases—placement of film on an individual-station basis, without networking—the advertiser may well find television broadcasting uneconomical and hence at least some advertising dollars will flow to competing advertising media. That will not help UHF stations either; but it will critically hurt all of television.

These proposals, thus gravely endangering all of television networking, also threaten to abort the newest and most exciting development in this art—color. It costs a station only about \$25,000 to \$30,000 to equip itself to carry network color broadcasts. But it costs many times that for a station to equip itself to originate local live color broadcasts. I have heard of only a handful of stations which have immediate plans to broadcast live local programs.

Thus at least at the outset, and for a considerable time to come, it will be the networks which will bear almost the entire burden of getting color television started. This, too, will cost an immense amount of money. It is costing us a million and a half dollars to equip and prepare a single studio in New York City for the origination of network color broadcasts.

If networks do not make these expenditures and accept the heavy burden of broadcasting color—as CBS television and NBC are now doing—color will be indefinitely delayed. And the public will be deprived of this important new dimension in television. Yet networks could hardly afford these tremendous investments, if, through these proposals, advertisers were driven away from use of television networks.

In sum, the problems which this subcommittee faces are complex and vexing; they lend themselves to no easy solution. That is in-

herent in the television business and networking, which themselves are exceedingly complex and difficult.

It is just for such reasons that I urge most vigorously that the emotions and tribulations of the moment not tempt us to seek short-sighted cures. Let us not throw out the baby with the bath water.

I hope I have made it clear how strongly I hold the conviction that some of these proposals are just that—that in the excitement of the moment and probably with the best of good intentions, those who think they would save themselves may well destroy television. Sober second thought would help. Television has come a long way in a very short time. I can find nothing in our economic history which matches the rapid and dramatic growth of television. Television has still further to go—much further—and with color there are new opportunities and new horizons.

Intemperate or hasty proposals should not be permitted to cut short the life of television even before its prime.

Senator PORTER. Mr. Stanton, that was a very informative and comprehensive statement.

I wish to state that I recognize how difficult it is to give a statement of that length. You have words floating in front of your eyes after a while.

You have covered many of the questions that I had in mind, and I have no questions at this time.

I originally announced that we would recess until Wednesday afternoon. However, if we are able to secure a committee room we will try to hold them Monday or Tuesday. If we can find out tomorrow, we will notify you.

If there is no announcement until tomorrow, the hearings will not be held until Tuesday. If you do not hear by Monday, they will be held on Wednesday.

Congress appropriates money for buildings downtown but we never have enough space for our committee assignments.

We will stand adjourned until further notice.

(Whereupon, at 5:39 p. m., the subcommittee stood in recess until further notice.)

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

TUESDAY, JUNE 22, 1954

UNITED STATES SENATE,
SUBCOMMITTEE NO. 2 ON COMMUNICATIONS OF THE
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D. C.

The subcommittee met at 1:30 p. m., pursuant to recess, in room G-16 of the Capitol, Senator Charles E. Potter, chairman of the subcommittee, presiding.

President: Senators Potter (chairman of the subcommittee) and Bowring.

Also present: Bertram O. Wissman, chief clerk, and Nick Zapple, counsel for the subcommittee.

Senator POTTER. The subcommittee will come to order.

At the opening of this phase of the hearing, I want to state for the record the extreme regret that I, personally, have, and some in the subcommittee, for the passing of one of our members of the subcommittee, Senator Lester C. Hunt. I think he had as many friends in the Senate as any Member has, and all of us regret his passing.

I know that he was deeply concerned with the problems that are now being heard by this subcommittee, and we will miss his wisdom and his encouragement and clear thinking. He was a tower of strength for all of us.

In spite of his busy schedule, Senator Hunt spent a great deal of his time and energy during the past week attending these hearings.

I am sorry the hearings were postponed yesterday, but it was done out of respect for Senator Hunt. I want to read into the record at this time a telegram I received from Mr. P. A. Sugg, WKY-TV, Oklahoma City, Okla.:

Senator POTTER,

Senate Office Building:

Upon my arrival in St. Louis, I learned that Senator Hunt had passed away and, therefore, when the Senate subcommittee No. 2 is called together Monday, I suggest for your consideration that on behalf of the VHF informal group we suggest that you ask those present to stand in silence 1 minute to the memory of the late Senator Hunt.

Senator Hunt, while seriously ill, spent a great deal of his time and energy this past week in determining the merit of issues before your committee. His questions were motivated by his interest in providing television service to the majority of the people in the country, and it is our opinion our country, as well as its television stations, should mourn for the loss of a great American.

This may be entered as a part of the record if you desire or deem appropriate.

A similar wire has been directed to his widow's address.

I think the wire is entirely appropriate and, while I don't think we need stand, we will observe one minute of silent prayer for Senator Hunt.

(At this point an observance of one minute of silence was entered into in memory of the late Senator Hunt.)

When we concluded Friday, we had concluded all the witnesses scheduled with the exception of NBC's participation, and we are happy today that Mr. Heffernan, of NBC, is with us. That will conclude the regular schedule of witnesses. However, we agreed to allow a rebuttal statement to be made by a representative of the UHF and a further rebuttal statement to be made by a representative of VHF, and the two commissioners will have an opportunity to present their views, if they so desire.

Before Mr. Heffernan presents his statement, I would like to submit for the record statements from the following:

Mr. S. Payson Hall, Meredith Publishing Co., Des Moines, Iowa;
Mr. Otto P. Brandt, vice president and general manager, King Broadcasting Co., Seattle, Wash.;

The Crosley Broadcasting Corp., WLWT, Cincinnati, Ohio;

Philip Merryman, Southern Connecticut & Long Island Television Corp., WICC-TV, Bridgeport, Conn.;

UHF Stations WNOW-TV, and WSBA-TV, York, Pa., and WCMB-TV and WHIP-TV, Harrisburg, Pa.; and

Dr. Allen B. DuMont, president, Allen B. DuMont Laboratories, Inc., Clifton, N. J.

(The statements referred to are as follows:)

STATEMENT OF S. PAYSON HALL, MEREDITH PUBLISHING CO., DES MOINES, IOWA

I am S. Payson Hall and I am appearing on behalf of Meredith Publishing Co., of which I am the director of radio and television, as well as treasurer.

Through its subsidiaries, Meredith Publishing Co. is the owner of television and standard broadcast stations located in Syracuse, N. Y.; Omaha, Nebr.; Phoenix, Ariz.; and Kansas City, Mo.

Meredith Publishing Co. has a long and consistent record of serving the general public through mass communication media, supported in part by the sale of advertising. For over 50 years we have published *Successful Farming*, a farm service magazine with editorial devoted entirely to the business of farming and the art of farm living. For more than 30 years we have published *Better Homes and Gardens* magazine, now serving over 4 million reader families with editorial material dedicated entirely to better homes and better family living.

During 1947 and 1948 we made an intensive study of the potentialities for public service inherent in television. We also thoroughly investigated the sections of the United States that we might be able to serve, having in mind the limitation on the number of stations that we could create or acquire.

These studies and investigations culminated in the preparation and filing of several applications for television facilities. This work was done at very considerable expense. We received one grant in Syracuse, N. Y., and the remainder were held up by the freeze.

It must be remembered that during the period of time I am discussing, the economic aspects of television were obscure beyond the fact that heavy operating losses were inevitable over an indefinite period. The establishment of a television station meant a tremendous original capital investment with no real assurance of any return on the investment, obsolescence was an immediate consideration, there were few receiving sets in existence, and sources and amount of revenue were indeterminable. A television enterprise had to be considered as highly speculative on purely business considerations.

It is difficult indeed to recapture the atmosphere of those days, but there is no doubt as to the record: Comparatively few stations were actually established, and a large percentage of those stations were sold under distressed circumstances. Some permits were abandoned.

Because of the freeze and of the delays inherent in the hearing process, we have subsequently been forced to follow the route of buying established television stations to fulfill our pioneer's faith in the industry.

The members of the subcommittee are quite familiar with the famous sixth report and order of the Federal Communications Commission in the matter of the amendment of section 3.606 et cetera of the Commission's Rules and Regulations. We believe that the sixth report and order, which was based upon several years' hearings and earnest consideration by the Commission, is a sound document even in the posture of present day conditions. One of the most significant findings of that report is that which declares that the utilization of the UHF spectrum is essential to a nationwide competitive television broadcasting system.

We see no technical method of eliminating intermixture of UHF and VHF in the same market where there isn't sufficient spectrum space in the VHF band of frequencies. On the other hand we believe that there is sociological and economic necessity for such intermixture, because of the very necessity of establishing a nationwide, competitive television broadcasting system.

We are opposed to any plan which would eliminate all the VHF channels and permit television broadcasting only in the UHF spectrum. Wholly aside from the fact that pioneers who really established television in the United States should not be at this late date faced with an extreme penalty, it is obvious that the tremendous investment of the citizens of the United States in all manner of VHF equipment should not be destroyed. There is simply no good reason to support such a lethal proposal.

There has been some suggestion that the service areas of VHF and UHF stations should be reduced for the purpose of permitting the establishment of a larger number of stations. We believe that the Commission in its sixth report and order provided for minimum service areas, and the implementation of this suggestion would only mean that rural dwellers in the fringe areas of television reception would be further penalized.

In view of the necessity for an adequate national competitive television broadcasting service, it is obvious that every assistance should be made available to those who have the courage and the pioneering spirit to render television service in the UHF spectrum. As I understand it, one of the problems in connection with UHF coverage is the penetration of blank spots. I am advised that booster or satellite stations will be helpful in this connection, and therefore the Commission may wish to consider instances in which their authorization is of particular importance in the public interest.

The Commission might well relax its policy with respect to authorizing microwave relay links between the station transmitter and a program source, such as a network interconnection point.

We suggest that the Federal Communications Commission permit UHF permittees or licensees to apply for modification of their permits or licenses to change to a VHF channel if such a channel should become available.

I can well understand the emotions of many UHF operators throughout the United States in the light of my own misgivings when we invested great sums of our company's resources to establish a television station in Syracuse, N. Y., with no real assurance of financial return. We undertook this risk in the spirit of American free enterprise. Now, as then, I believe it extremely difficult to arrive at a program of subsidy without doing violence to the fabric of our free enterprise system and a disservice to the objective of such subsidy.

STATEMENT OF OTTO P. BRANDT, VICE PRESIDENT AND GENERAL MANAGER OF KING BROADCASTING CO., SEATTLE, WASH.

I am Otto P. Brandt and I am appearing on behalf of King Broadcasting Co., licensee of KING-TV, Seattle, Wash. I am vice president and general manager of King Broadcasting Co.

KING-TV is one of the oldest television stations in the United States. For many years it was the only television station throughout the entire Pacific Northwest. When the station was established there were no receivers in the area, and for a long while thereafter the number of receiving sets available was extremely limited. This lack of set circulation rendered the station unattractive to commercial advertisers and, as a result, the station operated at a constant loss.

1012 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

The first owner sold the station to the present owner during this critical period of time. The present owner acquired the station with full knowledge of operating losses and with complete awareness of the necessity for large additional investments and with no real assurance that the station ever would be profitable.

It is our feeling that anything that is for the overall good of television reacts to the benefit of KING-TV. We are anxious to see television develop to maturity and achieve its full position on the American scene. We cannot agree however, that the present plight of some television operators justifies Government subsidy, in effect, any more than at the similar distressed conditions of the pioneer VHF television broadcasters.

We see no method of eliminating intermixture of UHF and VHF in the same market where there is not sufficient spectrum space in the VHF band of frequencies. The matter of providing additional VHF spectrum space is deserving of the most serious consideration and study.

The present VHF band should not be disturbed. There is simply no adequate reason to move the VHF stations to the UHF band. The American public has a huge investment in VHF receiving and associated equipment. This investment should not be destroyed. The UHF station operators include the pioneers who really took the risk and established television in this country. Furthermore, such a move would run contrary to public interest in an area such as Seattle where the hilly terrain in heavily populated areas makes high frequency television reception extremely difficult.

Another proposal is made that service areas be reduced to permit more stations in the VHF band. In its sixth report and order the Commission provided for minimum service areas. The reduction of these service areas would only result in injury to rural dwellers.

We believe that every proper assistance should be given those who desire to establish stations in the UHF band. For example, the Commission might well authorize in proper cases the use of booster or satellite stations and it also might authorize intercity relays for program transmission to be operated by UHF stations.

The Congress might still afford some relief in the form of elimination of the 10 percent excise tax on the UHF receiving sets and components.

The Federal Communications Commission in its proposed rulemaking of December 23, 1953, in effect recommends that any party may own, in addition to 5 VHF stations, 2 UHF stations. This is a step in the right direction as something of a premium is afforded to the UHF stations in that those who desire to expand, have a greater opportunity in the UHF spectrum.

The Federal Communications Commission might well take another look at its procedural rules with the thought that UHF permittees or licensees will be permitted to apply for modification of their permits or licenses to change to a VHF channel if such a channel should become available.

It is not difficult to appreciate the emotions of many UHF operators throughout the United States. We too had our misgivings when we appropriated large sums of our company's assets to continue operation of KING-TV when the losses were substantial and the future bleak. We undertook this risk in a spirit of American free enterprise. Sometimes these ventures succeed and sometimes they fail.

It is extremely difficult to resort to a program of subsidy without endangering our free competitive system.

STATEMENT BY THE CROSLY BROADCASTING CORP.

The Crosley Broadcasting Corp. submits respectfully for the record of this hearing basic information regarding its development of four television properties, WLS-TV, Cincinnati, WLW-TV, Dayton, WLW-TV, Columbus; and WLW-TV, Atlanta, now VHF channels 5, 2, 4, 11, respectively.

The activities of Crosley in the field of television broadcasting commenced as early as April 1937 when it began experimentation relating to equipment design and development, leading to the establishment February 1, 1939, of a regular television division in its engineering department. On February 3, 1939, Crosley filed its first application for a construction permit for an experimental television broadcast station, receiving a grant on August 28, 1940, with the call letters W8XCT. Even before this date, as early as April 26, 1939, Crosley gave public demonstrations of the use of television equipment with wire rather than wireless transmission.

Crosley's WLW-T, Cincinnati, was not only the first commercial television broadcast station in the State of Ohio, but also the first in the area served by WLW radio, including Indiana, Kentucky, and West Virginia, the application for same being filed originally on November 15, 1944, with the original grant to Crosley dated November 21, 1946.

Crosley filed the original application for a television station in Dayton on February 26, 1945, the grant being received from the Commission April 4, 1947.

Crosley's WLW-C was the first station in Columbus, Ohio. The application was filed on January 2, 1945 and the grant received November 21, 1946.

To construct these 3 television stations, Crosley expended \$1,939,723.77, excluding here the man-hours of its staff and its legal fees. The capital investment to November 30, 1953, for these stations totaled \$2,608,692.34.

The operating losses of these three stations amounted to \$1,642,129.75 before the first dollar profit was realized. The Cincinnati station was operated at a loss from the first broadcast, February 9, 1948, (Cincinnati had but 1,300 TV receivers at that time) to November 1, 1950, losses totaling \$951,920.70. The Columbus station was operated at a loss from the first broadcast, April 4, 1949 (then only 2,000 TV receivers in Columbus), to November 1, 1950, losses amounting to \$371,534.15. The Dayton station was operated at a loss of \$318,674.90 from beginning of operations, March 15, 1949 (then only 4,000 TV receivers in Dayton), to November 1, 1950. Actually, the losses experienced were much greater than set out above in view of the fact that early development costs and initial television broadcasting expenses were borne largely by WLW radio.

Following the original construction and upon receipt of show cause orders following the Commission's sixth report and order, Crosley spent in total \$200,000 in making channel changes and another \$300,000 to increase power to maximum with new high-gain antennas in Cincinnati, Dayton, and Columbus.

Since the initial broadcasts on these three stations, Crosley has pioneered in the extension of operating schedules and has invested hundreds of thousands of dollars in program development.

To bring the best talent and special events to its viewers, Crosley spent \$128,560 from March 11, 1949, to June 27, 1951, to construct and operate its own microwave relay system in the absence of regular Bell System relay and cable service.

In addition to the aforementioned expenditures to stimulate an interest in television and, therefore, the purchase of receivers by the public, Crosley expended in 1 promotion alone, \$48,000 in staging a 3-way TV jubilee in each city, Cincinnati, Dayton, and Columbus. All TV set manufacturers participated in the promotion to make the public more television conscious. Yet all costs were borne by the Crosley Broadcasting Corp.

As the result of such aggressive leadership, these 3 cities (as of March 1954) have a higher percentage of set saturation than has Chicago, not only a much larger city but one having 4 TV stations.

On February 11, 1953, Crosley purchased WLTV, Atlanta, Ga. (then VHF channel 8, now 11), from Broadcasting, Inc., at a cost of \$1,450,000.

Immediately, Crosley invested \$136,000 in program development and as of April 13, 1953, lengthened its programming schedule from 73 hours to 107 hours per week and opened its broadcast day at 9 a. m. rather than at 1:50 p. m., forcing the two competitive stations to commence early morning programming service. Again, Crosley has just recently extended its Atlanta schedule and is now broadcasting 114 hours a week and is signing on at 8 a. m. Monday through Friday.

WLW-A was, and still is, without full Du Mont and ABC network service. The station is spending additional funds to bring such service from the networks through a costly cable arrangement.

Capital investments for WLW-A have been considerable and will before long approach the total originally paid for the property. Investments include a new 50-kilowatt transmitter and allied equipment, new studio equipment, a new studio building (under lease) and property for a new high tower, construction of which is the next step contemplated in improving the service of the station to the public.

Exclusive of intercompany sales, in 15 months of operation, WLW-A has made a profit only 2 months, March 1954 amounting to \$272.83, April 1954 amounting to \$2,259.20. Yet capital investments will continue to be made, including the erection of a new tower of maximum height. Crosley has faith in Atlanta's future and as a company feels financially able and competent to continue VHF

pioneering in that city, looking ahead to the time when it will prove to be a profitable operation.

In summary, before Crosley made a profit on any of its television operations, it sustained total losses of \$1,642,129.75, excluding Atlanta. In spite of these losses, it made capital investments, beyond the initial construction costs (\$1,939,723.77), of \$668,968.57.

In the opinion of Crosley and in view of this record, UHF development, of necessity, must undergo similar stages and must be in the hands of licensees of financial stability in order to bring it to the level which VHF enjoys today. Crosley is not acquainted with all other VHF operations but is familiar with scores of them and is aware of their experience of similar losses during the costly stages of development prior to the attainment of the present status of VHF.

In the field of UHF, Crosley has granted the use of the tower of WLW-TV to the Greater Cincinnati Educational Television Foundation for WCET, channel 48. It has also granted the use of a considerable portion of its transmitter building for this educational group and has contributed both air time (on WLW-TV) and all production costs for a series of programs to promote this proposed UHF station.

Crosley has cooperated closely with UHF station WHIZ-TV, Zanesville, Ohio, and has, since that station commenced operations, cooperated with it in order that it might receive NBC program service directly from the tower of WLW-TV, Columbus, even though Crosley's Columbus station renders service to Zanesville.

Additionally, we respectfully submit that in order to include and provide receiver facilities for UHF reception, we are informed that the manufacturing division of AVCO expended considerable sums in pioneering as early as 1950 in ultratuner converters and licensed two other companies to manufacture it. The manufacturing division, in company with other manufacturers, has incurred very substantial losses in order to further the ability of UHF stations to have available sets able to receive their transmissions.

The policy of this company will continue to be one of the closest cooperation with UHF stations, both educational and commercial.

STATEMENT OF PHILIP MERRYMAN, SOUTHERN CONNECTICUT & LONG ISLAND TELEVISION CORP., WICC-TV, CHANNEL 43, BRIDGEPORT, CONN.

Time alone will not solve the television industry's problems as the two major network officials and the VHF group contend. There are basic inequities in the allocations plan for national television and these inequities must be resolved if television broadcasting is to become a truly beneficial public service. Competition between networks is not the primary basis of good public service. Competition must exist in the total area of television broadcasting and not just the limited area in which NBC and CBS compete. NBC and CBS compete for dominance in entertainment. Eloquent witness to this is NBC's willingness to drop the Firestone Hour in favor of a program that would produce a higher audience rating. The real opponents of free private enterprise and the real pleaders for special privilege in these proceedings are those VHF broadcasters who insist the public interest would best be served by continuing their special privileges. They do not recognize the problem, therefore they cannot provide constructive solutions. The least they could have done would have been to endorse the use of directional antennas on VHF frequencies even though the use of such antennas may have encroached slightly on their coverage in communities beyond their own and they could have agreed it was in the public interest to limit the development of color television broadcasting until a better basis for competitive broadcasting had been worked out. The major networks and the VHF group have contended that more people would have television service by continuing the present system. I submit that the opposite is true and that if competitive conditions are provided such that each community throughout their land can have its own television station or stations more people will be provided with television service and a wider selection of television services.

They say that VHF stations struggled through lean months and even years and if we UHF broadcasters are good Americans we would do the same. I wonder how long they would have continued to struggle if they could not see a tiny glimmer of hope in the distance but on the contrary saw the flame of hope being gradually extinguished. They say that even VHF stations have failed and I submit, Mr. Chairman, that if a VHF station which competes

for 100 percent of the available audience could not succeed then how can a UHF station which competes on the national average for less than 10 percent of the audience possibly survive? It has been said here by these opponents of competition that they would hate to be a Member of Congress of a member of the Federal Communications Commission should the 30 million families in the United States learn that their television reception was to be tampered with. Mr. Chairman, we must also look at the problem from the possible context of history. Let us not, by failing to act now, make it possible for some historian of the future to write "One of the great contributing factors to the extinction of a free society of men was their failure to utilize fully the new channels of public communication. In the United States toward the end of a 20-year period during which the people were led ever closer to socialism a few people were allowed to monopolize television broadcasting. Thus the stage was set for governmental control of this greatest public communications medium and the eventual rise of a dictatorial form of government."

STATEMENT ON BEHALF OF UHF STATIONS WNOW-TV, AND WSBA-TV, YORK, PA., AND WCMB-TV, AND WHP-TV, HARRISBURG, PA.

This statement is being submitted on behalf of four UHF television permittees in York and Harrisburg, Pa. These permittees are:

- Helm Coal Co., permittee of WNOW-TV, York, Pa.
- Susquehanna Broadcasting Co., permittee of WSBA-TV, York, Pa.
- Rossmoyne Corp., permittee of WCMB-TV, Harrisburg, Pa.
- WHP, Inc., permittee of WHP-TV, Harrisburg, Pa.

Except for WCMB-TV, which plans to commence operation in the near future, all the above stations are in operation.

This subcommittee has already been told of the severe competitive disadvantages under which UHF television stations are laboring. We believe, however, that the subcommittee will be interested in the following example of how the Commission's VHF allocations and rules can be and are being used, or rather, as we contend, misused, to place UHF stations at a further disadvantage and to build upon the early difficulties of UHF, monopolies which may become so entrenched that they cannot later be dislodged.

York and Harrisburg, Pa., have been allocated UHF channels only. In fact the entire State of Pennsylvania is largely a UHF-only area. Of the 33 Pennsylvania cities which are listed in the Commission's Table of Assignments only 7 have been allocated VHF channels. These are Philadelphia with 3 commercial VHF channels, Pittsburgh with 2 commercial VHF channels; and Altoona, Erie, Irwin, Johnstown, and Lancaster with 1 VHF channel each. It is apparent that if Pennsylvania is to enjoy competitive television, and especially if the majority of Pennsylvania cities are to have their own television stations, UHF must survive. It would seem also that UHF had a reasonable chance of survival in Pennsylvania, particularly in York and Harrisburg, which are both substantial UHF-only markets. However, a recent action by the Commission has created a serious threat to UHF in both York and Harrisburg, as well as other Pennsylvania cities.

Station WGAL-TV in Lancaster, Pa., was fortunate enough to obtain a VHF assignment prior to the television freeze. Three of the five Harrisburg and York UHF stations were also applicants for VHF stations in their respective cities prior to the freeze, but unlike WGAL-TV were held up in their VHF applications because there were more applicants than channels in Harrisburg and York. The present allocation plan, issued after the freeze, did not assign VHF channels to Harrisburg and York, thereby making it necessary for the Harrisburg stations either to operate in UHF or forego bringing television to their cities. VHF, however, was continued in Lancaster by moving prefreeze channel 8 from York to Lancaster for use by WGAL-TV. Originally WGAL-TV operated on channel 4 as a community station.

Under the Commission's prefreeze rules television stations were divided into two classes, metropolitan stations and community stations. A metropolitan station was defined as being designed primarily to render service to a single metropolitan district or a principal city, and to the surrounding rural area. A community station was defined as being designed primarily for rendering service to a small metropolitan district or principal city. Metropolitan stations were limited

in their power and antenna height to 50 kilowatts at 500 feet above average terrain. Higher antennas were permitted only with a reduction in power. Community stations were limited to 1 kilowatt at 500 feet above average terrain. In its sixth report and order which terminated the freeze the Commission proposed to shift WGAL-TV to channel 8 under a special temporary authority, operating with a relatively modest power and antenna height (7.2 kilowatts and 270 feet above average terrain) from a site close to Lancaster. In connection with this change in frequency WGAL-TV filed an application for authority to increase its power and antenna height to the maximum permissible; that is, to 316 kilowatts and 1,000 feet above average terrain, and to change its transmitter location. This application was granted January 28, 1954. The new transmitter location proposed by WGAL-TV is more than 15 miles closer to York, Pa., than its present transmitter site, almost 14 miles closer to Harrisburg, and more than 16.5 miles more distant from Lancaster. As the following table shows, the proposed operation of WGAL-TV will result in a substantial increase in the strength of the signals which will be received in York and Harrisburg, Pa.

*Field intensities delivered to the most distant parts of cities from station
WGAL-TV, present and proposed*

[Decibel units]

City	WGAL-TV	
	Present	Proposed
York.....	56.2	104.0
Harrisburg.....	48.1	90.8
Lancaster.....	103.6	92.5

It will be noted that the WGAL-TV signal will be stronger in York than it is in Lancaster and in Harrisburg it will be only insignificantly weaker than in Lancaster. It is also to be noted that with the increased power and height, WGAL-TV will provide a weaker signal to Lancaster than with its old station, solely because it has moved its transmitter closer to York and Harrisburg so as to serve those cities.

It is clear that WGAL-TV's purpose is seeking greater power and greater height and a new location for its antenna is to establish an areawide coverage embracing Harrisburg and York, as well as other cities, rather than to improve its service to Lancaster. Current advertisements of WGAL-TV in the trade press emphasize that this is its purpose and intention. These advertisements include claims that WGAL-TV serves Harrisburg, York, Lebanon, and Reading as well as Lancaster. Their slogan is "5/5 profit"—the numbers refer to the five Pennsylvania metropolitan areas listed above and the 5 years of previous operation of WGAL-TV. Thus WGAL-TV boldly emphasized that in addition to its entrenched position gained through 5 years of monopoly operation it will have a service area far greater than that of any of its UHF competitors in York, Harrisburg, Lebanon and Reading.

The program service of WGAL-TV is highly commercialized and is predominantly comprised of network shows. Service of a local nature to Lancaster is limited. WGAL-TV regularly broadcasts programs from all four of the national networks. This is so despite the fact that many UHF stations in the area have concluded affiliation agreements of various types with all the networks. Thus WHIP-TV in Harrisburg is a CBS affiliate; WNOW-TV in New York is a Du Mont affiliate; WSBA-TV in York is an ABC affiliate; and WTPA in Harrisburg is an NBC affiliate. Surveys indicate that Station WGAL-TV is presently received in nearly all homes in York and in a substantial number of those in Harrisburg. Operating as proposed, WGAL-TV will serve completely each of these two communities, as well as many others. Consequently, the networks and their advertisers will have the opportunity of selecting merely 1 station and yet reaching the entire 5 markets. For example, WHIP-TV, a CBS affiliate, does not carry the following top CBS programs though WGAL-TV does: *Toast of the Town*, *Arthur Godfrey and His Friends*, *Strike it Rich*, and *Blue Ribbon Fights*. WTPA, an NBC affiliate, does not carry such top programs as *Colgate Comedy Hour*, *Robert Montgomery Presents*, *Kraft Theater*, *Fireside Theater*, and *Judge for Yourself*, although these programs are carried by

WGAL-TV. If the grant of the proposed change in transmitter location and the increase in height and power is permitted to stand, its control over network shows will be increased, and indeed, will threaten the continued ability of several of its UHF competitors to carry network programs at all.

By the same token, the concentration of WGAL-TV on network programs causes a program imbalance, which, among many evils, most severely affects adversely the local programming to the community of Lancaster. Monitoring of the station during the week of February 14, 1954, indicated that, during the period 6 to 11 p. m., the prime listening time, WGAL-TV operated commercially approximately 97 percent of the time and that network programs were carried almost 75 percent of the time. The total sustaining time during these hours (35 in all) amounted to less than 1 hour. There were a total of 3 sustaining programs during the week between the hours of 6 and 11 p. m. These programs were (1) a 15-minute program concerning a Lancaster hospital; (2) a 5-minute weather program; and (3) a 30-minute church program. During this same period, except for news and sports, there was apparently a total of one live commercial program. Considering the entire broadcast week, according to type of program, there appears to have been but one discussion program, or less than one-half of 1 percent of the total broadcast time. As to agricultural programs, there appears to have been approximately 1¼ hours devoted to this type of programming, or approximately 1 percent of the total broadcast time. These figures clearly show a tendency to overcommercialize and overemphasize network programs, to the disadvantage of local public service programming. Indeed, it would seem this result is inevitable where a dominant VHF station carries all four networks.

The proposed operation of WGAL-TV will not only place UHF stations in York and Harrisburg at a severe if not insuperable competitive disadvantage; it will also constitute an abuse of the Commission's television allocation policies. Section 3,606 of the Commission's rules and regulations assigns channel 8 to Lancaster. It is basic, therefore, that WGAL-TV must serve the residents of Lancaster and immediate vicinity, the principal community to be served. Service under the Communications Act of 1934, as amended, particularly section 307 (b), means the presence not only of reception but also of transmission facilities. Lancaster is entitled to look to its local television station to provide not only a signal of sufficient intensity, but also an outlet for local expression. In its Sixth Report and Order the Commission discussed section 307 (b) of the act and made clear that its allocation plan was intended to provide to as many communities as possible the transmission element as well as the reception element of service.

As has been shown above, the proposed operation of WGAL-TV will not only fail to provide a satisfactory local television outlet for Lancaster, it also threatens to destroy any local television service whatever in York and Harrisburg. It is not our position that arbitrary limits should be placed upon the maximum permissible antenna heights and powers of VHF stations. This could well result in an inefficient use of the VHF band. We believe, however, that increased heights and powers, and particularly remote antenna sites, should not be permitted where their principal effect is to prevent the VHF station from performing its proper function under the Commission's allocation plan and to destroy the possibility of local television service in other communities.

STATEMENT OF DR. ALLEN B. DU MONT, PRESIDENT, ALLEN B. DU MONT LABORATORIES, INC., CLIFTON, N. J.

Members of the United States Senate Subcommittee on Communications, my name is Allen B. Du Mont. I am president of Allen B. Du Mont Laboratories, Inc. On May 20 I appeared before your committee along with Dr. T. T. Goldsmith, Jr. vice president, research, and Mr. Ted Bergmann, director of broadcasting. Our testimony disclosed that our company is in all phases of television and exclusively in television. We endeavored to present to you comprehensive, historical, and current facts and draw therefrom certain obvious conclusions,

Others whose testimony followed ours, for the most part, reiterated the facts as we had stated them and drew substantially the same conclusions.

By the end of the first 3 days of hearings, there had been written into your record sufficient facts to warrant the conclusion by any objective and reasonable person that some action is required to bring about equality and opportunity for UHF broadcasters to compete, to the end that this country shall not be deprived of a fully competitive nationwide television service.

It was not until hearings were resumed last week and in subsequent sessions that there was testimony presented which took the form of self-serving statements with conclusions and recommendations unsupported by facts, and even at times relying upon half truths and distortions of facts.

It is because of that situation that I feel it is necessary to present this further statement as a means of supplying information necessary to the whole picture and to point out that when the whole picture is presented, the conclusions which the proponents of the philosophy of "let nature take its course—the free enterprise system will take care of everything" will be exposed as fallacious reasoning.

There have been attempts to lead you to believe that the successful VHF operators and the two dominating networks have reached the positions they now occupy because of superior skill, business acumen, and greater courage in the risk of money. As a matter of fact, Dr. Frank Stanton, president of the Columbia Broadcasting System, was so bold as to make the statement that "we all started from scratch." From that point he develops the fantastic idea that the reason CBS achieved its dominant position was through "the hardest kind of work, the most courageous kind of investment in plant, facilities, talent and creative programing," whereas Du Mont did not achieve an equal position because it chose "not to take its profits from television manufacturing and invest them in network broadcasting." It is not particularly relevant, but before I present the facts which will disclose the reasons for the dominant position of the two large networks, I would like for you to know that our company has invested an amount in television broadcasting which is greater than all of the earnings of its manufacturing operations since the company went into business. This has been done because we had the courage of which Dr. Stanton is so proud and because we also had faith in our Government's integrity and policy which would manifest itself, in time, by giving us an equal opportunity to compete with other networks and broadcasters.

The reasons why NBC and CBS have been able to achieve their dominant positions were written into economic history several years before television networking became a reality. They were written in a field of business endeavor in which Du Mont has never engaged, by a field which has played a vital part in determining the course of television broadcasting. I refer, of course, to radio.

By the time television networking began in 1948, both NBC and CBS had established positions of prominence as radio networks. In that first year of television networking CBS had more than 175 radio affiliates. CBS sales for that year were just short of \$100 million (a higher annual volume than Du Mont with all of its manufacturing and broadcasting activities has ever achieved). CBS's net profits after taxes that year amounted to more than \$5 million. The facts with respect to NBC follow the same general pattern. Before television networking as such had been underway a year, before the end of 1948, the Federal Communications Commission applied the notorious freeze.

When the freeze went into effect, there had been 108 construction permits issued. The 108 stations which were on the air or which went on the air shortly after the freeze were situated in 63 markets—40 of those 63 markets had only 1 station; 11 of those 40 markets had only 2 stations; 8 markets had only 3 stations, and 4 markets had 4 or more stations. Of the 40 stations in the single-station markets, 37 were owned by interests having radio stations. An overwhelming majority of them were affiliated with NBC and CBS radio networks, and those affiliations were carried over into affiliations with those two television networks. Of the 22 stations in the 2-station markets, 21 were owned by radio interests with an overwhelming majority of those 21 stations having affiliations with NBC and CBS radio networks.

These are important facts which you members of the subcommittee should keep in mind as you weigh the testimony of those who would have you believe that it was their great wisdom and foresight which made them dominant in television broadcasting. And here is why it is important: This situation meant that the freeze reserved to 2 networks the almost exclusive right to broadcast in all but 12 of the 63 markets which had television service. It meant that the two other networks did not have and have not had since the fall of 1948 more than the ghost of an opportunity to get its programs into the markets so necessary if high-quality programs are to be produced, and attract advertisers from whom revenue and profits must come.

I would not say anything to detract from the fine ability of those responsible for the management of either NBC or CBS, nor would I say any words of condemnation for the exercise of their ability to take advantage of the situation which presented itself to them in 1948. However, if I were to take Dr. Stanton's

words in his testimony at their face value when he spoke so glowingly of the desire of CBS for competition, I might raise an eyebrow as I think of the steps which were taken to induce the Federal Communications Commission to drop consideration of allocation plans and proposals for lifting the freeze, and to chase a myth in the guise of mechanical color television.

When I think about the long months which dragged by as the FCC put the progress of television on the shelf thereby permitting NBC and CBS to strengthen its hold on television broadcasting and build their dominance at the expense of two other networks who were fighting to stay alive until the doors to opportunities should be opened again, I am impelled to wonder if the injection of color at that stage was more than a coincidence. And when the FCC finally made its ill-advised decision against the judgment of most of the industry's top engineers, I wondered why mechanical color was not allowed to go to its pre-ordained doom with the greatest possible haste, until I thought about how the court action which followed and which was instituted by those charged with the management of NBC, served to prolong the freeze, which in turn gave greater opportunity to NBC and CBS to achieve their stranglehold.

A pertinent fact in connection with this aspect of the problem is that the FCC made it clear in the early days of the freeze that it intended to open up the ultra-high frequency portion of the spectrum and add new channels. At that time there were fewer than 800,000 receivers in the hands of the public. There would have been no very great problem of conversion, and, consequently, no very great problem of getting UHF started and on the road to successful operation, if prompt action had been taken to establish a new allocation table and lift the freeze. There would not have been the suppression of the "courage and daring" of the two smaller networks had the FCC acted promptly.

It is somewhat significant, therefore, that it was the managements of the two dominant radio networks at that time, and now the two dominant television networks, that induced the FCC to devote its time to other matters, and for such a long time that the number of VHF-only equipped receivers in the hands of the public increased from fewer than 800,000 to more than 17 million.

I would like to point out that since Dr. Stanton likes to refer to annual reports that within the years included in the freeze period CBS reported total profits after taxes of more than \$25 million which is a sum greater than the profits reported by Du Mont since it has been a company. These figures have a bearing on the contention that CBS backed its "courage" with great investments in programming while at the same time disparaging Du Mont's efforts or "lack of efforts" in that field.

I would be the last to do other than commend CBS for its fine programs and the progress which they have made in program development. Nevertheless, there is more to that problem than Dr. Stanton would have you consider. He did not mention, for instance, in his efforts to educate you in networking, that the amount of money which can be expended in the development and production of a program is and must be determined in a large measure by the opportunities for exposing that program in a large number of markets.

It is much more simple to justify the expenditure of \$50,000 in the production of a program which the network knows it can get into stations in a majority of the top markets of the country than it is to justify the expenditure of \$10,000 in a program that can reach only a handful of markets. Hence, it is understandable that CBS can spend these vast sums in the development of programs because it knows before the expenditure is made that the program, when developed, can be broadcast in most of the major markets of the country. Du Mont has never enjoyed the opportunity to justify the expenditure of a large sum in the development of a program with the knowledge that it could get a program into anything like a majority of the markets of the country on a live basis.

I have taken great pains to point these things out to you because I think it is important that the whole picture be in front of you when you make your important decisions, and because it is so easy to recognize that Dr. Stanton and the other proponents of the "let nature take its course" philosophy have neglected to fill in the loopholes which allowed their fallacious conclusions to seep out.

There is one other facet to this problem which also was ignored. That is the program advantages which accrued to the two top television networks from their radio relationships. The television part of the operations fell heir to such programs and talent as Arthur Godfrey, for years the largest single moneymaker in the broadcasting medium, Jack Benny, Amos and Andy, Our Miss Brooks, and others. In addition to the prime situation enjoyed during the freeze, it is interesting to note that 34 of the CBS radio affiliates in the top 100 markets now own television stations, and are affiliated likewise with the CBS television net-

work. There also were values which accrued to NBC and CBS television, and which were not mentioned in testimony, which have to do with the relationships with advertisers and advertising agencies which have been built up over the years and which, by virtue of the 2 strong networks' monopolistic position, have given them a hold which 2 weak networks cannot break.

Dr. Stanton endeavors to brush off the charges of monopoly by quoting a tailor-made definition of monopoly. I believe that it has been established that where one or a group of companies have such a dominance in a field that the opportunity of others to compete with them is killed, a monopoly exists. I submit that the door of opportunity to two networks to compete on an equal footing with NBC and CBS was closed by the FCC in 1948, and that it has not been opened by the FCC or anybody else since. I also submit that if Dr. Stanton is sincere and earnest in his claim of desire for competition, then he should join with us and the many others who have recommended that action be taken to equalize competitive opportunities in the television broadcasting field. In making that suggestion I would like to make it clear that contrary to Dr. Stanton's contention that it is our desire to bring "the other networks down to its level," we seek the opportunity to raise the level of all broadcasters to the point where the maximum in service and the highest quality of programing can bring to the American public a full and free choice of the very best programs and services.

There is just one other allusion made by the CBS testimony which my pride compels me to mention. We have been very proud of our Pittsburgh station, the station which had a monopoly in its market. We have been very proud of our accumulated files which are filled with letters and expressions of commendation from virtually every civic source in that part of Pennsylvania. Those letters of commendation have come unsolicited from charities and welfare organizations, churches, civic and educational institutions, business and industrial groups, and individuals. They express their appreciation for the many hours, on a regular and continuing basis, which we have devoted to their services and their interests. They give recognition to the fact that we gave up many dollars in revenue, because in Pittsburgh every minute of the broadcasting day was in demand by commercial interests. With the record of local service which has been written, it is surprising to learn that Dr. Stanton would stray so far from the facts as to imply that we did not render local program service from the start, and that we did not have a live program in operation in Pittsburgh until late 1951.

The facts are that we rushed an installation in Pittsburgh to be on the air early in January of 1949. While we were not able to acquire studios for live programing at that start, we had at work from the beginning a crew of motion-picture cameramen, putting on film each day, current local affairs of interest to Pittsburgh. Live programing went into effect at the earliest possible moment that we could acquire space for a studio and get equipment installed. In fact, our live studio operation went into effect 15 months earlier than Dr. Stanton said it did.

Turning now to some of the technical phases of the problem, there were references and exhibits by CBS, an engineer and others, designed apparently to lead you to believe that the coverage of UHF, and the quality of UHF pictures are insufficient to supply the television needs of the people. In fact, some of the testimony presented to you amounted to a complete disavowal of the usefulness of UHF as a broadcasting medium. Such testimony and the conclusions which have been drawn from it are completely in error. It just isn't so. UHF is a satisfactory medium now under most circumstances, and on these points there is substantial agreement among most engineers of the industry.

During the course of the hearing, it has been repeatedly emphasized that the UHF problem is primarily an economic rather than a technical one.

Television broadcasting is, however, a highly technical matter and any solution to the economic problem which fails to take cognizance of the technical factors cannot be successful.

This fact has been recognized by others and a small amount of technical testimony has been included in the record.

In particular, 2 companies have described their recent improvements in the UHF art, and 1 witness has discussed the differences in UHF and VHF coverage.

It is our conviction that the optimistic side of the UHF picture has not been properly presented from an engineering point of view. In the interest of assuring a complete record, I want to present this side.

A transmission system consists essentially of three parts:

- (1) The transmitting equipment.
- (2) The propagation medium.

(3) The receiving equipment.

Let us examine these three components individually, both as to current and anticipated limitations.

The transmitting equipment consists of signal generating equipment (cameras, motion-picture machines, slide scanners, etc.), a television transmitter and a transmitting antenna. The signal-generating equipment is the same regardless of the transmitting frequency. The transmitter generates the radio frequency waves, and the big problem is the development of high power with a band width appropriate to television.

During the approximately 9 years of commercial television in this country, available VHF transmitter power has increased from a fraction of a kilowatt in 1938 to 50 kilowatts in 1954. Using an appropriate antenna, this represents the maximum power permissible under the FCC rules. During 2 years of commercial UHF television, the available transmitter power has increased from 1 kilowatt to 12 kilowatts. Again using the appropriate antenna, an e. r. p. of approximately 250 kilowatts can be realized. This is only one-fourth of that permitted in the FCC rules. There can be no doubt, however, that, given the proper incentive, manufacturers will shortly achieve the maximum power permitted under the rules. As an example, one of the parties to the hearing testified that a new high-gain antenna would shortly be available which would permit 400 to 600 kilowatts e. r. p., thus doubling the power currently available.

The fundamental limitation of a receiver to produce clear, snow-free pictures is the "noise figure" obtainable. The noise figure is a measure of the amount of noise (snow) introduced into the signal by the receiver. Obviously the smaller the noise figure, the better the receiver. Early VHF receivers had noise figures of the order of 20 decibels and as late as 3 years ago, the industry average was approximately 14 decibels. 1954 receivers range between 5 and 10 decibels. Last year the industry average of UHF noise figures was 20 to 24 decibels. This year it ranges from 14 to 18 decibels. Another party to the hearing has testified that he has constructed a UHF receiver with a noise figure less than 7.5 decibels throughout the UHF band, but that this receiver would cost \$175 to \$200 more than presently available sets. Given the proper incentive, there can be no doubt that UHF noise figures will follow the VHF pattern. Mass production invariably leads to smaller costs and a lower price for the finished product.

A second factor at the receiving end is the receiving antenna. Let us compare the conditions at channel 4 (approximately 70 megacycles) and channel 52 (approximately 700 megacycles). If simple receiving dipoles are used in equal strength fields from the two stations, the UHF antenna will pick up only one one-hundredth the power that the VHF antenna will pick up. However, the UHF antenna will be only one-tenth as long as the VHF antenna. Because of this small size of the UHF antenna, it is a relatively simple matter to increase the capture ability of the antenna. For example, a commercially available UHF antenna, the double di-fan with reflectors, has a power gain greater than 10. Using this antenna, in equal fields, the UHF antenna will receive one-tenth the power of the VHF antenna. The Commission has recognized this differential and has compensated for it by permitting 10 times the power on channel 52 as is permitted on channel 4. It is, of course, possible to use higher-gain antennas at VHF and this is frequently done. However, such antennas are bulky and there is no reason to believe that still higher-gain UHF antennas will not be manufactured. Thus the wavelength factor is essentially canceled out by the higher gain UHF antenna and the greater power permitted on UHF transmissions.

The remaining factor in the transmission system is the propagation path. The effect of this factor on the signal is extremely complex and its solution has been called one of the most difficult problems facing the engineer. Between the transmitting and receiving antennas, the signal may be refracted in the earth's atmosphere and ionosphere, it may be reflected from natural and manmade irregularities in the terrain, and it may be diffracted or bent over and around obstacles on the earth's surface. Furthermore, the signal at the receiving antenna is, in general a resultant of many signals which have arrived over many different paths.

Because of the complexity of the problem, it has been necessary to obtain most of our information on VHF and UHF propagation by experiment. According to diffraction theory, it was predicted that as the frequency is increased the tendency for waves to bend over and around obstacles is decreased. Measurements proved this to be so. Accordingly UHF coverage in rough terrain is somewhat more spotty than is VHF coverage. It is not true however, that the VHF signals fill in the valleys and the UHF signals do not. Both signals are

attenuated when they are required to bend over hills and the difference in the amount of bending has frequently been exaggerated.

According to theory, the UHF signal should suffer less from manmade interference than the VHF signal. This also has been proven in practice. Commutator interference from rotating machinery, diathermy, electric razors, and so forth, all cause considerable interference on low band VHF and virtually none on UHF.

Possibly the most significant difference between UHF and VHF reception is the absence of multipath effects at UHF. This was not predicted by theory and came as a considerable surprise to several of the early investigators. Multipath (the arrival at the receiver of several signals which have traveled over different propagation paths) manifests itself in several ways. When only two or three clearly defined paths exist, the effect is the familiar "ghost" or displaced image. When a large number of paths of approximately the same length exist, the result is usually a smeared picture. Although the United States television standards provide for a picture having 375 line resolution, this smearing effect of multipath results in only a very small percentage of the viewing audience realizing this quality picture. Almost without exception, engineers and the public alike express amazement at the clarity and sharpness of UHF pictures.

On monochrome transmissions, multipath effects are observed as smearing and ghosts. On color transmissions, color contamination is added to these effects. During the recent work of NTSC, Du Mont transmitted color over its experimental UHF station in New York City on a regular schedule for many months. Experimental color transmissions have also been made using channel 5 in New York City. It has been our experience that the UHF color transmissions have been greatly superior to the VHF color transmissions. An example of this was given at the NTSC color demonstration for the FCC during the week of October 11, 1953. While lauding the color transmissions generally, TV Digest singled out the Du Mont UHF transmissions as "exceptionally fine."

A careful analysis of the foregoing leads to the following conclusions:

1. Given the proper incentive, manufacturers of UHF equipment will shortly produce transmitters capable of delivering maximum power under the FCC rules and receivers having noise figures comparable, if not equal to, VHF receivers.

2. Under these conditions, the service areas given in the FCC sixth report and order will be essentially realized; i. e., the UHF grade A service area will be approximately 140 percent of the VHF grade A service area and the UHF grade B service area will be approximately 70 percent of the VHF grade B service area.

3. In a great many locations, the UHF picture will be appreciably sharper and clearer than the VHF picture both in monochrome and color transmissions.

In conclusion, I want to express my appreciation to each member of this subcommittee for the courteous, attentive, and fair hearing which you have given to us. I am aware of the involvements of the problem, and I know your task is not an easy one. I am also aware of the fact that there are many and powerful pressures being applied to prevent a determination that action to correct the situation shall be taken—pressures which have both economic and political significance. My faith and confidence in our capitalistic system, which is made operative by our most fortunate political system, leads me to a further expression of confidence that our present political regime will not do anything as disastrous as doing nothing.

Senator POTTER. I would like also to submit for the record, letters and telegrams from the following: H. C. Milholland, New York City; William M. Kiblenzer, Glenwood Landing, N. Y.; R. I. Brown, Cresskill, N. J.; John J. Bachem, Port Washington, N. Y.; H. Malcolm Stuart, New Rochelle, N. Y.; Mrs. Charles Christenson, Montclair, N. J.; Mrs. Robert Gould, Brooklyn, N. Y.; Norman Knight, Weston, Conn.; Mr. Kenyon Brown, President, KWFT, Wichita Falls, Tex.; Mr. Milton S. Trost, First Vice President, Mid-American Broadcasting Co., of Louisville, Ky.; Mr. Paul F. Thielen, director of public relations, the American Legion, 812 East State Street, Milwaukee, Wis.; Howard S. Kaser, New Rochelle, N. Y.; and Arthur W. Deneke, Glenn Rock, N. J.

(The communications referred to are as follows:)

NEW ROCHELLE, N. Y., June 21, 1954.

Senator CHARLES POTTER,
Chairman, Subcommittee on Communications,
Washington, D. C.:

Two television networks, National and Columbia, have a virtual monopoly stranglehold on the industry. Our economy can and should support a minimum of four major networks in the best interests of all the people. To accomplish this, help from the Communications Subcommittee must be given to ultra-high-frequency stations by some plan that will not allow all the programing cream to gravitate to the very-high-frequency stations.

HOWARD S. KASER.

NEW YORK, N. Y., June 21, 1954.

Senator CHARLES E. POTTER,
Subcommittee on Communications,
Washington, D. C.:

I respectfully request and plead for your cooperation to prevent the monopoly which will continue to exist unless the Senate UHF Investigating Committee makes strong programing available to the UHF broadcasters through four truly competitive networks.

ARTHUR W. DENEKE.

NEW YORK, N. Y., June 21, 1954.

Senator CHARLES E. POTTER,
Chairman, Subcommittee on Communications,
Washington, D. C.:

It is important that UHF television stations receive aid from your Subcommittee on Communications to prevent a monopoly by NBC and CBS in both local and network telecasting. A monopoly of this kind is dangerous to both the public interest and the economic welfare of the country.

H. C. MILHOLLAND.

NEW YORK, N. Y., June 17, 1954.

Senator C. E. POTTER,
Senate Office Building, Washington, D. C.:

Strongly urge adoption and recommendation by your committee of whichever proposal before you seems best able to bring about equality of opportunity for four national TV networks so vital to our economy.

JOHN H. BACHEM.

NEW YORK, N. Y., June 17, 1954.

CHARLES E. POTTER,
Senate Building, Washington, D. C.:

The existing FCC order stifles network television competition. As now written it creates a monopoly and denies the benefits of broader programing which now rests in the hands of only two networks. New strong and financially sound networks are essential to provide necessary educational and public service television for the American public. The national economy not only can support but will support 4 networks and minimum of 4 TV outlets in all major markets of the country are essential to substitute competition for monopoly. I strongly urge you amend the existing order which is dangerous to the public interest and economic welfare of the country.

H. MALCOLM STUART.

NEW YORK, N. Y., June 17, 1954.

Senator CHARLES E. POTTER,
Washington, D. C.:

Afford equal opportunity to all four networks in order that they may survive to give the American public free choice in TV viewing. Unless UHF stations receive aid from this committee this is an impossibility.

MRS. CHARLES CHRISTENSON.

1024 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

NEW YORK, N. Y., June 17, 1954.

Senator CHARLES POTTER,
Washington, D. C.:

Equal sharing of time on all channels both VHF and UHF, plus minimum of 4 channels per major market will abolish monopoly and bring viewers in such areas full choice of living-room entertainment.

Mrs. ROBERT GOULD.

NEW YORK, N. Y., June 8, 1954.

Senator PURTELL of Connecticut,
Senate Office Building, Washington, D. C.:

Free enterprise can be well served by four competitive television networks. The United States economy can support 4 networks and a minimum of 4 TV outlets in all major markets. The key to the situation is strong programming now resting in the hands of NBC and CBS. Unless the UHF stations receive aid stations will die. It is essential that the Senate act to insure a fair opportunity for UHF stations. Please give this matter your earnest consideration. Thanks

NORMAN KNIGHT.

NEW YORK, N. Y., June 21, 1954.

Senator CHARLES E. POTTER,
United States Subcommittee on Communications:

In order to continue in public service such as recent congressional hearings and to present suitable program schedules to satisfy all groups and personal interest this country needs minimum of four television networks. Sixth order and report makes the success of four television networks doubtful because of the station allocation restrictions. I respectfully request your aid in correcting this condition through your committee.

R. I. BROWN.

GLEN COVE, N. Y., June 20, 1954.

Senator CHARLES E. POTTER,
Chairman, United States Subcommittee on Communications:

Unless UHF stations receive aid from your committee, network and local telecasting will be a permanent monopoly. This pattern is already established between NBC and CBS. It is necessary to the public interest and national economy that four networks should operate freely.

WILLIAM M. KIBLENZER.

HENRY CLAY HOTEL.

Louisville 2, Ky., June 15, 1954.

Hon. CHARLES E. POTTER,
*Chairman, Communications Subcommittee,
Washington, D. C.*

DEAR SENATOR: Herewith enclosed is a copy of letter, dated June 15, 1954, from the Mid-America Broadcasting Corp., to Mr. Rosel Hyde, Chairman of the Federal Communications Commission. This letter sets out the exact status of the UHF situation in Louisville, Ky. We sincerely believe that this situation warrants careful scrutiny by your committee.

If we can be of any service to your committee in working out a solution of the UHF problem, please call on us.

Very truly yours,

MID-AMERICA BROADCASTING CO.,
MILTON S. TROST,
First Vice President.

JUNE 15, 1954.

Mr. ROSEL HYDE,
*Chairman, Federal Communications Commission,
Washington, D. C.*

DEAR Mr. HYDE: Mid-America Broadcasting Corp. had a construction permit for a radio station in 1941, but due to the wartime freeze and the fact that we turned over to the Armed Forces at their request certain equipment necessary to the installation of a radio station, construction was delayed until 1948. Before we were on the air with WKLO-AM, we filed an application for a TV station

on channel 13. Before this was granted the now famous freeze was put into effect. When the freeze was lifted in 1952, we were disappointed to learn that no VHF channels were allocated to Louisville other than to the two existing stations. Believing that the people in the area were entitled to more than two choices of programs, we applied for and received a grant for UHF channel 21. We immediately began construction and went on the air with test pattern in September 1953, with the full authorized power of 251,000 watts.

With this power of 251,000 watts and an almost ideal transmitter location, the coverage from a technical standpoint was about what was predicted.

Being a radio affiliate of the American Broadcasting Co. we were led to believe that we would become a basic television affiliate. However, just prior to our going on the air with television we learned from ABC that we would not be a basic affiliate, but a competing television station in Louisville would be given first choice on all commercial programs. Naturally the VHF station chose to skim the cream. We proceeded to program to the best of our ability and promote the purchase by the public of sets capable of receiving our UHF station, as well as the conversion of existing sets.

We began programing with full authorized power in October 1953, and we were compelled by economic necessity to request a temporary suspension of television broadcasting in April 1954. During that period we lost on the operation of the television station alone \$196,732. This loss was in spite of the fact that we did what was considered an outstanding job in obtaining UHF conversions. This operating loss of \$196,000 was in addition to capital expenditures of more than \$300,000. When we suspended operations there were in this territory approximately 80,000 sets capable of receiving UHF television. In this market, with 2 established VHF's, 1 claiming more than 20,000 receivers, and one claiming 369,634 receivers, we were unable to persuade advertisers to use our station, even though the rates were well in line, per thousand of receivers, with the other stations. On occasions the reports came to us that certain national advertisers and agencies refused to use any UHF stations. Some network advertisers refused to use our facilities even when there was no charge for same.

Our experience seems to indicate that it is not economically practical to operate a UHF station in this city in competition with 2 established VHF stations, which, between them, have the first call on all 4 of the networks. We think that the only practical solution for the Louisville situation is to eliminate the mixture of UHF and VHF television. Assuming that the two existing stations will remain VHF and in view of our years of operation in radio and of our efforts to make UHF television work in this market, we feel that we are entitled to consideration for a VHF station. This may be accomplished in one of the following ways:

1. Grant WKLO-TV the right to operate with a directional antenna on channel 6. It is true that some slight interference would be caused to a station in Indianapolis operating with full power and full antenna height, but this interference would be considerably less than the interference already existing between WAVE-TV, Louisville, on channel 3, and WTTV, Bloomington, on channel 4. Evidently, since neither WAVE-TV nor WTTV recognizes this interference in their set counts or coverage maps, the standards set up by the Commission are too conservative. General Electric Co. says they can design and construct an antenna to radiate less than one one-hundredth power in the protected direction with no undesirable reflections.

UHF television stations seem to cover the amount of territory predicted under the FCC standards, but VHF seems to cover vastly more territory than provided for under the FCC rules. As an example; in the latest issue of Broadcasting Magazine, WAVE-TV claims to furnish service to 369,634 television homes. Taking the class B coverage of WAVE-TV and using the county-by-county census of 1950, there are 316,424 homes in WAVE's class B contour. Using the CBS-American Research Bureau county-by-county television set penetration figures, the number of television homes inside this service contour is 191,792. From this we believe it is fair to assume that the Commission was too conservative in the case of VHF coverage. Evidently WAVE has 177,912 (almost 100 percent) television homes outside the area set up by the Commission for their coverage.

2. Grant channel 6 or some other channel to WKLO-TV with reduced power and also reduce the power of the cochannel station in another city. This reduction of power can be made without cost to the other cochannel station.

3. A reallocation of some of the VHF channels to accommodate another channel in Louisville.

4. A combination of one or more of the above methods or some other method, such as the addition of channel 4½, or space in the spectrum between 6 and 7 and adjacent to channel 6 or 7.

A community of the size of Louisville is entitled to full television service and under the present allocation arrangement is not receiving it, and we doubt that more than a choice of two programs ever will be available to the people of this area.

We respectfully petition your favorable action in this matter.

Very truly yours,

MID-AMERICA BROADCASTING CORP.,
MILTON S. TROST, *First Vice President.*

WICHITA FALLS, TEX., June 14, 1954.

HON. CHARLES E. POTTER,
United States Senate,
Washington, D. C.

DEAR SENATOR POTTER: Your letter of April 6, 1954, directed to Little Rock Telecasters, Inc., Little Rock, Ark., has finally reached my desk. This letter was sent to me since I was president of Little Rock Telecasters, Inc., during the operation of UHF Station KRTV, which left the air March 31, 1954.

In answer to your question as to why we decided to return our construction permit, I think I can tell you that the principal reason was that we reached the conclusion that we could not operate successfully with three VHF stations in the market. Had we been operating a VHF station, we may have reached the same conclusion as it was our opinion that four television stations in the Little Rock area are too many.

Additional problems confronted us with a UHF operation, in competition with high-power VHF operations. The principal problem was the lack of high-power transmitting equipment which would deliver a signal competitive with VHF. Another reason was inferior receiving equipment available which would receive UHF signals. Probably one of the most important considerations was the lack of acceptance on the part of national advertisers in New York of UHF. It became rather apparent to us that they were content to use a UHF station in a market only so long as a VHF station was not available.

When we applied for and constructed the UHF station in Little Rock, we anticipated much better progress in the development of higher power UHF equipment. We also depended on the greater improvement in the UHF receiving equipment. It seems to me that very little progress has been made in this regard even to date.

I sincerely hope this is the information that you desire.

Kindest regards.

Sincerely,

KENYON BROWN, *President.*

THE AMERICAN LEGION,
DEPARTMENT OF WISCONSIN,
Milwaukee 2, Wis., June 14, 1954.

Senator CHARLES E. POTTER,
Chairman, Senate Communications Subcommittee,
Senate Office Building, Washington, D. C.

DEAR SENATOR POTTER: I am writing this letter in an effort to add my sentiments to others you must have heard relative to the necessity of granting a license for VHF television channel 6 to the city of Milwaukee.

I am sure that despite whatever organized opposition you may have heard from sources whose motives are purely selfish, you must see that to permit only one VHF station in a city the size of Milwaukee is almost ludicrous. You are aware, of course, of various cities much smaller than Milwaukee with two or more VHF television stations.

People in the fringe area of Milwaukee County and in adjoining counties have great difficulty in receiving UHF stations and many of them are thereby compelled to see a single station. While this is no criticism of the excellence of the programing and facilities of that station, the situation is far from ideal.

This letter is not to be construed as representing an official position of the Wisconsin Department of the American Legion, although thousands of Legionnaires in this area, I am sure, join in this personal view.

Thanking you for any consideration you might give this letter, I remain
Sincerely yours,

PAUL F. THIELEN,
Director of Public Relations.

Senator POTTER. I would like to make this announcement: I have a wire from Frank Stanton, of CBS, and I wish to read the wire to those present.

In reviewing my testimony before your subcommittee on Friday, June 18, I note an error at page 51 of my statement in that I testified that "It was not until November of 1951, when there were about 350,000 receivers in the market, that Du Mont Pittsburg station even got around to acquiring a single live studio camera." The date and hence the number of receivers are incorrect. The statement should read: "It was not until November of 1950, when there were about 140,000 receivers in the market, that Du Mont Pittsburg station even got around to acquiring a single live studio camera."

I regret the error and would in fairness to the Allen Du Mont Laboratories appreciate it if the record could be corrected promptly.

That correction will be made in the record.

I sincerely hope that this will be the last afternoon of the public hearings and after the conclusion of Mr. Heffernan's statement, I am going to insist that the persons making the rebuttal remarks limit themselves to 30 minutes. I am a heavy man with the gavel, if I have to be, and I am going to pound you down at the end of 30 minutes. So, I am forewarning you now.

Mr. Heffernan, it is a pleasure to have you here and we will be looking forward to your statement with a great deal of interest.

**STATEMENT OF JOSEPH V. HEFFERNAN, VICE PRESIDENT,
NATIONAL BROADCASTING CO., INC.**

Mr. HEFFERNAN. Thank you, Mr. Chairman.

Mr. Chairman, my name is Joseph V. Heffernan. I am a vice president of the National Broadcasting Co., Inc. It happens that in this proceeding I am the last witness. There have been many differences of opinion expressed in this record, but I am sure I speak for all who have appeared here when I say how deeply we feel the loss of Senator Hunt. He was a fine public servant, of rich experience, and he will be missed by all who knew him.

I am appearing at the invitation of the subcommittee to discuss some of the aspects of television which you are considering.

I want to say at the outset that we at NBC appreciate the opportunity to come here and tell our story. We think this hearing can serve a very constructive purpose in providing a forum to develop the facts.

I would like, first of all, to tell you briefly about NBC and its activities.

Broadcasting is our business. We have been in it for over 27 years, both as a network and as the operator of stations. As a network we compete with other advertising media, such as magazines and news-

papers, for the dollar spent by national advertisers. In this competition we offer for sale advertising announcements in programs on our own and on independently owned stations affiliated with us and located throughout the country.

In supplying these programs on a national basis we offer the advertiser national distribution of his advertising message. Just like newspapers and magazines, we sell circulation. If the advertiser feels that one of our programs best meets his requirements, he may buy it; but if he feels that newspapers or magazines or direct mail or billboards will serve his particular needs better, he can and does buy them.

I might say, Mr. Chairman, I have attempted only to indicate some of the competitive media to network broadcasting. I have not attempted to list them all. There are, of course, other networks which directly compete with us, and there are, in addition, the national spot operations, which is an interesting operation because if an advertiser wants to conduct a national advertising campaign on television, he doesn't have to buy even any network. He can go to the national spot organizations, and the reason they are called spots—is that an advertiser, through their services, can spot his advertising in any number of cities he desires throughout the country he wants.

Senator POTTER. And he doesn't have to go through the network?

Mr. HEFFERNAN. He doesn't go through the networks at all. National spot is directly competitive with the networks, and thereby the advertiser can advertise nationally via television without using networks.

Senator POTTER. Are most of your spots sold that way?

Mr. HEFFERNAN. National spot business is a very extensive and substantial advertising business. Their revenues run into many, many millions, and they are directly competitive with network television and have, in fact, cost advantages in the sense that they do not, as we do, attempt to provide public service programs. They are straight commercial. They do not, for example, clear for the President, because they don't have interconnected lines via the telephone company, but they are directly competitive to us and our costs must be competitive to theirs; otherwise, the advertiser, in choosing his advertising media, can buy them instead of us.

Senator POTTER. And they sell directly to the stations?

Mr. HEFFERNAN. They sell directly to the stations, and they ship their product by the mails, whereas we distribute ours via the American Telephone & Telegraph Co.'s cables or relays, which the networks lease, on a contract basis at a cost, in the case of NBC alone, of more than \$10 million a year.

Only as we succeed in selling against this competition do we get revenue to meet our costs. And these are by no means limited to the selling and administrative costs which go with any business. They include such major items as the cost of cable and relay facilities we lease from A. T. & T. in order to distribute our programs throughout the country, the amounts paid our affiliated stations as their share of the advertising revenue, the cost of the programs themselves, and the cost of the plant and electronic equipment required for the production of programs.

NBC presently owns five VHF television stations. It does not own any UHF television stations. That, however, is not because of any lack of interest in UHF on our part. At the time we were granted

authority to operate stations only VHF authorizations were being issued. The five grants we received constitute the limit permitted to one person under the present rule of the FCC.

NBC has been able to contribute to the development of UHF through its network operations. We believe NBC has done more for UHF than any other network. The first commercial UHF station to begin regular program service, KPTV, Portland, Oreg., has been an ABC affiliate since it went on the air in September 1952. It has continued to be an NBC affiliate since that time.

As of June 1, 1954, the NBC television network had 46 UHF affiliates. This represents more than one-third of all the UHF stations on the air.

There are 122 on the air. We are glad to be able to report that, in taking on these UHF affiliates, we have on the average succeeded in selling them to advertisers substantially to the same extent as our VHF affiliates in comparable markets.

You might be interested, Mr. Chairman, in the figures on that.

We ran a sample in the week of May 20, and we found that in a group of UHF affiliates, 40 in the sample, they averaged for that week 10.6 hours a week, whereas the comparable VHF stations averaged 11 hours, just 0.4 of an hour more.

Now, the inference I draw from that is that, for the most part, advertisers are interested in buying markets.

Senator POTTER. If it has the circulation, you can get the advertising?

Mr. HEFFERNAN. Yes. Understand, of course, price normally varies with circulation—now, not a hundred percent, as Dr. Stanton pointed out the other day.

Senator POTTER. Do you find a reluctance on the part of the advertisers to advertise in the UHF market, even though it has the circulation, or is that good salesmanship on the part of NBC?

Mr. HEFFERNAN. We, as this paragraph indicates, Senator, have succeeded here in selling these UHF stations, which the advertiser is not forced to buy, substantially as well as their counterpart VHF stations, in comparable markets. You must take them in comparable markets.

Senator POTTER. Yes.

Mr. HEFFERNAN. There is no doubt that advertisers do inquire about and are interested in circulation because with absent circulation their advertising message is not received, and insofar as any advertising medium is handicapped in circulation, it is handicapped in selling its service.

NBC PIONEERED TELEVISION DEVELOPMENT

NBC pioneered the development of television. To many people the television industry is considered a postwar phenomenon. But NBC was operating television from atop New York City's highest structure, the Empire State Building, in 1931, more than 22 years ago. NBC's transmitter is still located on Empire State, which now also houses the transmitters of six other television stations.

NBC's developmental work in television continued over a period of several years, and in April 1939 NBC, in cooperation with RCA, introduced television as a service to the public at the opening of the New York World's Fair. The following year, NBC used the coaxial

cable for the first time to televise the Republican National Convention in Philadelphia and transmit scenes over its New York station. The FCC authorized commercial operations to begin on July 1, 1941. From that very first day the NBC station in New York has provided commercial television service.

NBC AND VHF TELEVISION

During the war years commercial television remained at a standstill. Toward the close of the war, however, NBC officials held regional clinics in all parts of the country with affiliated radio stations. NBC urged affiliates to make their plans to enter commercial television as soon as the FCC should begin to grant authorizations after the war.

In 1944, the President of NBC concluded an address to affiliated stations with these words:

The National Broadcasting Co. believes that television service should be brought as soon as possible into every American home * * *

Television promises to be the greatest medium of mass communication yet evolved, with unparalleled opportunities for services of entertainment and education. It is our belief that NBC affiliates will join in these activities and share in that faith * * *.

After the war, NBC continued to pursue a policy that "the radio industry must lead, not lag, in the establishment of this great new service of sound and sight."

In September 1947, at the first national convention of NBC affiliates, Brig. Gen. David Sarnoff, chairman of the Board of RCA and NBC, made the keynote address.

As many of you know, General Sarnoff has been engaged in all phases of communication for nearly 50 years, and his vision and courage were major factors in the creation of two new industries—radio and television. On that occasion in 1947 he urged the affiliates to consider television " * * * as an added new service, vitally necessary to insure their existing business * * *" and " * * * the great opportunities for your present and future business if you do the right thing."

NBC left no doubt among its affiliates or in the industry as to what it considered the right thing to do. It proceeded at once to get five television stations of its own on the air.

At the time the freeze was lifted in April of 1952, NBC had a television network consisting of 63 stations. More than 60 percent of these, 39, had companion radio stations which were affiliated with NBC.

As of the same time, of the 61 television stations on the next largest national network, only 13 had radio affiliates with that network.

This is one way to show what is well known in the industry—that NBC and its affiliates went into television at an early date and did a substantial amount of the spadework in its commercial development.

The responsibility for urging long-standing radio affiliates to embark upon a television operation, with its attendant heavy investment and larger operating expenses, was a great one.

In retrospect, despite early reverses and losses, it is satisfying to us that most of the persons NBC encouraged to get into VHF television have eventually brought their television operations to the point of success. And it is deeply gratifying to know that NBC and its affli-

ates were in the forefront in bringing this new service to the American people.

NBC AND UHF TELEVISION

In September 1948, NBC in cooperation with RCA instituted tests of UHF propagation characteristics in Washington, D. C. In May 1949, the FCC issued to NBC the first permit for an experimental UHF television station to operate with regular program service.

This station was established near Bridgeport, Conn., and was truly the "nursery of UHF."

The station was operated by NBC for 2 years and the experience we gained at Bridgeport was shared with the FCC and the entire industry. We believe this operation established the technical feasibility of UHF channels for commercial use.

In November 1951, several months before the television freeze was lifted and UHF channels allocated to commercial television, NBC set up a temporary UHF transmitter and installed receivers converted to UHF at another affiliates' convention. This was done to demonstrate the quality of UHF reception to those radio affiliates who had not inspected the NBC Bridgeport operation.

GROWTH OF UHF

The expansion of commercial UHF service in the 20 months since the first UHF station went on the air has been considerable. As of June 1, 1954, there were 122 UHF stations on the air. At the same time there were 244 VHF stations in operation in the United States. In other words, in 20 months, UHF has grown to a point where it comprises half the number of VHF stations in operation.

In this respect the rapidity with which UHF expanded outstrips the developments of VHF. The freeze date of September 1948 is, for VHF, roughly comparable to today's date for UHF in comparing the two services. At the time of the freeze, there were 124 VHF authorizations outstanding and operating stations numbered but 33. At June 1, 1954, there were 238 UHF authorizations outstanding and 122 UHF stations on the air.

This rapid growth of UHF, however, has spent itself, and there is a considerable number of UHF channels for which no application has been filed.

NBC SEEKS TO DEVELOP UHF STATIONS

In January 1952, 3 months before the UHF channels were allocated by the FCC for commercial use, NBC filed a petition requesting the Commission to change the rule limiting television station ownership to five so as to permit it to participate in the commercial development of UHF.

The NBC request was the first of several similar petitions to be filed. Although the Commission has not granted these petitions, it has invited comments on a proposed rule which would permit the owners of 5 VHF television stations to own 2 UHF stations as well.

Of the UHF channels for which no application has been filed, many are located in major markets of the country. At June 1, 1954, these

1032 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

totalled 58 UHF channels in 37 of the first 100 metropolitan areas. A list of these communities and channel availabilities is attached, Mr. Chairman, as an exhibit.

Senator POTTER. That will be made a part of the record.
(The exhibit referred to is as follows:)

37 cities among the 1st 100 metropolitan markets—58 UHF channels not applied for (June 1, 1954)

Popula- tion rank	City	Population ¹	Available UHF channels
		<i>Thousands</i>	
4	Philadelphia.....	3,807.1	29.
7	San Francisco.....	2,446.2	26, 38, 44.
13	Minneapolis-St. Paul.....	1,158.6	17, 23.
14	Buffalo.....	1,129.1	59.
17	Milwaukee.....	895.8	31.
18	Kansas City.....	867.4	25, 65.
19	Seattle.....	765.2	26.
24	Dallas.....	689.6	73.
25	San Diego.....	681.9	27, 33, 39.
26	Denver.....	625.3	20, 26.
28	Louisville.....	598.8	51.
29	Indianapolis.....	583.5	26, 67.
30	Birmingham.....	582.7	42.
35	Columbus, Ohio.....	532.8	40.
37	Bridgeport-Stamford-Norwalk.....	528.3	49.
39	Memphis.....	512.8	42, 48.
46	Akron.....	428.5	61.
47	Fort Worth.....	408.1	20.
49	Fall River-New Bedford.....	388.8	34, 46, 68.
52	Omaha.....	378.9	22, 28.
59	Nashville.....	335.9	30, 36.
60	San Jose.....	327.9	48, 60.
62	San Bernardino.....	322.1	18, 30.
63	Brownsville-Harlingen-McAllen.....	321.9	20, 23, 36.
68	Tacoma.....	300.4	62.
69	Poughkeepsie-Beacon-Newburgh.....	297.1	21.
71	Salt Lake City.....	293.1	20, 26.
74	Flint.....	287.2	28.
79	Duluth-Superior.....	259.6	32.
82	Chattanooga.....	253.0	43, 49.
86	Trenton.....	245.3	41.
87	Davenport-Rock Island-Moline.....	242.2	36, 42.
89	Des Moines.....	232.2	23.
92	El Paso.....	224.0	20, 28.
93	Stockton.....	223.3	64.
99	Little Rock-North Little Rock.....	202.5	17.
100	Greensboro-High Point.....	201.5	15.

¹ Sales Management, Jan. 1, 1953, estimates.

Mr. HEFFERNAN. NBC feels it would promote the public interest in UHF broadcasting for the Commission to lift its five-television-station limit and permit experienced broadcasters to develop the UHF stations.

NBC is willing to operate UHF stations in intermixed markets and promote them to the fullest. It realizes that in doing this it would be taking on a loss operation for some time. It regards that loss as related to the money it has already spent to develop this phase of the industry.

In fact, we know of no other business in which one organization has spent millions of dollars to develop the art technically and is at the same time forbidden to develop it commercially.

NBC TELEVISION NETWORK'S CONTRIBUTIONS TO UHF

NBC has entered into affiliation agreements with a large portion of the new UHF stations. As I have pointed out, 46 UHF stations, or more than a third of all UHF stations in operation, were affiliated with NBC at June 1, 1954, and we have succeeded in selling advertisers these stations substantially as well as VHF stations in comparable markets.

In addition to its technical and program contributions to the success of UHF, NBC has extensively promoted the use of that medium. In June 1953, NBC affiliated with WVEC-TV, a UHF station for Norfolk. This station replaced the VHF affiliate NBC previously had in Norfolk. At the time NBC affiliated with the UHF station, there were around 150,000 television sets in the Norfolk area, none of which could receive UHF.

NBC officials and members of its press, advertising and promotion, and merchandising departments cooperated with WVEC-TV in an intensive campaign to build up a demand for UHF conversion, even before the station went on the air with a test pattern. Dealers were offered solicitation and selling help.

NBC also aided WVEC-TV in a cooperative advertising campaign, helped prepare newspaper ads and display material and organize exploitation efforts for conversion.

NBC's promotional activity on behalf of UHF has not been confined to Norfolk or to NBC's own affiliates. NBC has prepared and widely distributed a 45-page handbook of station experience and methods entitled "Circulation Promotion for Television Stations—UHF-VHF," compiled by its audience promotion department.

I would like to submit to the subcommittee a copy of that booklet.

Senator POTTER. Yes; the booklet will be received and made a part of the official files of the committee.

Mr. HEFFERNAN. I think, Mr. Chairman, this kind of a booklet is particularly helpful because it represents a distillation of the experience of many operators who had gone on the air and it points out how costly the mistakes of others are and how they can be avoided.

Senator POTTER. What type of distribution do you have of this?

Mr. HEFFERNAN. We have very broad distribution, Mr. Chairman. For example, there is a list available of all applicants for UHF stations and we distribute it not only to our own affiliates, but throughout the industry.

This book is based on case-history information reflecting the actual experience of a number of stations. It sets forth what we believe should be done and what should be avoided in launching new stations, in working with dealers and distributors, in advertising, public relations, merchandising, local tie-ins, and other audience promotion methods before and after a station is on the air.

This record of fundamental circulation problems and solutions based on the experience of early UHF stations, shows new and old members of the industry how to avoid costly blunders. Its value has been attested by enthusiastic replies from scores of recipients from all sections of the country.

ECONOMICS OF TELEVISION BROADCASTING

Television broadcasting is a new business. There were just 6 television stations on the air at the beginning of 1947, and only 16 by January 1948. Consequently, television stations, whether they be UHF or VHF, are confronted with problems that all new business must face and overcome.

First, a station must go through a period of growth and development before it can hope to attain profitable operation. During this period a station operator must be prepared to sustain financial losses until his circulation justifies a compensatory rate. This happened to VHF stations in their period of development just as it is happening to UHF stations today.

A summary of the financial experience of VHF television stations over a 5-year period, based on information released by the FCC, shows the following:

Year	All stations reporting	Number reporting loss	Aggregate loss	Loss per station
1948.....	50	50	\$10,700,000	\$213,000
1949.....	98	93	14,600,000	157,000
1950.....	107	53	7,000,000	132,000
1951.....	108	14	4,000,000	285,000
1952.....	108	14	4,200,000	300,000

You will note in the first years, Mr. Chairman, of the 50 stations reporting, all 50 were operated at a loss and the average loss per station in the last column was \$213,000.

The next year, out of 98 stations reporting, 93 operated at a loss. The average loss was \$157,000 per station.

In the third year of operation, of 107 stations reporting, 53 operated at a loss. Just barely under half in the third year of operation still operated at an average loss of \$132,000.

In the fourth year of operation, 14 VHF stations were still operating at a loss, and the same in the fifth, 14 still operating at a loss after 5 years of operation.

Senator POTTER. Do you have any idea why these 14 stations are still operating at a loss? Is it because the market is insufficient for a station or poor management, or do you have any knowledge of it?

Mr. HEFFERNAN. I should say, Mr. Chairman, it is in large part the factor of the economics of the situation, the factor of competition.

We call our American system the profit-and-loss system, and we tend to think of it sometimes as the profit system, but it is also a loss system.

It is not unusual in a cross section, if you take the totality of businesses, that several businesses operate at a loss.

We have that today in the automobile business, and it does happen, and it is a function of the competitive system.

I deal with that a little later in my statement, Mr. Chairman.

Senator POTTER. I assume 3 of these stations are in New York and 3 in Los Angeles, is that correct?

Mr. HEFFERNAN. That is a good guess. The figures of the Commission do not show the location.

Senator POTTER. Yes.

MR. HEFFERNAN. These are by groupings, but I do think that is a good guess.

In dealing with these loss figures for station operations, as distinguished from network operations, I don't want to leave the impression that the profit is in the network end of the business.

The fact is that, to the best of our knowledge, the four television networks as a group were in the red last year on their network operations.

Taking the NBC television network alone, that too was in the red for the period commencing with the beginning of its operations in 1947 through the end of 1953.

Television network economics are still precarious, and, in addition, the networks face heavy capital and operational costs to develop the newest phase of the art, the broadcasting of network programs in color.

Senator POTTER. How much of that are you doing at the present time?

MR. HEFFERNAN. Mr. Chairman, in the season just concluded we broadcast our entire schedule in color on the rotational basis, that is, we took every advertiser on the air and offered him an opportunity to appear at least once in color.

Senator POTTER. Yes.

MR. HEFFERNAN. Next season we will step it up considerably more.

Senator POTTER. How many sets can receive color in the country?

MR. HEFFERNAN. RCA has shipped—and I refer to that later in my statement—about 5,000 sets.

Senator POTTER. About 5,000.

MR. HEFFERNAN. Others have sold in totality perhaps two or three thousand, maybe as much as 5,000 or more.

Senator POTTER. How much does the average color television set cost?

MR. HEFFERNAN. RCA sets were sold to the public at approximately a thousand dollars each. The manufacturing cost was more.

Senator POTTER. Do you expect that will come down?

MR. HEFFERNAN. We expect it will come down. I might refer further, Mr. Chairman, to two of the color programs. There were many color programs in which we have great pride, but among those of our sponsored service last year, we put on, at a cost of a half million dollars, 8 operas, of which 2 were done in color—one was scenes from Carmen, and the other the Taming of the Shrew, a new opera, but cast in the old Italian scene—and they were both beautifully done in color.

Senator POTTER. Do you mind if I digress a little bit from your statement? What are your views on subscription television for special cultural programs, such as the opera and things of that kind?

MR. HEFFERNAN. Our views have been stated of record on that, Mr. Chairman, and we feel, in general, that subscription television presents a substantial economic problem, in addition to problems which have been discussed before the Commission.

There are now 30 million television sets outstanding. To convert those, it would require a conversion job for subscription television which might cost, say, \$50 per conversion. Now, suppose a million of them were to be converted. That cost is \$50 million, and where the \$50 million of capital is to come from is something that is not clear up to now.

Some of those who have advocated subscription television have indicated they feel they, themselves, are not the ones to come forward and provide the capital to organize a system of subscription television.

There is, therefore, a very substantial economic problem to get it started. I have taken only 1 million of 30 million sets.

Senator POTTER. Do you think subscription television would be a competitive factor with a network program, or do you think it would be an adjunct, or provide better service—additional service?

Mr. HEFFERNAN. I am happy for the amendment, Mr. Chairman. We think we provide very excellent service. It could, of course, provide a supplemental service, and it is possible for special events, such as the Marciano fight, that subscription television might be able to bid more money for such a special event than our present system of television; but bear in mind those special events come rather infrequently, and to set up a system at very heavy capital cost to carry an occasional program raises in itself a difficult economic problem.

Insofar as it would be competitive with the regular system of broadcasting, we would, of course, welcome the competition, because we feel that competition is good for this business. It keeps everybody on his toes and makes for better programming for the public.

Insofar as subscription television would offer a competing service, we think that would be fine.

Senator POTTER. Do you feel this is a field that eventually either the FCC—and I am sure that FCC has made studies on this problem—or the Congress might look into?

Mr. HEFFERNAN. My understanding is that there are 1 or 2 petitions before the Commission at present.

Senator POTTER. Yes.

Mr. HEFFERNAN. There may be a question as to whether the law is completely clear on the status of subscription television from the standpoint of whether it is a common carrier or whether it is the free enterprise system as our present system of broadcasting clearly is and expressly is under the Communications Act.

Senator POTTER. I believe there is a bill in the House now putting it as a common carrier. I was just asking for your views on it.

Many requests have come to me suggesting exploration as to the responsibility of subscription television. I am not going to make any promises of what we are going to do this year, but I think possibly it is something that might be looked into sometime next year.

I am sorry to divert you away from your statement.

Mr. HEFFERNAN. That is perfectly all right, Mr. Chairman.

Senator POTTER. You may continue.

Mr. HEFFERNAN. Based on these facts of the table to which I have referred, Mr. Chairman, it would appear that a station which does not commence operation with a ready-made circulation must be prepared to suffer financial losses for the period of time. If VHF experience is any indication, it may take at least 3 years before a UHF station reaches the break-even point. Some no doubt have done it in less, however.

There is a second fundamental economic problem facing television stations, whether UHF or VHF. That is the problem of competition, which is common to most businesses.

Any given service area will support just so many commercial enterprises of the same kind—whether they be television stations, newspapers, drugstores or what have you.

This principle applies to all markets, large or small. It is convincingly brought home by FCC financial data for the year 1952, the latest for which information on this point has been published. This shows that 9 of the 14 stations in New York and Los Angeles reported losses.

Your guess was good, Mr. Chairman. It is a little more.

Senator POTTER. Yes.

Mr. HEFFERNAN. The average loss, as reported by the Commission, was \$457,000 for each of the 9 stations for the single year.

These are all VHF stations, and they have been in operation for several years. They have good managements and operate in 2 of the 3 largest markets in the United States. But, after years of operation, these nine VHF stations were still in the red.

I suppose if you asked the UHF broadcasters who have appeared before you here these two questions:

1. Would you like a VHF station in lieu of your UHF?
2. Would you like to be in the largest market in the United States instead of your present market?

you would get affirmative answers from most of them.

But the record of these nine stations in New York and Los Angeles will not support the proposition that a VHF channel alone is any guaranty of profits, not even in two of the most populous markets in the country.

The same point is illustrated in other markets. Lincoln, Nebr., is served by two VHF stations in Omaha. In the spring of 1953 two VHF stations also went on the air in Lincoln. On March 13, 1954, one of the Lincoln VHF stations, which was under the same management as a local radio station and had a television network affiliation, went off the air. According to the trade press "the Omaha-Lincoln area with 153,000 households * * * apparently couldn't support 4 VHF."

I have referred to examples of competition by one television broadcaster against others. But his field of competition is broader. He must compete and must survive in the fierce fight that constantly goes on for the advertiser's dollar. His competition is not just other television stations. It includes newspapers, magazines, billboards, direct mail, and specialized publications such as farm journals and business trade papers.

Similarly a network must compete with other advertising media for the advertiser's dollar. The only way we can get revenue as a network is to convince the advertiser he should buy our medium rather than a campaign in newspapers, magazines, or some other competing advertising means such as direct mail.

Senator POTTER. How much of the advertising dollar goes to television?

Mr. HEFFERNAN. I have some figures on that, Mr. Chairman. For the year 1953, the figures for national television were approximately \$529 million out of a total for advertising of \$7,800 million. So, that is less than 10 percent.

Senator POTTER. I assume, however, that is constantly growing. isn't it?

Mr. HEFFERNAN. It has been growing in relative position. The total for newspapers, however, in 1953, was \$2,600 million.

I come to that point next.

I wish we could claim that network broadcasting outsells other media in this competitive race; but the fact is that, on the basis of figures for 1953, newspapers still get the biggest slice of the advertiser's dollar and magazines and direct mail campaigns take a big slice, too.

This is the kind of competition we have to meet. As I have indicated, only as we succeed in selling against this competition do we get revenue to meet our costs.

SPECIAL PROBLEM OF MANY UHF STATIONS

In a large part of the United States UHF has a special problem, in addition to the developmental phase applicable in any new business and the aspect of competition which is common to most business. This is the conversion problem, which stems from the long "freeze" on the grant of new television stations.

The freeze was imposed in September 1948. Only VHF grants had been made up to this time, and 108 such stations took to the air.

By the time the freeze was lifted and UHF stations began to come on the air, VHF had a circulation lead over UHF of 21 million sets. There is no use in blinding this fact. It means that in the areas where the VHF stations were operating, 64 percent of the families already had television sets when UHF operations commenced. And the 21 million sets they had could not receive UHF.

To get that service, the owner of a set has two alternatives: To buy and have installed a converter and antenna, or to buy a combination of UHF-VHF receiver. The cost of conversion varies considerably, depending on the requirements of particular situations.

If the job is done by a serviceman, it can cost anywhere from around \$25 to \$100 and sometimes more. If done as a promotion by the station, the cost would be considerably less, as indicated by Mr. Sarkes Tarzian in his testimony here. The cost of combination VHF-UHF receivers varies from about \$20 to \$60 more than VHF-only receivers.

A television station—like any advertising medium—sells circulation. Unless there are UHF sets in the area, the UHF operation has nothing to sell advertisers.

As a result, advertisers will not place their best programs on these stations. The stations need outstanding programming to stimulate conversion, but they also need circulation via conversion to attract such programming.

But I don't want to paint a pessimistic picture of conversion. The problem does not exist at all in many areas of the country. And where it does exist, a number of UHF stations, aided by good programming, have done a fine job of inducing conversions.

The conversion problem does not exist in those areas where VHF did not operate during the freeze and, consequently, VHF did not get a strong circulation lead over UHF. Examples of these areas are Portland, Oreg., Wichita, Peoria, Rockford, Decatur, Jackson, Miss., Fresno, Wilkes-Barre, South Bend, Fort Wayne, and Columbus, Ga.

As I have indicated, where the conversion problem does exist, a number of UHF operators have done a great job of inducing conversions.

In justice to these fine operators, I hesitate to mention specific cities lest someone feel he was left out. But, to aid the committee with concrete examples, I want to name some. I am sure there are still others. Examples which come to mind in this group include:

Harrisburg	Montgomery
Springfield, Mass.	Mobile
Milwaukee	Madison
Norfolk	Macon
Asheville	New Britain-Hartford
Pittsburgh	Greenville, S. C.
Youngstown	Des Moines
York	Danville, Ill.
Saginaw-Bay City	Charleston, W. Va.
Sacramento	Zanesville, Ga.
Muncie	

Now, Mr. Chairman, you might be interested in some of the outstanding examples: Harrisburg had 86 percent conversion—that is, 86 percent of the sets in the area that could receive a VHF signal could receive UHF; Youngstown had 75 percent; Muncie, 79; Montgomery, 98; Mobile, 91; Madison, 98; Greenville, 70; Danville, 87; and Zanesville, 78.

Those were some of the particularly highest percentages.

Senator POTTER. How many of these were mixed markets? Do you have any idea?

Mr. HEFFERNAN. All of these were mixed markets.

Senator POTTER. All?

Mr. HEFFERNAN. All of these are mixed markets.

I dealt first with cities that are not mixed markets.

Senator POTTER. Yes, I see.

Mr. HEFFERNAN. Those are not mixed markets, where their problem was simpler. These are mixed markets, where the problem is more difficult.

The case of Madison, Wis., which has 98 percent, a particularly outstanding one—that was accomplished in 9 months.

Senator POTTER. Ninety-eight percent conversion?

Mr. HEFFERNAN. Ninety-eight percent conversion.

Much has been said here about the plight of UHF stations, based in part on the number of paper grants returned to the Commission. We feel that too much significance may be attributed to the surrender of these paper grants for UHF stations which were never built. Of the permits returned, however, 14 did represent stations which were built and actually began operations. The balance are the paper grants.

We think, Mr. Chairman, it is important to bear in mind the distinction between those two statistics. You have heard about a great number of permits that were turned back. Sixty-five of those were simply paper grants, where they had filed an application to the Commission and received a grant, but had not built a station.

Senator POTTER. Did a comparable situation exist in the early days of VHF?

Mr. HEFFERNAN. I refer to that; 33 VHF paper grants were turned back.

I do not regard the 65 or the 33 as the really significant figures. I think the 14 UHF stations, which did get built, did go on the air and did cease operations—is a significant figure and one that deserves examination, and I propose to go into it.

Some of these paper grants were returned in order to get VHF stations. Others were for communities with a population which might have difficulty supporting a television station of any type of the present stage of development. How many had insufficient financing from the start is difficult to tell.

When we come to assess the significance of the surrender of paper grants for UHF stations, we should realize that the same thing happened, as you suggested, Mr. Chairman, to a considerable extent in VHF. Thirty-three paper grants for VHF stations have also been surrendered.

As indicated, 14 UHF stations actually began operations and later went off the air. Nine of these have indicated they will attempt to resume operations, and the others may or may not. These instances deserve closer examination.

The city in which these stations are located, the number of months each station operated, and the number of their competitive television stations at the date of termination are as follows:

City	Months of operation	Competitive television stations	City	Months of operation	Competitive television stations
Buffalo.....	4	2	Kansas City.....	8	3
Roanoke.....	5	1	Flmira.....	8	2
Festus (St. Louis).....	5	3	Oshkosh.....	9	2
Dayton.....	5	5	Monroe.....	9	1
Newport News (Norfolk).....	6	3	Bettle Creek.....	11	3
Flint.....	6	5	Little Rock.....	12	1
Louisville.....	8	2	Atlantic City.....	17	3

The competitive stations are both UHF or VHF—in most instances VHF.

Senator POTTER. You find in most cases you have had quite a good deal of competition?

Mr. HEFFERNAN. In most instances they did. There were 1 or 2 unusual instances.

Little Rock was a very unusual instance. The fellow had only one station competing with him. He was in the black; he was making money; but he was like the fellow playing poker who wanted to quit while he was a winner, and he quit.

I do not suggest, however, that is typical of the other UHF's that went off the air. I do not think it is.

Senator POTTER. I assume a good deal of this competition is from other cities?

Mr. HEFFERNAN. It is.

Senator POTTER. Rather than local competition?

Mr. HEFFERNAN. Yes. For example, in the case of Dayton, which is the fourth town, I have included not only the 2 VHF stations within Dayton; I have included also the 3 VHF stations in Cincinnati, which the witness stated here get into his market, and I am taking his testimony that they do.

Senator POTTER. Yes.

Mr. HEFFERNAN. In the case of Atlantic City, I am including the 3 Philadelphia stations, which the witness testified get into his market.

There are UHF stations in markets which are not as large as some of these and where there is also competition from VHF stations which

appear to be doing well or which foresee prospects of favorable operation. The committee has heard from some of these stations.

The record of television station operating failures in relation to that of competing media may be significant. Since 1946, when commercial television began to expand, 17 television stations, 14 UHF and 3 VHF, have suspended operation. In the same period 93 daily newspapers and 87 weeklies and semiweeklies have ceased publication.

Newspapers face the same problems of building circulation and gaining advertising revenue as television stations. The fact that economic casualties are relatively common in the business of mass communication suggests that this is indeed a field where the risks are great and where there can be no assurance of profitable operation.

I might, at this point, Mr. Chairman, refer to a question which you asked the other day as to how many sets are regarded as necessary economically to support a station.

We have one affiliate in Roswell, N. Mex., who has 20,000 sets, and who informs us that he is making money.

Senator POTTER. Is that right?

Mr. HEFFERNAN. There was a figure referred to here the other day of a hundred thousand sets. Actually, of the 177 affiliates that we have, 98 of those, or more than half, have less than 100,000 sets.

Senator POTTER. I assume in the Roswell, N. Mex., case that there is no competition. I would be interested in knowing how much of their advertising is national advertising and how much of it is local.

Mr. THOMAS E. KNODE (manager, station relations, National Broadcasting Co., Inc.). It is about half and half, local and national.

Senator POTTER. About half and half, local and national?

Mr. KNODE. Yes.

Senator POTTER. That has an affiliation with NBC?

Mr. HEFFERNAN. It is an NBC affiliate; that is correct.

While we are diverted, Mr. Chairman, I might answer one other point.

Some point was made here of the fact that in New Jersey the people had to go into New York, which seemed to be very distasteful to some for New Jersey public officials to broadcast. Actually, the facts are there is a VHF channel, assigned to Newark. There is a Newark station. Its studios are in Newark. They have no studios in New York, and that station happens to have a regular weekly program on which the Governors, Senators, Congressmen appear, and they do not have to go into New York to appear on that station.

Senator POTTER. But is really a New York station, however, isn't it? It is announced as such and such a station, New York; is that correct? Or is it Newark?

Mr. ZAPPLE. I think it is Newark, N. J. It is listed as Newark.

Mr. HEFFERNAN. It is assigned to Newark, Mr. Chairman, and is listed as such. It has happened, for competitive reasons, that it has located its transmitter on the Empire State Building after first locating its transmitter on a high spot out in New Jersey, but it found in order to better compete—

Senator POTTER. For all practical purposes, it is a New Jersey station?

Mr. HEFFERNAN. It is; yes, sir.

Conclusion:

Commercial UHF television is a new business. It got off to a rapid start. Many of the new UHF broadcasters are doing fine. On the

other hand, 14 stations terminated their operations after a comparatively short period on the air.

At NBC we are convinced that the success of UHF is important to the public and the entire television industry. We feel therefore that the position of UHF at the moment only emphasizes the need for an effort by interested parties to do what they can to make UHF a success.

The leader in this effort should of course be the broadcaster himself. Others who are concerned include advertisers and their agencies, manufacturers, dealers, and the networks. And, I might add, the public itself has a part to play. It can help by recognizing that in this fast-growing art UHF is a new service which deserves public support through the conversion of sets to receive UHF.

Senator POTTER. We have heard a lot of testimony about—I assume this back to the set manufacturers or to the dealers of television sets—advertising practices that are harmful to the development of UHF—in other words, that you can buy this set without getting a converter, or something of that kind. I believe it has been mentioned that even other television VHF stations, when they are putting on additional power, advertise that you can hear this station without a converter.

That would tend to be in conflict with your statement, although I guess you made this as a suggestion, that these people should convert.

Mr. HEFFERNAN. That is right.

It is not really a conflict, I believe, Mr. Chairman.

Senator POTTER. Yes.

Mr. HEFFERNAN. I think all facets of this industry should realize that it is in the interest of all that UHF be a success, and they should do all they reasonably can, within the limits of human nature, which will always be with us, to make it a success.

Senator POTTER. Do you feel that if all new television sets included the all-channel tuner, it would put the UHF people in a better competitive position?

Mr. HEFFERNAN. I am sure it would, Mr. Chairman.

I have a reference to that in a moment as an example of what one company has done. I assume you are referring, of course, to voluntary action by them to help out.

Senator POTTER. Yes.

Mr. HEFFERNAN. By this time I am sure it is evident to the committee that there is no magic cure-all for the problems which have been discussed here. There has been a number of solutions presented, many of them tailored to cure specific problems of the private operators proposing them.

At this late date in the hearings we don't believe it would serve a useful purpose for us to go through all these proposals and repeat the arguments for and against them. Rather, we will limit ourselves to a few points:

SENATOR JOHNSON'S EXCISE TAX BILL

Senator Johnson has proposed to remove the excise tax on television sets equipped to receive UHF and on UHF converters.

This is a most constructive proposal, and we fully and heartily endorse it. The proposal if enacted, could help UHF so greatly that

we commend this committee for its prompt and vigorous resolution in support of the bill.

That action by the committee and Senator Johnson's alert followup before the Finance Committee reflect a practical awareness of what can be done to help UHF. We hope that this committee, with the continued assistance of Senator Johnson, will be able to bring home to their colleagues in the Senate the points that are so convincingly made in the preamble to their resolution endorsing Senator Johnson's bill. If that resolution and its preamble have not yet been made a part of this record, may I suggest they go in before the record is closed.

Senator POTTER. It has been made a part of the record.

Mr. HEFFERNAN. The early adoption of Senator Johnson's bill is particularly timely because of the advent of color television.

The replacement of existing VHF receivers may be tremendously accelerated as the demand for color receivers develops. To date, RCA has manufactured about 5,000 color television receivers. All of these were equipped at the factory to receive UHF as well as VHF. The removal of the excise tax on all-channel receivers would encourage other manufacturers to follow this example.

While on the subject of color television, we would like to say something about the suggestion to limit color television broadcasting to the UHF. We believe this is the most unsound proposal put forward by anyone.

Color television has had a struggle to be born for more than 15 years. At last the new baby is here. It is only 6 months old but it is growing fast.

NBC and others are already broadcasting color programs regularly. On the NBC Television Network alone the 5 stations we own and 36 of our affiliated stations will be equipped to broadcast network color shows by the end of this month. All but 4 of these 41 stations are VHF. By the year end this figure of 41 is to be increased to 62, of which 52 will be VHF and 10 UHF.

I am sure, Mr. Chairman, the committee understands, however, the ratio is not that of 10 to 52, but the significant fact here is that these color programs originate with the network, and there is great capital cost required for the origination of a color show as distinguished from simply arranging that a station along the route of the cable can take the program off the cable and broadcast it locally.

As Dr. Stanton pointed out, the cost of doing the latter, simply taking it off the cable, is perhaps around \$25,000, whereas we are spending in NBC alone more than \$5 million to build and equip color television studios for operation this fall.

Two are already completed, and they were used during our broadcasts of last year. We are building one large new studio in California, and we are equipping a large studio for color in New York.

Senator POTTER. Will it be economically feasible for the individual stations to originate color programs?

Mr. HEFFERNAN. I am glad you asked that question, Senator, because, in fairness to some stations, I wanted to add, in addition to simply equipping them to take it off the cable as it goes by, a number of stations have bought equipment, color equipment, to originate programs, local programs, in color, and those stations deserve credit for their pioneering work. A number of them have done that.

Senator POTTER. But it takes quite a substantial investment?

Mr. HEFFERNAN. That is right. It is considerably more expensive than the \$25,000 operation to which I referred. A color camera alone, for example, would cost more than that at the present time.

To limit color to UHF would not help that medium, and it would stop abruptly the growth of color.

It is easy enough to say that a VHF operator could be given a UHF channel so that he could broadcast color in UHF but to accomplish this would take a long time. New York, for example, would require 7 UHF channels. To find these channels, to decide which station should get which channel and to get the new stations built and on the air would require a lot of time and a lot of capital which might or might not be forthcoming. It is significant that the only network which has suggested that color be confined to UHF has yet to broadcast a color program.

The people are entitled to color television now. There is great public interest in this new scientific advance. We feel strongly that color television should not be made a hostage in the contest here between UHF and VHF.

Senator POTTER. I am sensitive to that word "hostage."

CHANGE IN MULTIPLE OWNERSHIP RULES

Mr. HEFFERNAN. As I have already said, we feel it would promote the public interest in UHF broadcasting for the Commission to lift its five television station limit and permit experienced broadcasters to develop UHF stations. We prefer the Commission proposal to Senator Johnson's other bill on this point. We do not believe that multiple owners would be encouraged to enter UHF broadcasting if they were forced to surrender VHF stations as the price of admission.

BOOSTERS AND SATELLITES

We favor the adoption of engineering standards under which UHF and VHF stations would be permitted to use boosters and satellites to provide complete and comparable coverage of their areas.

STUDY OF ELIMINATION OF INTERMIXTURE

A number of witnesses have proposed a study of the possibility of eliminating intermixture of UHF and VHF channels in the same market. One was candid enough to recognize the great practical problems which the elimination of intermixture would entail.

As the committee knows, Dr. Du Mont proposed to the FCC, before the adoption of the present allocation plan, two methods of eliminating or at least minimizing intermixture. His organization made a more elaborate presentation to the Commission on that point than any other.

It seems highly significant that Dr. Du Mont, who had made the strongest plea before the Commission for the elimination of intermixture, told this committee it is not now practical. And, in fact, no one has definitely said that elimination is possible. Those who have dealt with the subject propose a study to see if it is possible.

We do not oppose a study of this by the Commission. We do suggest, however, that the institution of the study should not raise false hopes that it can yield a quick solution of problems that have been

mentioned here, or that the elimination of intermixture can be accomplished without a major wrench to the viewing public and the broadcast operators who would be affected.

We believe also that, before concluding to make such a study, everyone concerned should give careful thought to the effect the very institution of the study might have on UHF itself.

Would conversion to UHF continue—or would the public just wait and see and all conversions stop? Would advertiser interest in UHF be further dampened while the industry waited for the development of a new allocation plan?

Mr. Chairman, we feel that this committee has done a constructive thing in holding these hearings so that all segments of the industry could be heard. Again I want to thank the committee for its consideration in permitting NBC to present its views.

Senator POTTER. Mr. Heffernan, I want to thank you for your statement.

I wish to apologize for the many delays we have had during the course of the hearing, and you have all been most patient.

Senator BOWRING, do you have any questions?

Senator BOWRING. No, thank you.

Senator POTTER. And I sincerely hope we haven't interfered too much with your proposed trip.

Mr. HEFFERNAN. Not at all, Mr. Chairman. I appreciate your courtesy very much.

Senator POTTER. Thank you. Now we will get into the rebuttal phase, and let me again state that I am going to be heavy on the gavel if anybody transgresses that half-hour period.

First, we will hear from Mr. Cottone.

Mr. Cottone, it is good to have you before the committee again. I understand you are going to split the time with Mr. Roberts. Is that correct?

Mr. COTTONE. Yes, I am, Mr. Chairman.

Senator POTTER. All right.

STATEMENT OF BENEDICT P. COTTONE, COUNSEL FOR THE UHF INDUSTRY COORDINATING COMMITTEE

Mr. COTTONE. It is most gracious of you, Mr. Chairman, to say what you just did, and it is most gracious of the committee to allow us this additional time.

Senator POTTER. We are happy to do it. We want to have all the facts we can, or as many facts as we can, before the committee, and we realize there is bound to be a certain conflict in testimony, and it is only right that the participants have a right to make any corrections they feel they should make.

Mr. COTTONE. Mr. Chairman, let me say I want to avoid being banged by your gavel, but I have a statement which will run more than 15 minutes.

Senator POTTER. Would you speak just a little louder, Mr. Cottone?

Mr. COTTONE. Yes, sir. Let me say my statement, as written, and which I regret is not available in mimeograph form at the present time to the committee—it is now being mimeographed—will run more than 15 minutes. However, I do not wish to intrude upon Mr. Rob-

erts' time, and I expect, if I am to be limited to the 15 minutes, to put the remainder of my statement in the record.

Senator POTTER. Yes; that will be fine.

Do you want me to give you a signal at the end of 15 minutes?

Mr. COTTONE. Yes, sir, unless you forget it.

Senator POTTER. All right.

Mr. COTTONE. Mr. Chairman, I might say the mimeographed copies will be here today before the conclusion of the hearings, and those who are interested in having them will have copies available.

Senator POTTER. Fine.

Mr. COTTONE. I would like to point out at the outset, Mr. Chairman, before going into the presentation, that we have had, I think, quite a bit of discussion about the New York situation, and the question as to whether New York has 7 stations or 6 stations, and New Jersey 1. We were rather interested in Mr. Heffernan's comment about there being 6 stations in New York and 1 in New Jersey, because when he was proceeding to discuss the question of losses among the 14 stations between New York and Los Angeles, he drew no distinction as regards Newark, and when he was discussing the question of the ability to provide 7 UHF stations to New York, he did not distinguish between New York and Newark in that discussion.

Senator POTTER. That is the beauty of statistics. You can use them as you wish.

Mr. COTTONE. Yes, sir.

Mr. Chairman, the subcommittee has generously afforded the UHF group this additional opportunity to give what has been described as a rebuttal presentation. May I say at the outset that the UHF industry coordinating committee is most grateful not only for this opportunity but for the patience, tolerance, and understanding which this subcommittee has shown in hearing our evidence and that of others on the grave problem before it.

It is not entirely accurate, however, to describe what we now have to say as a rebuttal. For we believe it should now be plain that, with one possible discordant note, namely that sounded by the so-called VHF emergency defense group speaking through its counsel, Mr. Pierson, there has been substantial harmony upon the basic fact that there is a critical situation today stemming from the present television allocation plan.

The factual evidence you have heard, and I place emphasis on the word "factual," establishes convincingly the basic proposition that where UHF stations are in direct competition with multiple VHF services, a situation which today exists in virtually all parts of the country under the present intermixture plan of allocation, UHF stations simply cannot survive such competition, because of the overwhelming handicaps and disadvantages created by the disparity of facilities. This disparity is the knife in the very heart of UHF's ability to compete on a fair basis for the advertising dollar, for network programs, and for the other wherewithal which makes possible local program service in the public interest.

The so-called UHF success stories which you have heard given by the gentlemen from Muncie, Norfolk, and Columbus have, in fact, forcefully corroborated rather than disproven the basic proposition. For these situations vividly demonstrate the converse of the basic proposition by proving that in the rare instances where UHF stations

have to date remained relatively unexposed to the direct competition of established multiple VHF services, they have been able to live. But their present ability to live does not mean immunity from the fate which has stricken some and threatens many others.

Experience with what has happened in the past betokens even for the Muncies, the Norfolks, and the Columbuses the possibility if not likelihood, that all will not continue to go as well for them when there begins to occur the inevitable invasion of their markets by additional superpower, superheight VHF stations. We venture to suggest, therefore, that if the Woodalls persist in the bland and supine attitude here expressed in regard to the present allocation, they may soon find that they have been living in a fool's paradise.

Except for the discordant note introduced here by the belatedly organized so-called VHF emergency defense group, speaking through Mr. Pierson, there has been substantial unanimity of responsible opinion that the situation today is chronically inherent in the present allocation scheme and, either implicitly or explicitly, the brunt of such responsible opinion, with the exception noted, recognizes that the cure must be found there. I choose the word "responsible" advisedly, because I think that the VHF group's analogy of the problem to "painful sores" on an infant's legs is nothing short of a shocking disregard of the realities recognized by almost everyone else from whom you have heard.

The overwhelming unrefuted facts, again (I use the word "unrefuted" advisedly also, because there were no facts given by the VHF group except inapplicable analogies to past experiences of VHF operators), I say the overwhelming and unrefuted facts have shown that UHF simply cannot now compete, and cannot reasonably be expected in the future to compete, against multiple VHF services under the present allocation, and that something must be done to change that allocation if nationwide competitive television service is to be a reality rather than a mere hope. Notwithstanding the understandably complacent attitude of the VHF group, it is safe to predict that when all VHF stations are operating under the present allocation the trend of today will be aggravated in most areas of the country.

In recognizing that the allocation scheme is the critical focal point, the responsible opinion here expressed similarly recognizes that merely through such measures which, at best, furnish only a hope that the public will buy all-channel receivers, UHF cannot be reasonably expected to develop beyond the point in which UHF finds itself today. On the contrary it is more reasonably to be expected that it will retrogress toward the point at which it started 2 years ago when the freeze was lifted. Without UHF, television will be confined ultimately to the scattered few hundred tremendous coverage VHF stations limited to the top major markets, a situation which may aptly be described as the large national advertiser's dream but the local public's nightmare.

We cannot and do not deny that the problem is one of great complexity. But the complexity of the problem cannot in good conscience forestall or freighten away any attempt at solution. We are sure that the Senate committee which sought to undertake this very inquiry into the problem and this subcommittee are not susceptible to being

frightened away from its solution because of its complexity. Had it been so disposed, it could have left the matter where it stood because there was then, as far as we know, no clamor either from the Commission or UHF operators, that this inquiry be undertaken. This subcommittee must therefore be presumed to have been prepared, as its members have been at various times during these hearings indicated, to do whatever is possible to place television on the right tracks toward the universally recognized desirable goal, a nationwide competitive system. We earnestly and sincerely believe that this occasion will be the last clear chance presented to do so. Neither the Congress, the Commission, the industry nor the public can afford to let this chance slip by. For the pattern that will crystallize from here on out, in the event of inaction or the type of desultory action suggested by the VHF group, will seriously affect generations to come.

I think it is fair to repeat at this point, that there is virtual unanimity of substantial segments of this industry on the proposition that equality of competitive opportunity among television stations is the *sine qua non* of nationwide competitive television service to the public and that reallocation is the logical means to the desired end. The UHF industry has demonstrated substantial unity on this point. The NARTB recognizes the necessity of action toward the desired end although it does not suggest the method. The Du Mont network implicitly concedes that reallocation is logical and essential although its specific proposals are along other lines with which we do not agree because we believe those proposals attack the basic problem at its fringe rather than its core. The ABC network similarly recognizes the need for reallocation as the means to competitive service and the CBS network, through Dr. Stanton, has come forward most forthrightly and stated that prompt combined efforts toward a more sound allocation must be undertaken if the public's position is to be protected. And I note from Mr. Heffernan's statement that he at least nods in the direction of attempting a reallocation. The differences of opinion go only to the kind of reallocation which should be sought.

Dr. Stanton agrees that the moving of all television stations to the UHF spectrum will most certainly and most clearly remove the competitive inequality between the two services. However, Dr. Stanton dismisses this solution because he claims that it will hurt the public through obsolescence of receivers. The UHF group has proposed the move of all stations to UHF over a transition period because this is, we believe, the only sound method of assuring a truly nationwide competitive television system. This proposal was intended, through an orderly method of transition, to achieve the admittedly logical and desirable ultimate result without serious injury to public investments.

Not so long ago, Dr. Stanton was urging that the long-range benefits to the public of a then incompatible color system justified obsolescence of a substantial public investment in television receivers. Dr. Stanton then advocated what he believed was best for the ultimate service to the public upon a basis which, in complete fairness to him and to CBS, was designed to minimize the serious effects to the public. That basis was early establishment of the CBS color system before too heavy a public investment in black and white sets was made. We submit that the UHF industry coordinating committee proposal, in precisely the same manner as the CBS proposal of not so long ago,

is designed to do two things: First, to lay at the earliest possible date the groundwork for the system of television broadcasting likely to be most beneficial to the public interest on a long-range basis; and, second, to accomplish this with the least possible injury to public investment. But in complete fairness to our position, Dr. Stanton should have recognized that we urge orderly transition over a period of time so geared to amortization of investments and normal replacement of existing receivers that private and public injury would be minimized to the greatest extent possible and that we should be credited with the same basic concern for public interest as he had.

Dr. Stanton's purpose in seeking to give the public the benefits of color was tempered by a desire to avoid complicating the problem of obsolescence. Indeed, the possibility of obtaining the long-range benefits of color television before the situation had become too seriously frozen accounted for at least 2 years of the freeze. We are not critical of the detour taken in order to solve this problem because we believe the purpose was sincere. But by the same token, Dr. Stanton should not quarrel with our suggestion of a freeze where its sole purpose is to avoid complicating a solution of the basic problem. It is hardly cricket, in this frame of reference, to sheer away from a freeze urged for the ancillary purpose of facilitating a reallocation, and I wish to assure you that is our only purpose in suggesting a freeze by the argument that because the last freeze lasted 40 months, most of which was occasioned by the color issue, any new freeze must be avoided because it might again last that long.

We believe, however, that in the final analysis, Dr. Stanton's presentation was most forthright in that he recognized that a grave problem exists which can only be met by serious consideration of reallocation measures. We certainly accept his premise that reallocation is the proper method by which to achieve nationwide competitive service. We have felt and feel that this premise must lead logically to a single spectrum system because the availabilities in VHF are so limited that UHF alone can bring about the equal opportunity to compete for the maximum possible public service. But we nevertheless endorse Dr. Stanton's recommendation of a study to determine whether any feasible de-intermixture plan can accomplish the necessary goal of a truly nationwide competitive system provided that such study is speedily accomplished so that it may promptly be determined whether it will or will not be necessary to go to a single spectrum system in order to provide a truly nationwide system providing equal competitive opportunity to broadcasters.

In order that there be no misunderstanding as to our position, we should like to make clear again that we do not suggest solutions which we have stated merely seek to cure the results rather than the cause of the problem. The networks have explained that the good and bad experiences reported by UHF and small market VHF stations stems from the basic disparity and inequality between VHF and UHF stations where UHF stations are forced to compete with VHF stations. The necessity of providing the more choice and most acceptable facilities that may be available for the advertiser compels networks to favor VHF stations wherever a selection or choice is possible. Accordingly UHF stations find themselves increasingly in an unfavorable position wherever VHF facilities are or become available for network use. And this situation impairs whatever disposition networks may sin-

cerely have to accord UHF stations equitable treatment in making programs available. In view of these facts, we have not and do not urge measures designed to regulate network practices or their relationships with stations because it is our belief that such measures merely seek to cure the results rather than the cause of the problem.

I would now like to deal with what I have referred to as the discordant note. The presentation of the so-called CHF Emergency Defense Group, made through Mr. Pierson, demonstrates a somewhat shocking philosophy. They have come before this subcommittee with an attitude which would virtually deny to Congress any responsibility to act to protect the public interest. It opposes everything and favors nothing except a single measure pertaining to excise taxes on all-channel receivers which concededly can give no assurance of solving the serious problem this subcommittee has set out to solve. This group's attitude is reflected in its recommendation that after holding these many days of hearings, this subcommittee should now refrain from exercising any deliberate function, and merely refer the entire record to the Commission for such action as the Commission may see fit to take. We believe this attitude was aptly characterized by Senator Potter in his remark at the end of Mr. Pierson's testimony of several hours, when Senator Potter analyzed the philosophy expressed as one which, carried to the extreme, would "destroy representative government."

The VHF group came to you with a discourse on free enterprise, predicated on the fallacious concept that Government should keep its hands off anything and everything that affects the status quo. The fallacy of Mr. Pierson's free-enterprise philosophy is that it conveniently ignores that where Government must of necessity, lay the basic groundwork upon which an industry must operate, as it does in the radio field through allocations of facilities, there can be no true free enterprise if the pattern prescribed does not and cannot provide opportunity for free and equal competition. Although Mr. Pierson would have you believe that the proposals of many witnesses for reallocation are alien to our traditional free enterprise philosophy, we assert that on the contrary our case is firmly grounded on the premise that free enterprise must be the basis upon which the American system of broadcasting must continue.

Free enterprise, by definition, means the availability to all who desire to enter a business, of equal opportunity to compete with others in that business. The greatest threat that exists today to a continuance of free enterprise in broadcasting is that because of the greater advantages given by the Government, through allocation of frequencies, to some in this business, a large part of all the existing and potential entrepreneurs who are willing to go into this business, will be forced out of it, or will refuse to get into it. This means inevitable monopoly, and as we have said, monopoly breeds public distrust and invites vigorous Government regulatory controls. This is what we are trying to avoid by suggesting equal competitive opportunity to serve. And in suggesting reallocation as the proper method of providing equal competitive opportunity, we are not asking Government to guarantee profits; we are not asking Government to eliminate or protect us from competition; and we are not trying to deprive the public of service, but are rather trying to assure to the public for the future, the measure of diversified competitive service to which it is entitled.

Mr. Pierson's strained argument that we seek monopoly (which he sought to illustrate by the Greenville situation) borders on absurdity, because it was predicated on his premise that unequal facility advantages, made possible only through governmental action, should be accepted supinely.

Mr. Pierson looks down his nose at the small entrepreneurs who would be willing to stay in, or go into UHF, if equal facilities were provided. At one point, he in effect referred to these entrepreneurs as undesirables. Why were they undesirables? Because, Mr. Pierson says, if the Government should now seek to equalize the situation, the VHF stations who are, in his mind, the "undesirables," because they are backed by tremendous financial resources, will be unwilling to stand for such "fickleness" on the part of the Government.

Mr. COTTONE. It is obvious that what Mr. Pierson means is that his clients could not be sure of the ability to get returns of up to 300 percent on their investments or to be able to sell their VHF stations for prices up to \$8,500,000 within a relatively short time after the Government gave them this favored opportunity to serve the public.

Senator POTTER. How much more time do you have?

Mr. COTTONE. I am afraid, Mr. Chairman, that I will have at least 10 minutes time and at this point, if I may, I would like to conclude.

Senator POTTER. All right. I hate to go ahead and rescind my own ruling but I will give you the opportunity. You can continue and I will give Mr. Pierson the right to equal time.

Mr. PIERSON. It will be entirely satisfactory to me if Mr. Cottone will give me an opportunity to digest his remarks before I am called.

Mr. COTTONE. I have no objection to that.

Senator POTTER. All right, proceed, Mr. Cottone.

Mr. COTTONE. He also means that those who are in the small group now taking the bulk of the total television revenues might put their financial backing elsewhere if the Government were to become so fickle as to change the present situation so that some others, through equal competitive opportunity, might get a chance at a small part of these revenues.

If these are the kind of "desirables" that Mr. Pierson is talking about, and we doubt that all his VHF stations really share this attitude, it might be much better for the public for those who do feel this way to pull up stakes and go elsewhere, for such an attitude can hardly be characterized as public spiritedness.

Would Mr. Pierson suggest to one of his clients that in the event of such fickleness on the part of the Government, his client should announce to his viewing audience that he does not wish to continue to run a TV station because he might have his returns cut down to 50 percent instead of 100 percent or 300 percent on his investment?

In his testimony of several hours Mr. Pierson skillfully avoided a direct statement or an answer to the question: How can UHF stations ever be able to compete against VHF stations in the same area? How, if all or substantially all, of the UHF stations now in operation shut down, can the public ever be induced in the future to buy sets which receive UHF? When, in the timeless timetable constructed on his foundation of patience, does he expect that if present UHF stations shut down, any existing or new entrepreneurs will ever want to touch UHF even with the proverbial fork or 10-foot pole? Mr. Pierson

cannot possibly be referring to his VHF stations as those who will bring UHF back. For he told us himself that these are the kind of entrepreneurs who, if the Government should become so fickle as to try to equalize opportunities for all TV broadcasters so that their own 75 percent, 100 percent, and 300 percent returns might be cut down somewhat, they would not want to continue to risk their capital in this business. I am sure he is not referring either to the UHF broadcasters who tried, and "lost their shirts," because even he would probably concede that even the small child who is burned does not stick his finger in the same fire.

Mr. Pierson, without making the slightest effort to show, by any facts, how even more entrenched VHF monopoly which is now developing can be averted unless something is done, then proceeds to oppose everything and favor virtually nothing. With lawyerlike logic, and except for occasional slips under questioning, he constructs a thesis based upon his fallacious premise that Government has no business doing anything to create a climate of free enterprise in which competition is possible. He differed with Senator Schoeppel's suggestion that Government might have a responsibility to do something to assure a more equal distribution of network programing because that raised in his mind the specter of common-carrier regulation. Yet in the next breath he volunteered that Government does have the responsibility, under the antitrust laws and under the public-interest concept in the Communications Act, to avoid monopolistic practices. I agree with Mr. Pierson that the issuance of certificates of convenience and necessity under the common carrier concept could well create the undesirable result of limiting to four the number of networks which would be permitted to operate. But it surpasses human understanding how Mr. Pierson can become horrified at the possibility that we may only have four networks and then go on to say that there is nothing wrong with the present allocation scheme, also prescribed by governmental regulation, which limits the number of equal stations in most of the major markets of the country to two or less stations. Indeed, we were told, in the face of the tremendous returns of a small group of VHF stations in these markets, that more than two UHF stations may be too many.

Now, Mr. Pierson after many pages of dissertation of his free-enterprise concept, concludes that every constructive suggestion made to this subcommittee for solving the serious calamity threatening the industry and the public should be opposed. But he then momentarily casts off his free-enterprise robes, momentarily recognizes that there is a problem and is willing to concede that Government should do a little something about it. Up to now, this whole "mess," as Senator Bowring described it, was to Mr. Pierson's mind none of the Government's business. What does he suggest? Remove the excise tax on all-channel receivers. He did not tell you how this could reasonably be expected to solve the problem. He did not suggest how the public could be assured the benefit of the saving that would result. He vaguely implied that elimination of the tax might remove the whole amount of the present differential in cost between VHF and all-channel receivers. But he did not tell you that, even if the differential in the receiver cost would inure to the public's benefit, by far the greatest amount of the cost for getting a UHF receiver in operation in the homes is the much greater cost of antennas, installation and

servicing. Apparently, Mr. Pierson does not believe that the Government should be throwing out bones to anyone unless the bone is small enough to stop the dog from barking for a few moments only. While he champions his concept of free enterprise, he is not troubled by governmental intrusion so long as it doesn't help the other fellow too much. In this instance, he fell out of the free-enterprise saddle for a moment. But when he was asked, by Senator Bowring, I believe, whether something more shouldn't be done to make sure that the public would be able to obtain the all-channel receivers, he suddenly found the stirrups again, and was back in the saddle riding the old horse again. Going any further, he says, would be getting the Government too far into the sacred domain and the public should be left to shift for itself.

Mr. Pierson, for his 135 clients, would also appear to be willing to step up his bone throwing, even though it means a little more Government intrusion, by voicing a hope for boosters. Here again he fails to tell us how it helps. I am sure some of his VHF clients would like some boosters to increase their coverage and boost their revenues. They can afford to wait for them, too. And I rather doubt that they would have too much difficulty in raising the money to establish and operate them.

Mr. Pierson as his final suggestion, would like to see the Commission eliminate more red tape. Frankly, after his valiant defense of the so-called quickie grants and the Commission's overnight merger-payoff procedures, I was a bit puzzled at this suggestion. I only conclude that Mr. Pierson regards the present procedures as only a step in the right direction and that to eliminate what else remains of what he chooses to call redtape, he would bolt the Secretary's doors at the moment that the merger-payoff deal was filed, and instead of waiting until the next day for a grant, he would have the seven Commissioners on hand in the Secretary's office at 5 P. M. Tuesday night, read them the signatures on the applications, and then call for a vote.

In view of Mr. Pierson's description and justification of the quickie grants, I believe it should be presented in its proper light. I am preparing a memorandum on this subject which I hope the subcommittee will permit me to submit for the record when it is completed.

With regard to the question of the inevitable payoff involved in these mergers, Mr. Pierson was aware of no serious problem. In view of the concern shown by this subcommittee in the questioning of Mr. Pierson on this subject, we would earnestly like to urge that before these hearings are concluded, the Commission be requested to furnish the details as to each of the merger transactions which have been approved under its current procedures with a showing of amounts paid to withdrawing parties and just what considerations were shown to have been given for these amounts. In one instance of which I am personally aware, sums in excess of \$205,000 have been agreed upon as the price of withdrawal. If Mr. Pierson is not disturbed by these, there are at least two present Commissioners who have been, and who have dissented in such payoff cases.

What is Mr. Pierson's justification for the procedure? He says it is designed to beat out the filing of strike applications. But in the next breath he sanctions the encouragement of strike applications which he admits the procedure does, by finding nothing wrong with rewarding the strike applicant or getting into the same bed with him

by merging. I find it most difficult to follow through logically to this result from the public interest premise on which Mr. Pierson purports to predicate his argument.

Mr. Pierson says you can't prove the other fellow is a strike applicant. Therefore, under his reasoning, you should reward him. The concept is, to say the least, a shocking one. The simple answer is that an applicant who is really a strike applicant will not wish to be smoked out by the most effective means yet developed in our jurisprudence for getting at the truth: a public hearing where witnesses are placed under oath and subjected to the test of cross-examination of the lawyers for the several applicants, and Commission counsel.

Mr. Pierson has less concern about the public-interest aspects of mergers of this kind and payoffs than the courts have traditionally had, and than the Commission at one time had. In my memorandum, I hope to be able to show definitively that courts and other public bodies have regularly frowned upon procuring the withdrawal of competitive requests for Government privileges or franchises by the buying out of the competition and have refused to lend their processes to such practices.

Senator POTTER. Thank you very much, Mr. Cottone.

Mr. COTTONE. Thank you, sir.

Senator POTTER. How long will you take, Mr. Roberts?

Mr. ROBERTS. Fifteen minutes.

Senator POTTER. We are happy to have you with us back before our committee and I sincerely regret the time limit put on this type of rebuttal but I found if we do not have time limits we will be continuing for some time. I will be looking forward to hearing what you have to say.

REBUTTAL STATEMENT OF WILLIAM A. ROBERTS, GENERAL COUNSEL OF UHF TV ASSOCIATION

Mr. ROBERTS. May I have your permission to use a few of the precious minutes allocated to us for rebuttal, to express the dismay and regret we feel at the departure of a fine and courageous man, Senator Hunt. Only those of his friends who knew the great strains under which he has been laboring for the past several months can appreciate his devotion to the work of this subcommittee and his deep interest in the basic purposes of these hearings. It was my privilege to work with Senator Hunt within the past 2 years when he was engaged in a prolonged and intensive study of the manner in which public opinion can be controlled and distorted through media of communication. He devoted many days to the study of the abuse of privilege within legislative agencies and with his profound belief in the dignity and importance of the functions of the Senate. He was most concerned with ways and means by which the effectiveness of the investigatory process could be increased and the rights and freedoms of all of the people and our constitutional democracy preserved. He was with us in the last session of this subcommittee, and I feel that in losing him, we have lost a friend of great understanding. Perhaps in that other land where election results are not counted, and all is devoted to the good and true, we may still have his assistance and his friendship.

Mr. Chairman, it is conventional for lawyers to summarize at the conclusion of a trial by repeating the points which they announced in the beginning, implying what logic they may possess to the evidence bearing on these points. I know of nothing in the original presentation of the UHF Association which I desire to retract or modify. The principles have stood the test of challenge and the need for immediate congressional support has been demonstrated. Here is the case by subjects—intermixture, for example. The presentation of Mr. Cullom is the key to the attitude of the VHF networks and VHF broadcasters with respect to UHF. He reaffirms his conclusion that UHF is presently and permanently an inferior service incapable of serving rugged or rural areas better adapted to the equivalent of 250-watt standard-broadcast philosophy and unfit for his clients. He further holds that the Commission's allowable powers and tower height for UHF as compared with VHF, are inadequate. In these conclusions he is diametrically opposed to the findings of the Federal Communications Commission upon which the entire present allocation system is based. I refer you to paragraphs 197 to 200 inclusive, of the Commission's sixth report and order.

There is room for argument, and it is assumed that lawyers will select the arguments more favorable to the interests of their client. I most emphatically deny that this course is available to engineers, and believe that they must be governed by the facts and only the facts. They must not blow hot and cold on matters of technical truth.

I refer you also to a publication of the Radio Corporation of America, known as Broadcast News, volume No. 71, September-October 1952, in which there is an official report on the test experience in the installation of UHF in Portland, Oreg. Among other things stated in the RCA report are the following:

A QUICK SUMMARY

What did I find out? The whole story is told in detail in the following pages. However, for those who can't wait here's a quick summary.

(a) In general the performance of KPTV has been such as to startle the industry. Most of the experienced radiomen investigating it in person have agreed that it is "much better than expected."

(b) More specifically, KPTV is delivery class A coverage (74dbu) to about 20 miles in all direction where there is population, and class B coverage (.64 dbu to 30 or more miles in the directions where there is favorable terrain.

(c) Although there are local "dead spots" the total population in these areas is probably less than 5 percent of that in the city proper, and less than 12 percent of that in the whole trading area.

It is a well-known fact that with VHF operation also, there are "dead spots" within the class A coverage, and as higher gains are used, that these "dead spots" become a serious problem. However, the essential conclusion to be reached from the criticism of UHF is that there is a present difference in UHF; that if it is less desirable to reach remote areas, then it must be used in the heavily populated and congested areas where the mass of population may be well served, and VHF in the lowest frequencies might be placed in the remote areas where its greater range and adaptability to varying terrain could be best utilized.

Basic to the consideration of the Cullom theory which underlies the refusal of the VHF supporters to offer service on UHF stations, is the

present inadequacy of power and the present inadequacy of receivers for UHF operation. These will be and are being corrected, and the services become constantly more nearly comparable.

The presentations in general on behalf of all of the VHF advocates and those who urge that there is no need for governmental action, are skillful and thorough. It is to be expected that men of such high caliber and with such enormous resources would exercise their greatest talents in the interest of continued control of the billions of dollars involved in the television industry. But the net effect of their factual statements is that they acknowledge and desire substantially complete control of the television broadcast industry in themselves. It is suggested that sufficient competition exists between the two major networks, although ABC concedes that there is need for a third network. Nevertheless, the evidence is conclusive that all of these parties emphasize the clear channel theory of network operation. They desire the maximum power to cover great areas from conveniently located antenna in the big communities, and they emphasize the economic impossibility of extending service to the smaller communities and the sparsely populated areas. This theory is inconsistent with the basic premises of the allocation by the Commission, and it is inconsistent with the testimony supporting local stations, local news, and local public-service programing. The most democratic broadcasting system and the one most useful to the people, is afforded by a multiplicity of stations and with a reduction of fringe area reception.

This can best be accomplished by a substantial elimination of the technical results of intermixture and the redistribution, until competitive status can again be established, of the control of network programing. I cannot see how free speech is less impaired by governmental regulation of networks than it is by such regulation of licensees. I cannot see how public communication can be more offensively controlled by the Government than by private interests.

The immediate solution lies in action by this committee to indicate the absolute necessity for use of all of the UHF channels in an efficient manner, and for the adoption by the Commission under its existing powers of regulation governing network broadcasting and network affiliation agreements which will permit the economic development of UHF.

As I stated before Mr. Chairman, lawyers customarily make their final argument by referring to their initial presentation, presenting as well as they can the facts that have been offered in support of or against it and, finally, they culminate by trying to say that everything they said in the first place was correct and true.

I am not going to depart from that custom.

I stand precisely behind the recommendations made to the committee initially by the UHF Committee and I see no reason to depart from that presentation.

The most important issue before the committee as this hearing is about to adjourn is the question of whether or not the television requirements of this country should be provided by a limited number of national agencies operating superpower stations in the nature of clear-channel-type operations, or whether or not that service should be provided by stations located as closely as possible to the people who are going to serve all, with due regard to the technical limitations of television.

Are you going to take the system advocated by Mr. Stanton of trying to cover the largest audience covered profitably from a single source, extending that audience on VHF stations because that is what they have by way of boosters and other devices, that is what they have suggested and there is no need for the use of UHF stations or, on the contrary, will you retain the basic philosophy of the Commission and place those stations in accordance with need so as to give the entire country coverage in a free manner? That is the issue.

In support of all the basic representations of the VHF stations, I believe you will find that the Cullom engineering theory is the source, that is the foundation. That foundation says in effect and in substance through Mr. Cullom's mouth as adopted by the others in one form or another that UHF is not only inferior presently but UHF is inherently inferior and under any standards you can attain, UHF is an inferior service which should be limited only to fill in the rural districts.

I desire to challenge that statement.

I desire to say that while I feel lawyers have some right to select their arguments, engineers have no right. Engineers must take the basic technical facts and stick to them, regardless of who pays them, and Mr. Cullom's testimony could not stand that test.

I offer you the empirical evidence in which RCA and NBC, its subsidiary, have stated that they have aided UHF. They have. You have heard some able testimony by very able men trying to support and maintain a multi-billion-dollar investment, but you have got to be consistent.

If UHF is inherently inferior, then obviously there must be a re-allocation and a maximum use must be made of the superior system.

But right at the time when NBC had supported the Portland station, the first commercial UHF station, which had a 1-kilowatt transmitter, there was published and widely distributed in this splendid magazine entitled "Broadcast News," put out by RCA, an article on how good UHF was.

I want to read you some of the things said to the industry at that time. This article was written by John P. Taylor, manager of the advertising section of RCA engineering products department. This particular issue is the September-October 1952 issue, volume No. 71.

Now, the article starts out by saying:

Then going on over in the story a little bit, the article by Mr. Taylor has this to say:

UHF IN PORTLAND—HOW IS IT DOING?

A quick summary.

What did I find out? The whole story is told in detail in the following pages. However, for those who can't wait, here's a quick summary.

(a) In general, the performance of KPTV has been such as to startle the industry. Most of the experienced radio men investigating it in person have agreed that it is "much better than expected."

(b) More specifically, KPTV is delivering class A coverage (74 dbu) to about 20 miles in all directions where there is population, and class B (64 dbu) to 30 or more miles in the directions where there is favorable terrain.

(c) Although there are local dead spots, the total population in these areas is probably less than 5 percent of that in the city proper, and less than 12 percent of that in the whole trading area.

There are other comments with reference to VHF, but I would like to go on to this statement :

Lack of sufficient good UHF receivers and difficulty with makeshift conversions have caused some trouble. Most of this, however, is attributed to inadequate deliveries on the part of some manufacturers. It is felt that these difficulties will be largely cleared in a matter of weeks.

In like manner, men in the industry told the industry that UHF did remarkably well and UHF was giving satisfactory service in a brand-new art and with only kilowatts of power.

RCA went to the industry before the color decision came out, which deals with the entire subject of color and which is a very massive and important compendium from which one might have assumed that RCA did everything in the industry, of course, but in that they put certain documents.

The inference of Mr. Cullom was that he was conveying to this committee the consensus, the accepted consensus of the entire engineering profession. He did not at anytime indicate that he had unique or unusual discouraged views about UHF, although he did say things concerning certain criteria of his that I will mention.

In the petition of Radio Corp. of America and the National Broadcasting Co., Inc., for approval of color standards for the RCA color-television system, at page 525 of that document it says :

In order more fully to test various facets of color broadcasting, NBC transmitted a total of 160 hours of color programs and technical tests over its UHF experimental transmitter located at Bridgeport, Conn. As a result of these transmissions, it is our belief that color broadcasts on UHF can be accomplished as successfully as on VHF and should present no particular problems.

This is not a comparison of UHF with VHF on lower channels. This is a comparison of the entire VHF spectrum with the entire UHF spectrum and an engineering statement tendered to the Congress and the industry that UHF is just as good as VHF for color. In fact, I will tell you that it is better for color than VHF and the tests do show that because of the freedom of the difficulties from portions of the multipath that results from degradation makes it better for color.

UHF has its place in color and that was established, not by one engineer but by all the engineers in the industry.

With regard to other of these basic engineering facts, I would like to refer to the testimony of Mr. Cullom particularly, beginning on page 1083, and in his testimony Mr. Cullom makes a comparison in which he indicates that the Commission did not sufficiently allow discrimination between low VHF, high VHF, and UHF and that the present 1,000-kilowatt standard will not permit UHF to adequately serve the territory which the Commission assigned to each UHF station and which could be used by each UHF station, but statistics are remarkable things, even engineering statistics, and Mr. Cullom's comparisons on page 1084 of the transcript is of channel 2 as compared with channel 13. Then he takes channel 14 on UHF and compares it to channel 83. Thereby he gets comparisons in which he purports to show that the relative area of channel 83 is only 26 percent of the relative service area of channel 2.

But read that with his quoted statement above which is that this order was constructed in the light of the present-day receiver scien-

tifically. The VHF receivers have had all the time to develop, and that was shown in the testimony and it has been remarkable in the elimination of noise and other things. The UHF receivers have shown a constant, definite improvement in all channel receivers, and there is no scientific reason why UHF should not attain the degree of proficiency and perhaps of superiority for reasons that are very technical over the VHF receivers.

Had Mr. Cullom taken comparative receivers, the same in UHF and VHF, he would have gotten different results.

Furthermore, the fact remains that in nearby areas before attenuation of UHF is quite as severe, UHF with 1,000 kilowatts can give wider coverage than can VHF on the average for the channel.

Furthermore, the Commission, in its report, as I have cited the paragraph of the memorandum which is specifically paragraphs 197 to 200 inclusive, states that UHF is fully utilizable throughout the entire United States and is a part of the Nation's broadcasting system, and that was the reason that they supported it, the transfer to UHF and they considered it in all respects to be comparable to VHF. Then they went ahead with their conclusions which, unfortunately, embraced intermixture.

Mr. Cullom and others have inferred that UHF cannot serve the rural areas and VHF is superior for serving rural areas. It might be that we should have VHF in the rural areas and UHF in the big cities. In that event, I think you would find a rapid change from the network affiliations at the present time.

I wanted to turn to the question of what you could do immediately and presently. I submit that there can be presented to you an adequate document to show that the Commission has plenty of authority to act at the present time, particularly with respect to getting major network programming to the UHF stations. I submit that the empirical test that there is no need for any more networks is to count from the top and you get the number they want—down below three.

You were told that the networks space their allocations and base affiliations so that they do not interfere with the next location regardless of the channel in which they desire an affiliate.

That obviously implies that a very substantial number of people, as far as network programs are concerned, are going to get fringe reception. They have to get fringe reception because otherwise there is a degree of interference with some other adjacent city.

I submit to you that that, plus the fact that the programs have not been available to the third or fourth station, is the reason why it is difficult to remain in business today and if you can live through this transitional period and the regulations such as the Commission gives.

My last word, standing on my feet, is that it is a terrible story about how free enterprise is being destroyed and freedom of speech is being destroyed by any regulation of networks. Nobody had such sympathy for the licensee. What is the difference between control of communications in a network and then a licensee.

Senator POTTER. Thank you very much, Mr. Roberts.

Mr. ROBERTS. Thank you, Mr. Chairman.

Senator POTTER. We will now hear from Commissioner Frieda Hemlock. It is always a pleasure to get your words of wisdom.

**STATEMENT OF COMMISSIONER FRIEDA B. HENNOCK, MEMBER,
FEDERAL COMMUNICATIONS COMMISSION**

Commissioner HENNOCK. Mr. Chairman, I want to join in Mr. Roberts' eloquent tribute to the late Senator Hunt. As you, yourself, stated, the Senate certainly felt that way in adjourning in his memory yesterday. I was very deeply affected by it. I am sure all of us were, especially when his viewpoints are so badly needed here.

Senator POTTER. He was very interested in this problem.

Commissioner HENNOCK. Very much interested in this problem, and had a real grasp of it. I have a complete faith in the remaining Senators. I know each of you have worked hard and have grasped the true meaning of UHF and VHF to almost everyone's surprise and to the unanimous applause of almost all of us.

Senator POTTER. Thank you.

Commissioner HENNOCK. To the departing woman Senator who will not be here next year and is not standing for reelection, I want you to know that you will be a great loss not only to the women of our country but to the entire Nation. I have never seen anybody come here on a temporary appointment who has so studiously worked on a problem in the interest of the country.

I want you to know that it has been a real pleasure for me, who has studied so hard and worked so hard to understand the little I understand about communications, to see how much you have grasped in the short time you have been with us.

Mrs. BOWRING. Thank you.

Commissioner HENNOCK. Mr. Chairman and Members of the Committee; I want to thank you for this opportunity to appear here again.

Colonel Roberts addressed himself to Mr. Cullom's testimony with his expert knowledge of engineering. I thought he did a splendid job.

Mr. Pierson did a very splendid job and a very difficult job.

I am referring my testimony to anybody to whom it applies, whoever the remarks fit, take them in good stead. I have pulled no punches whatsoever.

Senator Potter, you were absolutely right when you stated that these hearings were more important than the other far more publicized hearings in which you were a key member. The other hearings were on television, while these hearings are television itself and its entire future. Less than 2 years after the lifting of the freeze and only 9 years after the FM fiasco, we are up against another critical crisis, this time involving 85 percent of all television.

The record of these hearings is replete with evidence of the cruel fate that befell those UHF broadcasters who were attempting to bring a new television service to the people of this country with back-breaking energy and against insurmountable odds. The pattern may be not altogether accidental. For this pattern was successfully tested and established in the struggle of FM.

Not in my memory have there been more effective hearings in so short a time as these. Never any hearings that compiled so much evidence to complete a picture as complicated and important as this one. Although these hearings may determine the future of the most

important medium of mass communications, they have received very little mention in the general press.

The prophets of gloom and doom are at work again in the trade press. Some questions have been raised, they admit, and it has been grudgingly acknowledged that there is a problem in UHF. But, after all, they say, it is foolish to think that the Senate will bother to attempt to solve so complicated and technical a problem at this stage of the legislative session.

I am sure that these prophets will be proved wrong again, just as they were when they predicted that not a single channel would be reserved for educational television.

The long history of fine public service of this committee is well known. Its great leaders—Senator White, Senator Ed Johnson, Senator Bricker—and the members of this subcommittee who, in the course of these hearings, have demonstrated, through their skillful questioning, great understanding of the problem, are not fazed by the technical phrases and mien of an art whose basic problems are economic and social.

As far back as 1938, by mere resolution, this committee did away with superpower AM stations, and but a few months ago, again by resolution, you were able to prevent the adoption of broadcast license fees. Only last year you made a major contribution to the cause of education when you gave your wholehearted backing to the courageous action of the Federal Communications Commission which reserved over 240 channels for noncommercial educational television.

There is, therefore, every reason to be confident that you will meet the challenge of UHF with resolute action as you met similar crises in the past.

As I listened here to the testimony unfold, the ill-fated story of FM seemed to be reenacted.

FM, like UHF, started as a service after a freeze. The freeze which preceded FM licensing was occasioned by the second World War, and lasted almost 4 years.

I think it was more than 4 years. It was about 5 years.

The television freeze lasted just about as long. The dramatis personae are similar, and the similarity is not, perhaps, purely coincidental. Here are the clues: When the war freeze on aural broadcast licensing was lifted, there was a great cry for bringing radio service to the public. Apparently at that time radio service was synonymous with AM. When the television freeze was lifted, there was a similar cry for bringing television service to the public. This time television service synonymous with VHF.

In both cases, two new services were awaiting a chance to get going in a new spectrum space, whose virtues were proclaimed far and wide. In the case of FM it was generally assumed it would become the future home of aural broadcasting; and in the case of UHF, it involved 85 percent of all television.

By the way, Mr. Chairman, it was 3½ years before the conclusion was arrived at as to who to distribute these 85 percent of UHF, including VHF, to. Why should not the people believe it was to be the whole of all television. But in both cases, new expediting procedures favorable to the old service were devised. And that includes FM. They did the same thing.

In AM, the favored device was "drop-ins" of new AM stations, made possible by the ingenuity of the engineering profession in devising directional antennas. In television, the favored devices became mergers and "drop-outs" thanks to the ingenuity of the legal profession. That is why I said Mr. Pierson had a very difficult job.

Through quick processing and by "drop-ins", there were more than 1,000 new AM stations licensed in the 2-year period after the FM spectrum space was opened up for licensing. This figure exceeded the total number of AM stations licensed since the inception of the medium in 1912. And I want to interpolate, needed development and encouragement. Instead of that, there was a rush to license FM. It exceeded the total number of AM licenses since the inception of the AM media in 1912. And in 2 short years they licensed 1,000 new ones while they were trying to get FM started.

Lest there be a misimpression that there was a dearth of interest in FM, I hasten to add that there were plenty of applicants for FM stations. As a matter of fact, I will come to these paper applications, that Mr. Heffernan spoke about, in a few minutes.

As a matter of fact, the interest was so great that the commission during the same 2-year period licensed 769 FM stations. Similarly, there has been no lack of interest in UHF. Three hundred and fifty applicants have applied for authorizations to build UHF television stations in a medium that is much more expensive than radio and must therefore, move more slowly.

I found out that there were 420 applications in VHF and no more. Up to this very minute, you see that there have been no more than that so you can see that there is plenty of interest in UHF. And, believe me, in order to get the construction permits in UHF or VHF you have got to get a lawyer or an engineer and I would like to know what makes those construction permits just paper permits. Maybe the networks can answer that.

Three hundred and ten of these applicants obtained construction permits. There are, today, 127 left on the air.

The clues are the same with respect to receivers. In a four-year period, from 1946 to March 31, 1950, there were only 179,000 FM sets produced. Faulty and expensive they were indeed. During the same period there were 4,600,000 AM-FM sets made. But the production of AM-only sets was a remarkable 46,655,000 during that period.

The retail cost of many AM receivers was \$15 or less, while the FM sets to this day are many times more expensive. Perhaps you know why Professor Armstrong is in his grave at an early age. He invented FM.

Thus, FM was confronted with virtually the same insoluble set problem in a fast-growing AM world that UHF encountered in the VHF world. Out of some 16 million new television sets sold in the less than 2 years since the TV freeze was lifted, only 2½ million are UHF, and I submit, Mr. Chairman, that is an optimistic figure. I don't know the correct figure, in many cases inefficient.

In addition, 15 million VHF sets were acquired by the public before the freeze was lifted, more than 14 million of those during the freeze itself.

Like UHF stations, the FM stations as a class have not been successful in obtaining network programming and the advertising revenues that go with it. Nine years after the aural freeze was lifted, there are, as

far as I know, no FM-only stations that are affiliates of a network. And, Mr. Chairman, I want to say here I am not quite sure about one station which may have network programs in all of FM but nobody is sure. He gets some kind of programing from CBS.

Senator POTTER. Did they when they started out?

Commissioner HENNOCK. Why, of course not. That is my point.

The term "FM only" is used to denote the 60 FM stations that are operated as an independent broadcast service, as distinguished from the approximately 540 FM stations that are used solely to duplicate the AM stations' programing, for which they receive no network advertising revenue. Again, I want to stop for a moment. They always say there are over 600 FM stations. Five hundred and forty are simply duplicating the programing of AM stations. They are used as little auxiliaries.

This record is replete with evidence as to the small amount of program service rendered to the existing UHF stations and the niggardly advertising dollars doled out to UHF broadcasters by the networks. The term "network affiliate" as applied to most UHF stations is a sham and a farce. Just look at the figures they get from them in advertising.

Last but not least, FM, like UHF, was a victim of intermixture and, needless to say, was caught in the same vicious circle—no sets because no programs, because no advertising, because no sets.

I will not repeat the various solutions for the UHF problem that have been recommended during the course of these hearings. And by the way, Mr. Chairman, I, as a Commissioner, consider every licensee's financial and economic problems my own and, if I can help them, I am here to do so.

I would like, however, to say, lest it be misunderstood, that these remedies are intended not only to come to the rescue of those UHF permittees who, as individuals or isolated operators, have suffered financial losses, but also to save a television system whose nationwide competitive character admittedly depends on the use of UHF.

Every witness has admitted that.

I cannot emphasize too strongly that we are talking here about preserving the very essence of our traditional business economy; an economy in which the growth of an industry is governed by normal competitive forces instead of being artificially restricted.

I would like briefly to comment on some of the contentions that have been advanced against the recommendations made in behalf of UHF.

You have heard testimony to the effect that UHF is merely going through growing pains which are no different from those the early VHF operators experienced.

There is no comparison; the perfect analogy is FM, which I have already described.

True, the first VHF operators were pioneers. But they also had a fair opportunity to pioneer. They had a chance to get network programs; their construction permits were repeatedly extended until they were ready to get on the air; sets were being rapidly manufactured and improved; and for 3½ years, while the freeze was in effect, they were sheltered from competition.

The UHF operators, who are also pioneers of a service in a new portion of the spectrum, not only have none of these advantages, but

also have to overcome such obstacles as VHF quickie grants, mergers, and dropouts. And this is not a small obstacles, considering the inordinately large number of such VHF grants. You merely have to look at the number of them to see how many were "quickies" and mergers and "dropouts."

It has been said here that these UHF operators are not pioneers, but gamblers.

Senator BOWRING. Why would they be gamblers in UHF if they not gamblers in VHF?

Commissioner HENNOCK. That is a very good question and I am just going to get the answer to that one.

In reply, suffice it to say that by definition a gambler has the very thing UHF stations are pleading for in this hearing—a chance to win, which they have not got. That is why they are gamblers; that is the answer. In other words, these are no longer gamblers. They are pioneers.

Suppose they get a VHF station in a big city, Mr. Henley, Mr. Russell, Dr. Stanton. They are not gamblers any more. All they want is the gambler's chance to win.

The UHF problems will not be solved by attaching labels. The fact is that when the early venturers in the VHF field decided to enter television, they performed a commendable public service. The UHF operators, who decided to cast their lot in the further development and betterment of television service, deserve the same commendation and recognition. In each case, those who entered the field obviously hoped for a successful business venture, and the problem here is simply to make it possible for the enlightened business aspirations of the UHF operators to result in providing better television service to the American people.

It has been stated here that there is no evidence of the existence or likelihood of monopolistic control over TV program sources and advertising revenue. Let me say this: You heard Dr. Du Mont testify that his network cannot survive without a healthy UHF, and that there was doubt whether a weak third network could exist. Suppose two networks should constitute virtually the sole source of popular programs, so that the life or death of a television station would depend on the nod of one or the other of these two networks, and, in fact, they and not the Commission would determine the number and location of television stations, would this be evidence of free competition or monopoly?

I will make one concession; under such circumstances, if two networks were to dominate the field, the more proper term would be duopoly. But, whatever the name, the result is the same—no competition. Of those who seek enlightenment as to the meaning of monopoly.

I was referred to as a lawyer and a commissioner and perhaps I am not a great economist.

I ask whether, in the public domain of television communication, the control of 85 percent of all TV network advertising revenue by two networks is evidence of healthy economic base for the industry.

You have been warned that a move of all television service into the UHF band is a drastic step which would cause terrible dislocation to the industry and public alike. Let us see whether this is really so.

At the outset, let it be understood that nobody has proposed to accomplish this shift overnight. All proponents of the shift agree that an amortization period must be provided. I believe that 5 years would be all that is needed. The average cost to a VHF station of such a change would be approximately \$100,000. This would pay for the changes in the transmitter and the radiating portion of the antenna. No other equipment changes are involved.

Sometimes it does not need any studies or anything else new except for transmitters to tune into another channel.

This surely is not an unreasonable expense considering the healthy financial state of the VHF broadcasters, and the rapid rate at which they amortize the investment in the physical plant. In other words, an expenditure of \$25 million over a period of 5 years by 250 VHF stations which earned \$74 million net last year, and whose profits are bound to increase—that means \$5 million a year by these 250 VHF's—especially for the 140 of them which are new stations, should not be cause for legitimate complaint by licensees privileged to use this great medium.

I might say that they only get a 3-year license to use these channels. They never have a vested interest under the terms of the Federal Communications Act.

When you asked Mr. Pierson what is the right of that little hamburger stand on the main road when we decide to move that stand over to the other side of the road, you should have added, provided he only had a 3-year interest in that place and had no vested interest.

As for the 30 million set holders, I would rather entrust their fate to you, Senators, than to those who have suddenly become the trustees of the public's investment in television, and who at the same time deny programming to 85 percent of TV channels. A shift to UHF after a stated period of years would not have a serious adverse effect on them; I mean on these 30 million sets.

The life expectancy of a television set is calculated as not more than 5 to 6 years. And, by the way, I was amazed that they do not want to get color to UHF when they have only 5,000 sets in the hands of the public, according to Mr. Heffernan. They don't want to give even that to UHF and they say that it will delay it. If, during that period, color TV makes headway, this in itself would to a large extent obsolete the monochrome sets.

In any event, I hope they do, because it is a great improvement.

In any event, the Commission's present allocation plan, in which 85 percent of all television channels are in the UHF, contemplates that the public would make an investment in sets capable of receiving UHF signals. As a matter of fact, that is the only reason why I voted for intermixture, the vote for which I apologized very profusely.

Is it unreasonable, therefore, to expect the public, after it has received several years of service from a VHF set, to buy a UHF set or to invest in a converter at the reduced price 5 years hence? You know how quickly these price reductions, especially mass production, come about, and these people are geniuses of mass production.

Surely this is not too high a price to pay for a nationwide television service with the variety of programs resulting from an increased number of stations. The mere announcement that the future home of television in 5 years will be in the UHF band will be an incentive for manufacturers to make, and for the public to buy, all-channel sets.

This, in itself, would, during the 5-year transition period, place some 25 million to 30 million UHF sets in the hands of the viewers and, thus, gradually build a mass audience for UHF.

In speaking to a well-known manufacturer of television sets within the last few days, I was advised by him that he would put on the market this week a VHF set retailing for as low as \$129.50—for a 17-inch set. I asked what would be the cost of an all-channel receiver of the same size, and was told that if the excise tax on all-channel receivers were removed, this manufacturer could immediately provide such a set for the same price—\$129.50 in American money, and retail at that.

Mr. Chairman, I want to say something more. The question of the price of the antenna has arisen and I immediately telephoned the same manufacturer this morning. After 2 hours of difficulty in reaching him at a convention, I said to him, "What about the cost of antennas for UHF's?"

Of course, you need separate antennas, as you know.

He said, "Well, that is included. I will make and give them that \$129.50 set with UHF and VHF antennas included, provided the excise tax is removed. There is no question about that antenna at all."

By the way, I want to point out that in certain VHF sets today, the lower VHF channels and the higher VHF channels need separate antennas but the ingenuity of this industry, and I like to give the devils their due, is so great that they have mastered that completely and they have those antennas in the sets today for the lower and upper VHF channels and he said I have seen it already inserted for the UHF. I thought you would be glad to hear this.

You have also been told about allocation difficulties that would exist in carrying out any shift from VHF to UHF. These difficulties are greatly exaggerated. Engineering talent to verify the feasibility of each reallocation is readily available to this committee. I suggest that some of our greatest engineers—while we are claiming our share and I think we have some wonderful ones in the Commission—would be available to you and I suggest that you check with the engineers in the Army and the Navy and other engineers. They know more about UHF and VHF and I would be interested in your getting their disinterested views and asking them what they think about UHF for complete nationwide service.

I am sure the Commission itself can supply all the technical data that is needed, and that will provide full substantiation for the contention that UHF can provide an adequate nationwide TV service.

There was a tendency in the testimony of the VHF operators to detract from the performance of UHF. Those who would have you believe that UHF signal cannot reach far out are doing you and UHF a great injustice. Engineeringwise, such views are without foundation. You heard Dr. Hunter's testimony that his signal at Michigan State was received 60 miles away with its present antenna and transmitter. I found it very amusing because he said it was received as far as Ann Arbor. You know what that meant—the University of Michigan.

Senator POTTER. Yes, and I bet they did not tune in on him.

Commissioner HENNOCK. And only recently RCA has announced the development of an antenna that is capable of a gain of between 40 and 50, which means that commercially available 12-kilowatt UHF transmitters will provide 500 kilowatts of radiated power.

And today there are plenty of them in the hands of these UHF operators. We only allow the stations to go to 1,000 kilowatts of radiated power to make the UHF and already this antenna will take a mere 12-kilowatt transmitter and build the signal out that far. That is one of the most amazing developments and only recently they, themselves, announced it.

De-intermixture has been suggested here as a remedy for the ills of the UHF. It will not do. For the problem is not city intermixture, but area intermixture. And de-intermixture will not eliminate the latter. Let me illustrate.

If city A and city B each presently have both VHF and UHF channels, and intermixture is eliminated in both cities, the problems of intermixture are eliminated in the immediate vicinity of each city. But if city A is exclusively VHF and city B is exclusively UHF, a large percentage of the viewers between city A and city B will still have the problem because they will be receiving city A and city B both.

And, Mr. Chairman, I am concerned about the obsolescence of the sets in each of these areas. If you were suddenly to switch the city of Washington to UHF from VHF, then what would happen to all the sets around this city? I don't know what would happen and by the time they concluded these studies on a city-by-city basis and a case-by-case basis, as is suggested—and I don't know if you have any children or grandchildren, but I don't think that they in their lifetime would complete that process.

It is ironic indeed that in this hearing, which is concerned with preserving a nationwide competitive television service, the proposal to raise the limit on the maximum permissible ownership of TV stations should be endorsed. The adoption of this proposal would, of course, do nothing to help UHF. It would only increase further the power of multiple owners.

It would be small comfort to a UHF operator unable to obtain network programs to know that the same network owns additional UHF stations, undoubtedly located in the best UHF markets. Recently, one of the networks acquired a UHF station in a major city for \$1. That was in Kansas City.

But, unfortunately, it was in a three-VHF-station market and it had to shut the station down. In other words, if you gave it to them in bad markets, they will drop them. Give them some more good UHF's and take it away from the few good UHF's that are around.

Covetous eyes have been cast on the VHF channels reserved for educational TV. I am confident that this committee will give short shrift to those who have been ungracious enough to attempt to use its forum to destroy educational television. I want to remind those who would place their selfish interests above the rights of the people of the late Senator Tobey's proposed 11th commandment: Thou shalt not covet thy neighbor's educational television channel.

For cooperative use of one educational channel in any one given city on a completely noncommercial basis, all segments of education must organize, acquire public funds, and mold together a new school system of the air.

By the way, Mr. Chairman, in Detroit the Detroit public schools, Father Steiner of the Catholic schools, and the Protestant schools, have been working together for 2 years.

Senator POTTER. And they are doing an excellent job.

Commissioner HENNOCK. Yes, and you know how long it takes them to get together through the use of cooperative meetings. They are doing it beautifully today.

Nevertheless, today there are any number of major cities which have taken steps to build educational television stations. To expect education to move faster than it has, to spend money in the public interest to develop this medium for its use as a nationwide school system of the air, is to negate the very necessity for a reservation—to give educators time which they so badly needed to get this system started.

There is testimony in the record which shows that if UHF dies, 15 States some of them the most populous, will be without educational reservations.

You remember Mr. Cohn of Pennsylvania, who produced that very fine exhibit.

In conclusion, there are the measures that can and should be taken at once. I need not tell you what that will do on a nationwide basis to educational stations. It will cut the heart out of it.

1. Stop all mergers, dropouts and dropins.
2. Make network programs available to UHF stations.
3. Reinststate the canceled construction permits of those UHF permittees who had previously requested that they be extended.
4. Increase the coverage of UHF stations by means of boosters.

I was surprised to see that the VHF still want to increase their coverage. You remember the graphic exhibit that some of them used showing coverage of not only counties but many States.

5. Announce a program of moving television into UHF, to be completed at the expiration of 5 years, and institute an appropriate allocation proceeding at once.

I referred to many other measures in my first statement when I appeared here.

I have absolute faith that this committee will not permit UHF to share the fate of FM, with the terrific consequences to television as a nationwide competitive service that will go with it.

I might say here that this medium is the synthesis of all the mass media of communications. It is a combination of radio, newspaper, movies, magazines. It is greater than all of them or any of them.

The public acceptance has been so great, Mr. Chairman, that despite the fact that during the freeze we moved television to UHF and changed our standards to accommodate a color system, the public bought 15 million sets to tune in these 108 stations.

What does the public expect now, just a little monopoly, or does it expect to use all the channels that I suggest? I think this medium is greater than any of us realize and certainly has the dynamics beyond almost conception. Even the industry itself never realized how important television was. Many of them even today did not go into as many VHF stations as they could have and they were the smartest in the business.

There should be a Senate resolution urging the immediate attainment of these objectives. In addition, insofar as any of these suggestions are proper subjects for legislation, this committee should take steps to introduce appropriate bills as quickly as possible.

I have various bills in mind, such as not allowing in interstate commerce any sets that are not all-channel sets. There may be some constitutional questions raised, but I think we could iron those out and I think the courts would sustain us.

I am in favor of the Johnson bill and I think the Bricker bill is good.

The pattern of FM is apparently being repeated. Witnesses before this body have testified that we should be wary and take time to consider all the possibilities.

I am amazed at Mr. Heffernan's statement where he says:

We believe, also, that, before concluding to make such a study, everyone concerned should give careful thought to the effect the very institution of the study might have on UHF itself.

But that is even before you think about thinking about a study. Take your time now. Don't be hasty.

Under ordinary circumstances I would be the first to agree that we should not make hasty decisions on matters such as these. However, it is clear, in view of the testimony which this committee has heard, that things have reached a stage where, if a solution requires a year to work out, it is no solution at all. You have heard that within 60 days 40 UHF stations are likely to go off the air. The impact on the rest, if this takes place, I need not tell you. Every day's delay helps to weaken UHF beyond the point where recovery is possible.

But there is no need for any delay. The testimony is before you. It shows conclusively that action is needed now. A few deft strokes by this committee are all that is needed. The enactment of the Johnson bill to remove excise tax on all UHF sets, which I wholeheartedly endorse, cannot alone do the whole job. This committee must move swiftly in several directions, not the least of which are network program availability and advertising. Also, an announcement should be forthcoming that the applicants now in competitive hearings for VHF channels would be subject to change to UHF.

Now, Mr. Chairman, with your permission, I would like to incorporate in the record the statement on UHF I made recently before the NARTB convention in Chicago.

Senator POTTER. We will be happy to have it.

(The statement referred to is as follows:)

STATEMENT OF COMMISSIONER FRIEDA B. HENNOCK, FCC PANEL AT THE NARTB CONVENTION, CHICAGO, ILL., MAY 27, 1954

You have gathered here to take stock of your accomplishments and to discuss your problems as broadcasters. You can be justly proud of the nationwide radio service you have built. You have given this nation some 2600 AM stations providing hundreds of communities with local means of expression. You now face the challenge of creating a nationwide television service. This is a challenge worthy of a great and free broadcasting industry.

Your convention was preceded and will be followed by the fateful hearings before Senator Potter's subcommittee. These hearings will decide whether UHF will live or die. If the UHF lives, a nationwide competitive television service will flourish; if it dies, competition in television will die with it and this powerful medium will wither into a rigid pattern of monopoly.

In my statement before the subcommittee, I made five specific recommendations to help save UHF. While I continue to believe that their adoption would alleviate UHF's plight, I am now firmly convinced that only the eventual move of the TV-service into the UHF band can save the patient.

It was the testimony of the UHF broadcasters that caused the crystallization of this conviction. They brought forth not only the urgency of their immediate problems, but also the realization that palliatives will no longer suffice; that

nothing short of drastic action, with long range objectives, will do. And the long range objective is now, as it always has been, a nationwide competitive television service.

Plans to move television into UHF should be made now, so that there would be a minimum of delay in taking the steps necessary to accomplish it. This does not mean, however, that the actual shift should be made now. On the contrary, a reasonable period, 5 or even 10 years, if necessary, must be allowed to amortize the broadcasters' and the public's investment in VHF. By setting our sights on this goal we must not overlook any interim measures that would help the existing UHF operators whose difficulties were so dramatically laid before the country last week. I cannot emphasize enough the importance of the Johnson bill to remove the excise tax from UHF sets. Also the FCC should do everything in its power under the Communications Act immediately to bring network programming to the existing 127 UHF stations on an equitable and competitive basis. Otherwise we will have the same vicious cycle—no sets because no programs, because no advertising, because no sets.

The Commission has long recognized that the 12 VHF channels are woefully inadequate to provide a healthy nationwide competitive television service for the people of the United States. During the 1948-52 freeze, we in the Commission and you in the industry devoted most intensive efforts to the problem of providing for an expanded television service. The result was the decision to utilize the entire portion of the ultra-high-frequency band which had been set aside for television broadcasting to achieve that end. So the freeze was lifted, and we all hoped that UHF television would develop to achieve its necessary place in American television broadcasting.

Although this was our hope, the methods we used to bring quick television service to the people of the United States achieved just the opposite result. It has now become painfully apparent that to continue on the course we embarked on when the freeze was lifted will result in a television service limited to the same 12 VHF channels that have been considered inadequate for a nationwide service.

As far back as 1945 the Commission anticipated that eventually the UHF band would become the home of television. Three years later we imposed a freeze during which we devised an 82-channel VHF-UHF allocation plan. How can we possibly in 1954 be content with what will simmer down to a 12-channel service if UHF is not saved? Will the public which has so enthusiastically responded to television accept such restrictions on this powerful means of expression? Will it accept a few hundred stations where it could have 2,000? Will you as independent broadcasters accept it? Of course not! This country is too big, its needs and interests, both economic and cultural, are too diverse to be satisfied with a television service from some 200 large VHF stations in the first hundred major city markets, and with no opportunity for local means of expression in the countless hundreds of smaller markets and communities.

The question has been raised as to whether or not the 70 available UHF channels can technically provide for a nationwide television service. I have no doubt that they can. Roughly the loss of the 12 VHF channels would represent a 14 percent reduction of the total assignments. The over 2,000 allocations that we have made today do not represent the complete saturation expected in limited metropolitan areas, so that there is room for more channel allocations. Furthermore, a great many are mere paper allocations made to sparsely settled areas which will not be used in the foreseeable future. Many of these allocations could be shifted to fill pressing needs. So, even in the densely populated north-east section of the country, UHF channels could be found to replace the existing assignments.

I admit that if we could have a nationwide television service in the 70 UHF and the 12 VHF channels, that would be fine. But the way things have developed since the Commission resumed the licensing of TV stations in July 1952—the way VHF has been permitted to smother UHF—you and I know that this is no longer possible. Where the choice is between 70 channels or 12 channels, who could argue in favor of 12? You have 107 channels in AM, why should you be satisfied with 12 in TV—a medium so much more powerful than radio?

The only course open now is the severe and drastic action of moving all television into the UHF band. The sooner the necessity for this action is recognized by all concerned the easier it will be to accomplish. The longer we wait the more dislocation such a move will cause. For I am convinced that ultimately the need for this move will become apparent to all of us.

So why not start immediately? In order to implement a complete UHF television plan, the Commission would have to draft a nationwide allocation table

which would provide sufficient service throughout the country and, at the same time find, if necessary, substitute assignments for VHF licensees and possibly some UHF licensees. This new allocation table could be put into effect in a comparatively short time, providing we get the necessary cooperation from the industry. In the meantime, of course, no additional assignments would be made on any TV channels. After the new table of allocations is in effect, there would come the job of assigning channels to existing licensees in exchange for those that they have and then the determination as to the details of transition.

Every possible measure should be taken to make sure that VHF stations are not unduly harmed during the transition period and that they are treated equitably. Appropriate provisions should be made for amortization of VHF equipment in the hands of the industry and the public. The period and allowances for amortization would have to be reconciled with the objective of shifting over to UHF with the least disturbance and upheaval to existing licensees and the 27 million VHF set holders. This orderly transition with proper safeguards should be the prime interest and concern of the Commission. With the cooperation of the existing licensees and the entire industry, I am sure that this would be accomplished.

That this action must be taken is the conclusion which I have drawn from the gloomy picture that was so vividly and forcefully presented last week to the Senate committee, the Commission, the broadcasting industry, and the people of the United States.

Commissioner HENNOCK. Thank you for your patience and courtesy.

Senator POTTER. Thank you very much.

We will now hear from Mr. Ted Pierson, representing the VHF group.

REBUTTAL STATEMENT OF TED PIERSON, REPRESENTING THE VHF GROUP

MR. PIERSON. Mr. Chairman, on the calendar distributed this morning, the 30 minutes' time for VHF which was assigned for our group was put opposite my name and I think it would be a little presumptuous for me to use all of it, because I think there have been appearances by some people who had some disagreement with the UHF proposals.

I suggest, if I may, that the three networks are now represented. I am not informed as to whether they desire any time.

Senator POTTER. You don't know? We have had no request from the networks for any time.

MR. PIERSON. I am suggesting it be charged to my time if they do desire time.

Senator POTTER. Yes; you would have to give them the time. I might ask now, Is there anyone here from the networks who would like to utilize some of Mr. Pierson's time?

MR. HEFFERNAN. I would like to use 1 minute if I could, and it should not necessarily be charged against Mr. Pierson.

Senator POTTER. We have tried to split up the time as best we could between the two groups. Would you like, at the conclusion of Mr. Pierson's statement, to present your statement?

MR. HEFFERNAN. Anything you like.

MR. PIERSON. I think he might go ahead and, if it runs over 1 minute, charge it to me.

MR. HEFFERNAN. I believe Commissioner Hennock may have misinterpreted the reason we made and the reference we gave to a study. We have in mind such points as this. We are now engaged—I think almost all of us—in the hope that some means can be found to build all-channel receivers.

Now, when we consider the wisdom of eliminating intermixture, we should have in mind that if we embark on that and that becomes the official action of the Commission, the inducement to manufacturers to make all-channel receivers may be lost because, presumably, out of that study will come some markets that are all UHF and some that are all VHF. I am suggesting that there are considerations that should be weighed pro and con.

I am not suggesting that there should be delay.

Senator POTTER. All right, thank you, Mr. Heffernan.

You may proceed, Mr. Pierson.

Mr. PIERSON. I perhaps should apologize that I created a discordant note in these proceedings. I think I might put our appearance and views somewhat in context.

I believe that both VHF and UHF operators would agree with the statement that they generally make appearances before Government agencies and subcommittees of Congress when they have a personal interest in pending legislation or pending regulations.

I think in this case that the UHF people were distressed at their losses and that, for this reason, it caused them to appear before this committee and state that personal interest and, in addition, advance reasons in terms of public interest why relief should be given to them.

They also made proposals. Those proposals, by and large—that is the first four I referred to in my analysis before the Commission the last time was the elimination of intermixture, the elimination of VHF, the freeze and the reduction in coverage area of VHF stations—all would vitally affect the private interests of the VHF people.

I have no hesitation in saying that their decision to make an appearance resulted from these proposals that would cost them millions of dollars. I think we are entitled to state what that interest is.

I agree completely, however, that to the extent that our views here with respect to their proposals cannot be determined solely on the basis of the public interest factors we should lose.

As I said, I think, it is clear that if their proposals are not adopted, any one or all of them, some UHF people are going to lose money. If their proposals are adopted, some VHF people are going to lose money.

I do not think it is possible for this committee to appraise the difference between them and I do not think it is important for this committee to do it.

I do not apologize for the private interests that actuated the appearance of the VHF group. I do insist, however, that what we have attempted to do is to state our views on the basis of public interest.

Now I am somewhat at a loss, after the rebuttal statements, to understand precisely the problem that is presented here by the UHF proposals. It was my understanding that UHF operators had a difficult time in competing and that one of the reasons for the difficulty was that they did not enjoy as much coverage as VHF stations. I was quite surprised to hear Mr. Roberts state that they actually were better. I was quite surprised to hear Mr. Cottone insist at one time and the same time that intermixture cannot survive and yet UHF is as good or a better facility for serving the people.

Mr. Roberts is a lawyer with a substantial engineering background, but he is hardly in a position to rebut Mr. Cullum. I personally don't

know whether Mr. Cullum's testimony is correct or would be agreed to by all consulting engineers or all engineers acquainted with the problems. I do suggest that if there is any doubt on the part of this committee as to the accuracy of the testimony of Mr. Cullum that they will best find that out, not by statements by me or Mr. Roberts, but, by consulting engineers who have the stature and the experience in the industry that Mr. Cullum has.

In that effort to consult them there is a question in my mind whether it makes any difference. Because if the committee finally finds that UHF can supply as much coverage as VHF—in other words, if it is a fully competitive medium from a technical standpoint, then it seems to me there is no reason to be concerned about intermixture except on the question of set circulation.

In other words, if they are equal then there is no inequality in the means that the Commission has furnished. There is inequality in terms of the time that they came in and their opportunity to date to get set circulation.

If, on the other hand, this committee finds as a result of its consultation with engineers that you believe competent to advise you that there is a difference between the coverage potential of UHF and VHF, taking into consideration all the possible foreseeable developments of UHF, then I submit that our position that if you take away the superior medium you would tend to deprive people of coverage that they now have and would tend to deprive many people in many areas of our country from coverage which they have not yet got but might get through VHF. So, perhaps in either case I should say that I believe that the finding of the engineers tends to defeat the proposals made here.

Mr. Cottone made a remark about my principal desire here seemed to be to defend people in selling their stations for \$8,500,000 and making 300 percent profit.

In the first place, I know of no existing licensee in our group who sold his station for \$8,500,000, or he would not still be a licensee so he would not be a member of this group.

Secondly, if any of them have been involved in any such transactions, they paid \$8,500,000, they did not get it.

Also, I would like to point out there there are 33 applicants and there are 20 permittees that are included in the 135 interests that have supported the group presentation. Those people have not their first dollar of income. All they have done is spend money for prosecution in the application proceedings and the permittees have spent money in the attempt to build their stations.

I would put them in the category of the UHF people. They are spending a lot of money. They have only hopes of making a profit.

In addition to that, there are a number of VHF licensees—82 VHF licensees—that still have not turned in profits and I suspect that there are many of them that have no prospects of selling their property for \$8,500,000, or earning a 300 percent profit.

It was alleged that I stated that Congress has no responsibility in this matter and I must confess that my suggestion was rather blunt. I should have been more careful because it did not actually portray my feelings or the thoughts of the group. What I meant to say and now say is that it is very important for committees of Congress to keep

a close check on its administrative agencies and hearings such as this performing a very vital function in our whole system of Government.

I think the hearings were desirable. I think they have done a lot of good. But I do believe this, that once you investigate the trusteeship of a particular agency and find that it has handled a very difficult problem in a particularly exemplary way, that you do justify further confidence in that commission or agency.

I was suggesting that in these complex economic, technical, and social matters that it would be highly desirable, in my opinion, to obtain the further views of the Commission and the views of any other experts that you might desire before you attempt, on the basis of the record so far, to make a final disposition of the problems.

Miss Hennock's statement: While I would say its principal thrust was that there is an analog in the fate of FM that predicts the fate of UHF, I must respectfully disagree with this very charming lady, because I think the analog does not exist. The difference is this: At the time FM was adopted, there was not a paucity of channels in AM in this country in respect to a nationwide service. There were enough AM channels and frequencies to provide a service nationwide and there had been for a long period of time.

FM came into existence primarily because it offered superior fidelity in terms of reception and there were certain—and I am transgressing on engineering grounds now—but as I understand it, it was relatively noise-free as compared to AM. There is greater fidelity in transmitting and receiving sound which had its major effect obviously in the musical programs and the wide range that it would transmit and that was the principal advantage that FM had.

It was not that people were not getting an aural radio service in many areas of our country that made it necessary. It was just that they could get a higher fidelity service out of FM than they could out of AM.

I submit that that is not the status of UHF. As we testified before, and still state, UHF is needed to provide a nationwide service. Nationwide service is demanded by the public and I am satisfied that that demand is going to be met.

Now, Miss Hennock referred to the late Major Armstrong. I happen to recall that Major Armstrong very strenuously opposed the moving of FM operations from a lower band to a higher band and my recollection is that, until the day of his death, he assigned that move as the thing that destroyed FM.

If we must use the FM analogy, if we must use Major Armstrong as an authority, I think he is a rather slender and slight authority here.

Again, in Miss Hennock's testimony, the problem of the hamburger stand was revived, I confess a very inept previous answer. I concede, Senator Bowring, that in the interim I have perhaps thought more about no other question than that which was put to me at the hearing concerning the hamburger stand.

What seems to me to be a more perfect analogy would be in the case of the turnpikes where the State government outlines the right-of-way or where they may be established and then grants a permit to privately financed corporations to build the road, hamburger stands, and stations. That, it seems to me, is what the Federal Communications Commission is doing. It has not built the roads, it just told

people where it can build these stands and the roads. It has also invited capital to come in and bid to offer to build the roads and the oil stations and the hamburger stands.

I believe that if any State government attempted to say that 1 year after the turnpike was built with this fabulous investment, that it should be put someplace else, that there would be a considerable question as to whether the Government would not at least be morally liable and I would have sufficient confidence in their legal liability to take the case, the case of the people who made the private investment and built the road, the hamburger stands, and the oil stations.

Also, Mr. Chairman, I would like to refer to the report you had from the Commission about the life expectancy of television sets which was 6 or 7 years. I have not seen the study but it seems to me that, since there were few up to the year 1947 that we have had very little time to determine what life expectancy was.

Senator POTTER. I would assume, also, that a lot of the turn-in of sets prior to that time was to get larger screens. I would imagine that the screen size has about stopped. I don't know.

Mr. PIERSON. I suspect so, or else we will have larger living rooms, but I think that during the course of this period of trading in of sets and junking of sets, it was inspired by the desire to get a larger set.

We believe, Mr. Chairman, that that record fairly shows that many UHF operators are confronted with the problem of breaking the vicious circle of circulation, programs and revenue.

I want to make clear that we believe it is important to the entire industry that this circle be broken. We still believe that it can be broken by means that are consonant with our present methods of broadcasting.

We believe that some remedies are contrary to that concept and have stated our reasons heretofore and I will not attempt to repeat them.

We believe that the remedy of de-intermixture is a drastic one and one that we think would be of doubtful use even as a last resort. If given time, along with the help of Congress and the Commission and the industry does not defeat this problem, then perhaps de-intermixture must be seriously considered and perhaps even adopted.

I think its great injury upon the public requires that we exhaust other remedies first.

In any event, I would think that a program of de-intermixture would require very careful study and research and, to that end, I suggest that the committee immediately refer the matter to the Federal Communications Commission for study and, in order that the committee might have independent advice from experts, that the committee set up an ad hoc committee of experts, engineers, and those acquainted with the problem to make a study of the actual effect it would have in the various areas.

There would seem to be two areas of action by Government that would better industry's chances of breaking this vicious circle without such drastic remedies.

We refer to the action that might be immediately taken by the Government, first, in more distribution of UHF set; secondly, more television film programs.

In the UHF set circulation problem, it seems to me that it is clear from the record that if a substantial number of UHF stations closed

down, it will tend critically to reduce UHF circulation so long as there are VHF only sets being sold. I do not think that the closing down of those stations would have that result if on the market there were only VHF UHF sets.

Therefore, it would seem to me to be that one of the primary objectives should be to try in every manner possible that is legal and appropriate to limit the circulation of VHF-only sets.

One of the ways that has been suggested is lifting the excise tax.

Another way is voluntary agreement between the manufacturers and the Government.

Another way is a regulation of receiving sets that are involved in interstate commerce, which I assume would be all of them.

We believe that the regulation of the manufacturing and distribution of receiving sets, that is, their transportation in interstate commerce, introduces a new field of governmental regulation and control that would have many great hazards and I believe requires much further study and, in any event, should only be used as a last resort, and only considered as a last resort.

The lifting of the excise tax from the receiving equipment, both UHF and VHF, certainly, according to our information, would tend to drive VHF-only sets out of the market but we are practical enough to realize that there is no certainty that Congress will adopt this remedy, at least in this present session, and I agree that all that can be accomplished in driving the VHF sets off the shelves is desirable.

I suppose we must say, in perfect frankness, that the lifting of the excise tax at this point is just a hoped-for remedy.

It seems to me that voluntary agreement among manufacturers may provide a means by which this can be done but it has certain problems that I am not sure are insurmountable. The television manufacturers are subject to the antitrust laws, the Federal Trade Commission Act and the Congress saw fit to include such sections in the communications act with respect to the requirement that they not enter into any agreements that would tend to restrain competition.

I suspect, therefore, that if this committee or the commission attempts to call manufacturers into a conference for the purpose of all agreeing about this matter, that many of them will be highly concerned about possible law violations in which they would be involved as a result of the conferences or as a result of any agreements that resulted.

I am not certain that the narrow scope of the agreement here would actually result in a violation of the antitrust laws, but it seems to me that the lack of certainty that there would be, would be what would create the concern.

Senator POTTER. Bring about a fear in their minds?

Mr. PIERSON. It seems to me they should immediately consult the Attorney General and ask the Attorney General's opinion on whether a conference or an agreement conducted along the lines that would be necessary to accomplish this purpose would be in violation of the antitrust laws.

If the Attorney-General's opinion should be that it is not, then I think this committee should make that finding and I think expression by the full committee would be desirable in guarding against future private suits or government suits.

Then I believe the way would be fairly open to do it and to hold the conference.

If he holds otherwise, then it seems to me that the only hope to hold these conferences and the only chance for success would be legislation exempting such conferences and agreements from the application of the antitrust laws.

This practice was followed with respect to a lot of the emergency legislation during the war years, in which price-fixing and standardization of products were involved.

We have submitted to the committee a rather hastily drawn section, and whether it would be an amendment to the Communications Act or the antitrust laws or a bill or an amendment, is not yet certain. I am satisfied that something of that nature encourages and makes possible the success of a conference.

There is no pride of authorship and probably, on more careful study, it should be changed.

I suggested earlier that we did discern a possible field for tax relief that would tend to increase the availability of film programs to the industry. I am confronted with the same problem that I was heretofore in that reference, and that is the lack of time to fully explore it.

We have prepared a memorandum which attempts very briefly to state what has happened to some people in the industry and appeared to them to be a problem, a situation that tends to block to a substantial extent the flow of old and new film to television.

I believe that to the extent that aid is possible through consideration of this type of tax inducement, it would tend to break in another part of this vicious circle.

We have made no attempt to study and reconcile that proposal with the present governmental policies, but I do believe it offers a possibility.

Senator POTTER. I would like to make this memorandum entitled, "Opportunities of Increasing Television Film Program Supply Through Tax Inducements," a part of the record at this point.

MEMORANDUM

OPPORTUNITIES OF INCREASING TELEVISION FILM PROGRAM SUPPLY THROUGH TAX INDUCEMENTS

In many instances Congress has granted tax benefits to accelerate the growth of infant industries or for the purpose of inducing expansion of existing industries where it found that the public interest would benefit as a result thereof.

Thus, we are all familiar with the accelerated depreciation rates which were granted to emergency facilities during the war and more recently to the builders of grain-storage facilities. The granting of depletion allowances to induce exploration for oil and various minerals has also become a standard inducement in congressional tax planning. Similarly, suggestions that the excise tax be removed from television sets adaptable to receiving UHF for the purpose of inducing the production of such sets have been favorably received in this hearing.

One of the more important sources of television is the filming of shows. This source of program is relatively in its infancy, and at the present time requires the taking of substantial financial risks by persons, such as established stars, writers, and producers, having no incentive to take such risks because of the tax inequities involved. It appears that much could be done to increase the quantity of film now available for television programs by the adoption of certain tax inducements.

Generally speaking, there are two sources of filmed programs currently available to television: (1) the thousands of reels held in storage by the motion-picture companies, and (2) special filmed programs currently produced for television release.

To date, the television stations have not had too much success in obtaining the pictures held in storage by the motion-picture companies. The motion-picture producers owning such film have been slow to release it to television stations for several reasons. First, producers owning such film apparently fear reprisals from motion-picture exhibitors, and up to the present time have apparently felt that television would not be able to take up any slack that might result if the motion-picture exhibitors were injured as a result of the release of the pictures to television. This resistance of the motion-picture producers to releasing film to television seems to be slowly breaking down and will perhaps be not too serious a problem in the near future. However, even where the motion-picture producers have indicated a willingness to release such film now held in storage for television use, the asking price is often so high as to make prohibitive its use by the average television station during its infancy. It is here that it appears that Congress might be in a position to do something that might reduce the price of such film as might be released by motion-picture producers through the granting of certain tax inducements to the owners thereof.

As an illustration, while motion-picture producers are permitted to amortize the cost of production of films while they are being rented the same as if they were capital assets, upon the sale thereof the Commissioner of Internal Revenue treats them as inventory; and the proceeds from any such sales, therefore, are ordinary income for tax purposes. As the bulk of film now held in storage by the motion-picture industry has been amortized to zero, every dollar that might now be received by a motion-picture producer from the sale of such films would be ordinary income. Thus, assuming that the majority of such films are held by corporations, 52 percent of every dollar received from the sale of films would be paid in Federal taxes. There is little doubt that in setting a price for films the motion-picture companies will take this tax factor into account, as they are interested primarily in after-tax dollars. We believe, therefore, that if the taxes were less on the sale of motion pictures now held in storage, the price the motion-picture company would charge for the films would also be less. The importance of this to the television industry is that it would have the effect of making the cost per picture less to the television station.

The simplest way of making motion-picture film now held in storage available to television stations at a lower cost would be to permit the motion-picture companies to sell film now held by them to television stations at a capital-gain rate. This could be accomplished by amending the law so as to provide specifically that motion-picture films previously released for theater exhibition could be treated as capital assets rather than inventory when sold for use in television. As there is an immediate need for filmed programs held in storage by the motion-picture companies, the term of any such tax amendment might well be limited to sales made within 1 or 2 years after the date of the enactment of any such amendment. Such a short term might tend to spur the motion-picture companies to sell some of the film product now held by them in the immediate future, which is the period of greatest need.

Of course, the release of film now held in storage by the motion-picture companies for television programs would have to be supplemented and ultimately supplanted by new film produced primarily for television; and in the long run it is this latter source that will fill the greatest need. Up to the present time one of the greatest problems encountered in producing new television-film programs is that it is difficult to induce competent and established stars, writers, and directors to enter into the new field because of their personal tax problems. As an illustration, the majority of the more capable motion-picture stars, directors, and writers have such substantial incomes from producing theater motion pictures that they would keep less than 10 cents on the dollar from any additional income they might receive from participation in television-film production. The quality of film program necessary at the present time requires the services of the stars, writers, and directors who generally are in the highest of tax brackets, and, therefore, have no incentive to come to the aid of the television industry.

There would appear to be some justification in establishing tax inducements for the stars, writers, and directors who would engage immediately in the production of television films in order to eliminate one of the most serious problems confronting the infant television industry. It would not be necessary that such tax inducements be permanent, but they could be granted for a period of

several years until television stations as a whole are on a firmer economic footing to support quality programs than they are at the present.

Perhaps the simplest and one of the most effective tax inducements that could be adopted by Congress which would tend to bring competent stars, producers, and writers into the field of television film production would be to permit them once again to use the so-called collapsible corporation, the use of which was prevented by the Revenue Act of 1950 as a result of the adoption of section 117 (m), Internal Revenue Code. Prior to 1950 there apparently had been no bar to the use of a corporation by motion-picture stars, writers, and producers for the purpose of converting ordinary income into capital gains. This technique was used primarily in the motion-picture, construction, and farm industries. The procedure then followed was for the motion-picture stars, writers, and producers to form a corporation in which they were the stockholders to produce a picture or group of pictures. Generally speaking, the stars, writers, and producers would work for the corporation for a nominal sum. After the pictures were produced, but before their release, the corporation would liquidate and the assets would be turned over to the stars, writers, and producers. As a result, when the pictures were sold, gain normally taxable as ordinary income would be converted into a long-term capital gain.

The tax benefits from the collapsible corporation device can be seen from the fact that if a motion-picture star is able to collapse a corporation and realize a capital gain, he will have as many after-tax dollars from a long-term capital gain of approximately \$106,000 as he would have from ordinary income of \$500,000. If permitted to use the collapsible corporation in producing television films, there is little question that many competent stars, writers, and producers would quickly turn to the production of television films. Moreover, the tax benefits that would accrue to such persons would also benefit the television industry, as the cost per film program would be substantially reduced.

To spur the production of television film by qualified persons, there would appear to be ample justification for adopting legislation that would lift the prohibition set forth in section 117 (m), Internal Revenue Code, against the use of the tax device of collapsible corporations at least to the extent that the use of such device would be permitted by production companies devoted solely to the production of television film for a reasonable period of time in the immediate future.

PIERSON & BALL,

Counsel for informal group composed of: 82 VHF licensees, 20 VHF permittees, 33 VHF applicants.

JUNE 21, 1954.

Senator POTTER. Mr. Pierson, I would like to ask you a question that was submitted on your memorandum.

In your memorandum you state that the production of television film by qualified persons would be accelerated if the tax laws were revised so as to authorize collapsible corporations by production companies devoted solely to the production of television film for a reasonable period of time in the immediate future.

If such legislation were enacted, in your opinion would it make more film programming available and would that help the UHF stations?

Mr. PIERSON. In my opinion, it would, for two reasons, and incidentally, the device of the collapsible corporation was lawful and used up to 3 or 4 years ago.

In my opinion, the results would be that not only would the quantity and quality of production increase because of the people who would choose that production rather than motion-picture production, but also the cost of the film itself would be reduced.

I believe the increase in the supply of high-quality films at a lower cost cannot help but assist all stations that need program filler, and I admit it will also help VHF stations, but I have not been dissuaded in suggesting it because of that.

Senator POTTER. Thank you very much, Mr. Pierson.

Mr. PIERSON. Thank you.

Senator POTTER. We will now hear from Chairman Hyde of the Federal Communications Commission.

REBUTTAL STATEMENT OF ROSEL HYDE, CHAIRMAN, FEDERAL COMMUNICATIONS COMMISSION

Chairman HYDE. I have not asked for rebuttal time and it is not my purpose to build up the record that has been made up to this point.

There are some matters that have been submitted having to do with the Commission's procedures, which I think should be the subject of a statement at this time.

I do want to say, though, that the Commission is intensely interested in the evidence that has been adduced in this hearing. The Commission as such will endeavor to cooperate in every way with this committee in the conclusions and actions that might be decided upon as a result of the hearing.

I believe that if I should give a very brief history of the Commission's processes in the licensing of television stations it would be helpful.

The Commission's sixth report was issued in April 1952.

It was decided upon by the Commission on the 12th of April and released to the public on the 14th.

At the same time, the Commission announced that the processing of applications would begin on July 1. There is no one interested in going into the television business who has not had a fair opportunity to apply for any channels made available in the sixth report, beginning with the announcement in April 1952 and protected until July 1, 1952 against any quick grants that would cut off the opportunity.

In other words, there was ample opportunity for anyone who wanted to apply for a channel in any category in any city to apply for it before any grants were made. That principle has been followed through by the Commission. In other words, there has been adequate opportunity and adequate notice in all instances.

At the time the Commission released its sixth report, it was faced with a great public demand in this new and wonderful communication service, television.

The 108 stations that had been authorized prior to the freeze in 1948 had given the public a taste and they reached a substantial part of the population.

The public generally, the Congress and communities were all very much concerned with the possibilities of having this new service brought into all the communities of the Nation. It was a challenge to the Commission.

This committee that is holding these hearings and which are now coming to a conclusion rapidly, asked the Commission to come in and see what could be done to facilitate the expansion of this industry and to take away the limitations of Government upon the expansion of the industry by private enterprise.

At the time the sixth report was released, we gave consideration as to how the hearings should be conducted. There were very vocal proponents of the idea that in every community, where there were more applications than channels, all channels should be put in one pot, and

a battle royal hearing conducted to determine which of the applicants should get the channel. If there were 5 applicants for 4 channels, which 4 should receive grants?

The Commission, however, found—the majority—found it advisable to take its cue from the provisions of law, from the policies set out by Congress in the Communications Act which requires that an applicant should state the channel on which he proposed to operate. The Commission restricted the consideration of applicants to the channel applied for. That made it possible for the Commission to go through the file of applications and, in those instances where an application for a particular channel was not contested, to make a grant.

Now, the law specifically provides in section 309 that it is the Commission's duty to grant an application upon examination if it finds that it is in the public interest to do so. It does not provide that the Commission should look around and see if there are some other applicants who might become interested if the matter was held up or if a hearing was held.

Consequently, the Commission, following as I say the policy of the law of moving rapidly through the file of applications, granted those that were not contested. It set up a system of priorities for the consideration of applications in contest, believing that those communities with no television service at all had some equity and some right to television as against those communities who had television but were interested in a second or a third service.

Also, it was necessary to set up a schedule because the order of filing did not provide one. Normally, applications are considered in chronological order as they are filed by applicants but after a freeze and a big filing on a given date, they were without an order of filing which could be used for this purpose and the Commission set up an arrangement based upon the relative needs of the communities. The hearings were set up on that basis and there were a very large number of applications in which we had conflict of interest, two or more applicants applying for the same channel in the same community.

An experience we had with a contest will illustrate the origin of a change in procedural rules which permitted early termination of a hearing case which has become uncontested.

In the Wichita Beacon case where 3 applicants applied, 2 still remained in contest when the case went into hearing. When the examiner proceeded to take the testimony, 1 of the 2 remaining applicants elected to withdraw. The hearing officer then thought it was appropriate to complete a very brief examination with a view of submitting the recommendation to the Commission for the disposition of the remaining application.

The Commission, however, thought that the examiner had no justification for conducting a hearing on a contest which had been washed out, ordered that application be returned to the processing line. The application was returned to the processing line and became the subject of another contest when another application was filed.

This was about April or May of 1953.

Very soon after this decision, the Commission decided that it would be good policy in the case where an application in hearing status becomes uncontested, to have the hearing officer complete his report on that case, looking toward a determination of the application on its merits. This procedure was mentioned to the committee and I am not

presuming by this recitation to ask the committee to share the Commission's responsibility in adopting the procedure, but I will note that the committee gave unanimous approval in the discussions informally, of course.

Senator POTTER. That is right.

Chairman HYDE. That helped the Commission a good deal in the consideration of hearing cases, and I believe that it tended to eliminate abuses of process. By abuses of process, I mean the filing of applications for the purpose of creating a conflict in the hope of being paid off or some such advantage as that.

Later, it occurred to the Commission, and I recommended it to the Commission, that these same principles might very well apply to a large file of other applications in a position of contest but not yet in the process of hearing. They were not in the process of hearing for the simple reason that in our large filing of applications, we had not been able to reach them and schedule the hearing and begin the taking of testimony.

But, nevertheless, any action on applications in conflict was held up by the conflict of interest. The Commission, a majority, became convinced that the longer this situation obtained, the greater the opportunity for the filing of applications of doubtful sincerity. We were also convinced that the Government's task of processing these applications would only be made more difficult, more costly, and that the long delay which the public was experiencing in getting the advantage of television would be lengthened by leaving these applications on file, scheduled whenever they could be reached, for a laborious hearing.

The Commission announced, in a change of rules as to procedure, dated May 25, 1953, that one of those cases, in those cases where an application became uncontested, the Commission would take it up on its merits at the next business day, the next official meeting day.

The notice—and I have a copy of it here—was published in the Federal Register so that all interested would have notice of it.

The procedure was not put into practice until it had been published in the Federal Register and, moreover, it was made clear in the Commission's action, that it was not an opportunity for the granting of applications filed on Wednesday—that this was not an opportunity for new applications filed on Tuesday to be granted on Wednesday.

It was a procedure which permitted an application which had been on file for a respectable period to be considered on its merits on the following Wednesday.

I have a copy of the Commission's change in rules and I think it would be appropriate for this to be included in the record because statements which have been made here would indicate that applications first filed on Tuesday could be considered and granted on Wednesday.

Senator POTTER. That will be made a part of the record at this point.

(The material referred to is as follows:)

MAY 25, 1953.

Before the Federal Communications Commission

Washington 25, D. C.

FCC 53-627, No. 89887 (Corrected)

In the Matter of Amendment of Footnote 10 of Section 1.371 of Part 1 of the Commission's Rules (Temporary Processing Procedure for Television Broadcast Applications)

ORDER

1. The Commission desires to amend Footnote 10 of Section 1.371 of its Rules by the addition of a subparagraph (m), which reads as follows:

"(m) Where an application upon which processing has been temporarily suspended because of mutually exclusive applications becomes unopposed, or where an amended application becomes unopposed, or where an amended application or a new application is filed in place of the several competing applications and the applicant formed by such a merger is composed of substantially the same parties as the parties to the original application or applications, the remaining application may be available for consideration on its merits by the Commission at a succeeding regular meeting as promptly as processing and review by the Commission can be completed."

2. In accordance with its temporary processing procedure, as amended, pursuant to the Sixth Report and Order, mutually exclusive applications (i. e. those which compete for the same channel in the same community or require competitive hearing for other reasons) have been passed over. This has enabled the Commission to process noncompetitive applications so that TV service could be made available in the shortest possible period of time, and the Commission is virtually current in the processing of noncompetitive TV broadcast applications. The provision here made is of a clarifying nature and is a further step designed to bring television service to the public as promptly as possible consistent with basic requirement of public interest.

3. Authority for the adoption of this amendment is contained in Sections 1, 4 (i), 4 (j), and 303 (4) of the Communications Act of 1934, as amended.

4. In view of the fact that the amendment adopted herein is procedural in nature, constituting a clarifying amendment, prior publication of notice of proposed rule making under the provisions of Section 4 of the Administrative Procedure Act is unnecessary, and the amendment may become effective immediately.

It is ordered, This 22d day of May 1953, that, effective upon publication in the Federal Register, Footnote 10 of Section 1.371 of the Commission's Rules and Regulations is amended as set forth herein.

FEDERAL COMMUNICATIONS COMMISSION,
T. J. SLOWIE, *Secretary*.

Released: May 25, 1953.

Commissioner Hennock dissenting and issuing a dissenting opinion.

Commissioner Bartley concurring in the Commission action and stating: "I do not believe, however, the adoption of a rule is necessary. There has been no rule preventing prompt consideration of nonconflicting applications heretofore. I do not oppose public notice of this fact."

Chairman HYDE. This is an illustration of a Government agency finding it necessary and appropriate to cut redtape in the interest of facilitating the expansion of service.

Redtape is dear to some people who practice redtape technique and sometime develop some themselves, and it lends itself to the purpose of folks who want to condemn the practice as well. But for a Government agency to eliminate redtape is not a violation of antitrust

laws and, in my opinion, it is not something on which to get emotionally disturbed. I think it is a highly constructive thing, too.

The fact of the matter is that the Commission recognized the overall public interest in the expansion of this new and important communications medium and made appropriate changes in procedures. The Commission has made it possible for this country to have a nationwide television system in a very short period.

A year ago attorneys, engineers, applicants were talking about 2, 3, or 4 years. Committees of Congress were appropriating additional funds to the Commission to supplement the personnel with additional people to process applications. \$350,000 above our previously indicated appropriation was appropriated by Congress.

A substantial part of those funds have been used, but not all of them. The point of referring to the appropriation is that the Commission had a mandate from Congress to do something about the backlog, the log jam, and the bottleneck which existed with respect to the expansion of television service.

We have handled approximately 1,600 applications in this process. I am including the applications for major changes in stations as well as the applications for new stations.

As of now, 85 percent or 86 percent of the task of processing the backlog of applications which was the subject of concern a little more than a year ago has been accomplished.

As of now, there are 374 commercial television stations operating and 5 noncommercial television stations located in 237 communities.

The number of postfreeze stations was 108 located in 63 communities.

In 40 instances the communities were 1-station communities. I might say 40 monopoly situations.

This expansion of the industry has permitted the removal of these monopoly conditions in larger markets. We have a number of one-station communities but they tend to be in smaller cities where the number of stations is limited by economic conditions rather than inability of the Commission to act.

The Commission has authorized a total of 565 stations. The total number of stations in the commercial category that can come out of the total file of applications which have been submitted to the Commission is 659. If you add the educational stations, applications, and grants that have been made, the total would be 705.

The total potential of all applications now pending and applications granted in terms of commercial stations is 659. The division as to channels is 404 stations on very high frequency; 255 on ultrahigh frequency.

In other words, the television service contemplated by applications granted or now pending before the Commission for commercial operation is 659 stations, 404 very high frequency, 255 ultrahigh frequency.

I believe that there is a real economic challenge for the television industry as to all classes of stations, not just UHF, which will have to be met before we will have a television service with anything like the number of stations which would be permitted under the Commission's sixth report.

The total number of station assignments engineeringly available, and that is all that the Commission undertook to say in that report, is 2,053. That includes the territories.

In continental United States the total is 2,002.

The division as to classes of stations as between VHF and UHF is 569 VHF stations and 1,433 UHF stations.

I thought that these statistics as to the potential of all applications on file would be helpful in giving some perspective to the economic problem. I thought it would be appropriate for me to call attention to the fact that the Commission does not grant applications without prior notice. It does not think it is in the public interest to hold hearings not required by law and hearings which will not serve a useful purpose.

We rather think it is the desire of the Commission, the duty, rather, to facilitate the expansion of the industry to permit the expansion of service to the public and that it is in the public interest to have expeditious proceedings rather than delays which tend to aggravate and encourage abuses of process.

Thank you very much.

Senator POTTER. I wish to thank you, Chairman Hyde.

I have received here a request from Mr. John Johnson, the general manager of radio station WTOB and television station WTOB-TV at Winston-Salem, N. C.

His statement will be made a part of the record at this point.

(The material referred to is as follows:)

STATEMENT OF JOHN JOHNSON, GENERAL MANAGER, RADIO STATION WTOB,
WINSTON-SALEM, N. C.

My name is John G. Johnson, I am one of the owners and general manager of radio station WTOB and television station WTOB-TV at Winston-Salem, N. C.

We operate a television station on UHF channel 26 and have been on the air since September 1953.

I have been asked to outline the history of our operation and to point out the specific problems we have encountered.

It is my opinion that most people, not actively engaged in the UHF television industry are, quite naturally, confused as to the reason why so many UHF stations are having difficulties. Some of the many explanations I have heard include improper planning, lack of experience, inadequate financing, poor management, and so forth. But basically, these are not the reasons why UHF stations are having trouble and they are not applicable to our station.

I think I can best present the story of our station by attempting to answer some of these questions in the light of our experience of about 8 months' operation. In so doing, I hope to bring out the more fundamental causes for the difficulties of UHF.

1. Was the operation of our UHF television station well planned.

I think it was. My principal associate, Mr. James Coan, and I are both law-school graduates and we each spent about 6 years as special agents with the Federal Bureau of Investigation following graduation from the University of North Carolina Law School in 1940. Together we opened radio station WTOB about 7 years ago. So we approached the idea of this television station with several years of broadcast experience.

We originally prepared an application for VHF channel 6 at Winston-Salem back in 1947 and 1948, but when the freeze was instituted by the FCC in 1948 we decided, on the advice of counsel, that it was needless to file the application. Thereafter, the FCC proposed a reallocation plan which called for moving VIII channel 6 from Winston-Salem and substituting therefor UHF channel 26. This plan left only one VHF channel, channel 12, in Winston-Salem. We protested this plan in a strong petition to the FCC but our petition was denied, the proposal was made final, and Winston-Salem was left with only one VHF channel—channel 12.

We applied for channel 12 along with 2 other applicants. When it appeared several years would be required to resolve the 3 conflicting applications and grant a permit for a television station in Winston-Salem, we began to consider the idea of amending our application to UHF channel 26. It appeared that only in this way would Winston-Salem have its own television station for many years.

With this in mind, Mr. Coan and I personally visited and studied 3 of the 4 or 5 UHF stations then operating in the country.

We also talked with Mr. Frank Stanton, president of Columbia Broadcasting System, and Mr. Joseph McConnell, who was then president of NBC. We conferred with a former Commissioner of the FCC; with the Broadcast Bureau of the FCC; and with Mr. Rosel Hyde, now Chairman of the FCC, along with members of the engineering staff at the FCC.

We had several conferences with the vice presidents in charge of engineering at both CBS and NBC concerning the technical aspects of UHF television.

We had a consultant make a study of the Winston-Salem market and the economic advisability of establishing a UHF station there.

We talked with station sales representatives and advertising agencies concerning the sales potential of a UHF station in a city the size of Winston-Salem. We also talked with many individual consulting engineers and attorneys, as well as manufacturers of television transmitting equipment and television receivers.

We spent several months studying the entire picture and when this study was completed we reached the decision to ask for permission to build a UHF station as our survey indicated that UHF had the forces behind it to make it a competitive television system. We went on the air in September 1953 and, due to mergers of conflicting applications, the VHF station went on the air a few days after we did.

2. Does our station suffer from lack of experienced personnel?

I think not. As I said earlier, my associate, Mr. Coan, and I actively managed the station; we are both natives of Winston-Salem and each has about 7 years broadcast experience operating a radio station. In addition to our radio experience, Mr. Coan and I personally visited about 25 television stations. We studied these stations and spent as much as a week or 10 days, in some cases, studying the station's operations.

Seven of our key personnel have had an aggregate of more than 70 years experience in radio broadcasting.

Our television director has had several years experience in one of the country's leading television stations. He joined our organization several months before we went on the air and spent this time training our staff and setting up our organization.

I do not think our staff lacks adequate experience.

3. I have heard it said that many UHF television stations are in difficulty because of inadequate financing at the outset.

I submit that our station was started with ample financing for all reasonably foreseeable risks. For example, we filed applications with the FCC for 3 UHF television stations and all 3 of them were granted to us. However, we have constructed only one of these stations, the one at Winston-Salem. Our company owned 100 percent of 2 of the permits and 50 percent of the third. One of the necessary qualifications to obtaining a construction permit from the FCC is financial ability. If the FCC found us financially qualified to construct and operate 3 stations, it logically follows this same company should be able to construct and operate just 1 of these stations. In addition to new capital, we also have a profitable radio station.

4. It is frequently reported that UHF stations are suffering from poor management.

I do not believe this accounts for much of the UHF problems.

I cannot say how good our management is but I do know it is as good as we know how to make it.

Our radio station has been successful and Mr. Coan and I have each put in 12 to 15 hours a day to make our television station a success.

We started the third radio station in Winston-Salem in 1947 as a daytime only station affiliated with the Mutual Network and operating with only 1,000 watts.

For several years now, we have been operating a full-time radio station—both day and night—and have increased our power to 5,000 watts, and are affiliated with both the CBS and Mutual networks. In many respects, our radio station is considered the dominant station of the four now operating in our city.

Last year, our radio station won a first-place award for public service promotion in a nationwide contest.

This year, our television station won a second-place award for television promotion in a nationwide contest. We were competing with all television stations, both VHF and UHF, in this contest.

In television sales, we carry considerably more local advertising than does the VHF station in our city. We outsell them on a local basis. However, in national spot business—nonnetwork national advertisers—we find it almost

impossible to obtain any business. We have called on many advertising agencies and attempted to point out the sales successes we are able to achieve for our local advertisers, but we find that, generally speaking, they refuse to buy time on UHF stations.

What is the reason for this attitude in our particular case? The answer lies in the greater circulation offered by the VHF stations serving our area. While we claim approximately 50,000 television sets adapted to receive channel 26, our VHF competitors claim in excess of 200,000 receivers. Of course, we offer our time at a much lower rate than the VHF stations but, regardless of cost, the national buyer prefers the VHF station almost every time.

Insofar as network business is concerned, I quote the president of the ABC television network who tells me we carry considerably more network traffic than the average UHF station because we are more active and aggressive in contacting the advertising agencies. In any event, we do carry a major portion of the ABC network commercial schedule. Our station is the only ABC affiliate in the tricity area of Winston-Salem, Greensboro, and High Point, N. C.

In the field of local programing, I think ours compared favorably with any television station in our section of the country—whether VHF or UHF.

We certainly have the finest facilities of any station in the State of North Carolina.

We originate live Golden Gloves boxing matches in our studio for 1 hour each week. This has stimulated tremendous interest in boxing in our white and colored schools and YMCA's in Winston-Salem, as well as in neighboring cities. I have been told ours is the only television station in the Southeast to originate boxing in its own studios—and one of the few in the Nation.

We carry a full, hour-long Negro talent program each week. In a city where almost 50 percent of the population is composed of Negroes, ours is the only station with a regular all-Negro television program.

Last fall, a Winston-Salem High School football team tied for the State championship. Our station was the only one to film these games and present them on television. This included both home games as well as those played out of the city. As you can imagine, with a winning team, these programs created tremendous local interest.

We offer daily religious programs to the churches in our city and they seem to be most grateful for this opportunity.

Each day we have a regular program for school children in both city and county schools. These programs include spelling bees, talent contests, development of various hobbies and a variety of other things. School children troop in and out of our station by the busload.

We offered the first local television news featuring photographs of local people and events. I believe this is still the only television news program in our city which emphasizes pictures of local news events.

There are many other program features I could mention but I wanted to bring out these highlights to demonstrate that, insofar as possible, we are endeavoring to give our station the very best management of which we are capable. This is reflected in the large number of sets converted to channel 26, our physical plant and facilities, network program, local sales, and locally originated program.

Up to this point, I have attempted to point out that, in my opinion, our station was well planned, is staffed with experienced personnel, was adequately financed, and is soundly managed. I have done this because so many people have attributed "the UHF problem" to these factors. I submit that our station suffers from none of these difficulties and, basically, the UHF situation does not stem from these factors but largely to reasons beyond the control of the individual station operator.

The principal problem with us is our inability to secure national nonnetwork revenue and the technical deficiencies of UHF receivers and converters, along with the almost prohibitive expense of some of this equipment.

As one UHF station manager told me: "There is nothing wrong with our station that a few good national accounts won't cure."

The inability of UHF stations to compete for national business is due to inferior circulation. This, in turn, is caused by the cost of converting existing sets to receive the UHF channels. This cost runs anywhere from \$15 to \$85 in our area and I believe would average \$40 to \$60. A new receiver with UHF built in costs \$30 to \$40 more than a VHF-only receiver.

Another contributing factor is the technical deficiency of the UHF converters. Just last week, 1 serviceman in our city told me that of 9 conversions he made the previous week, he had already been called back to service 7 out of the 9

installations. The president of our company used one of the best known brands of converters and after 3 of them went bad within a few weeks, he gave up and bought an entirely new television receiver.

We have received literally hundreds of complaints from the public who invested money to be able to see our station only to find the equipment did not work properly or caused so much trouble they gave up attempting to tune in our station. It seems to me some standards should have been, or should now be, set up for all conversion equipment in an effort to bring up the quality of the converters.

We are severely handicapped because of the failure of the manufacturer to be able to deliver higher powered transmitting equipment. We do not cover anywhere near the area covered by our VHF competitors. We are operating with a 1,000-watt transmitter which is the highest power transmitter being made available by RCA at this time. Yet our competitor covers more than twice our area operating with only about 40,000 watts effective radiated power and they can increase this power at almost any time to 316,000 watts. The power and coverage differential is so great that we cannot hope to compete for national business.

This coverage problem is further compounded in our area by the failure of the manufacturers to build only VHF-UHF television receivers. So long as the public can continue to buy a VHF-only receiver it means our conversion problem is endless. For example, in the many cities and towns just outside our present coverage area, the people are buying VHF-only receivers because our signal cannot now reach this area. In turn, we cannot reach this area because the higher powered transmitter is not yet available. Thus when we are able to extend our UHF signal into these cities and towns, we will find all VHF-only receivers and must start anew the conversion process. Thus, instead of gaining new audience with each stepup in power, we gain only new problems—problems of converting these receivers. There is no end to this vicious cycle unless, and until, the manufacturers build only a VHF-UHF, all-channel television receiver.

This inability to get national business is a growing problem with most UHF operators with whom I have talked. It is a downward spiral that is beginning to have its effect on the station's local business. For example, a local bottler in our area had been advertising most successfully with the UHF station. Then one day he talked to his New York advertising agency who advised him to discontinue using the UHF station. The station lost this previously happy client. In another case I know of, a local food broker who recommended the UHF station as his choice as the station who would do the best job for their product—the manufacturer of the food product in an eastern market hundreds of miles away answered "We don't use UHF stations." So the station lost this business even though the food broker who was on the local scene was personally familiar with the performance of the UHF and the VHF stations was convinced the UHF station was the better buy. I know of many similar cases where the local merchant wanted to use the UHF outlet but the out-of-town manufacturer, or distributor, refused to share the cost of the advertising except on the VHF station.

So you can readily see that if this trend continues—and it is an accelerating one at the moment—a local UHF station relying to a large measure on local advertising, will be unable to get even this business, although the station may be doing an excellent job for the advertiser.

I thank you, gentlemen, for the opportunity to tell you about the operation of our UHF station.

Senator POTTER. I have here a telegram addressed to me from the National Grange which will be made a part of the record at this point.

Senator CHARLES E. POTTER,
Senate Office Building, Washington, D. C.:

The National Grange opposes (1) allocation of all television broadcast services to UHF frequencies; (2) the reduction or limitation of coverage of UHF stations beyond that now imposed by Federal Communications Commission rules; and (3) any hasty action that would lead to deterioration of further limitation of TV reception in rural areas.

HERSCHEL D. NEWTON,
M. Master, The National Grange.

I would also like to make a part of the record at this time the comments of the General Accounting Office, on the bill S. 3095.

COMPTROLLER GENERAL OF THE UNITED STATES,
Washington 25, March 16, 1954.

HON. JOHN W. BRICKER,
*Chairman, Committee on Interstate and Foreign Commerce,
United States Senate.*

MY DEAR MR. CHAIRMAN: Reference is made to your letter dated March 10, 1954, enclosing a copy of S. 3095, 83d Congress, and inviting any comments I may care to offer concerning the proposed legislation. The bill is entitled "A bill to regulate multiple ownership of television broadcast stations," and would amend the Communications Act of 1934 by inserting a new section after section 309.

Legislation regulating multiple ownership of the television broadcast stations would not directly affect any fiscal functions of the Federal Government, and since the General Accounting Office does not have any detailed information with respect to the matter, I have no comments to offer.

Pursuant to your request, three carbon copies of this letter are forwarded herewith.

Sincerely yours,

LINDSAY C. WARREN,
Comptroller General of the United States.

Senator POTTER. Before we adjourn the meeting today which will conclude the hearings, I would like to say to the various segments of the television industry that I know they will have various points of conflict with the individual members of the Commission. But I do think it well that we all recognize that the Commission is a commission made up of individual members and there will be conflicts of views.

I think we have a commission with integrity, a commission that is honest, a commission that is devoted to the public interest, and that goes for all members of the Commission.

I hope and I know that there will be many times when certain segments of not only the television industry but other mediums of communications which come under the regulatory powers of the Commission will have some personal views which are contrary to the views of the Commission. You may be right and they may be wrong. But I wish to state publicly and to the members of the Commission who are here that we all recognize the fact that you are dealing with a most complex problem and certainly many people will not be satisfied with decisions that are made, but no one is going to question the integrity and the honesty or the loyalty or the public interest shown by the individual members of the Commission.

I would also like to announce that the various arguments of the industry, those who have testified before the committee, have presented the committee with an outstanding record.

I can assure you that I, as one, and I am sure the other members of the committee have a greater outlook on the entire television problem than we had before we began these hearings.

We recognize that the problems that we are faced with are not easy to solve. However, I have found very few problems that are easy to solve.

I assume that whatever recommendations the committee might make will not be in accord with the various conflicting interests that are here. I wish to assure you, however, that the committee—I am sure—and any recommendations that it makes will be guided by the funda-

mental principle behind which any committee action should be guided, that is, of the public interest.

Although we may have a great sympathy for an individual segment, and we may have a great admiration for the abilities and talents of certain people, certain groups, the public interest is the overpowering interest which the committee has to weigh in deciding any problem.

I can assure you that we are not going to make any half-cocked decisions, but we are going to act immediately. Our full committee on the Interstate and Foreign Commerce Committee will meet tomorrow. I assume that possibly a replacement will be designated for the late Senator Hunt's place on the committee.

We will then go into executive session, either the latter part of this week or the first part of next week.

We will possibly call upon the good office of the Commission and possibly seek the advice of the best counsel we can secure on points that we need to search deeper into than the hearings that we have had so far have brought out.

I can assure you that not only the members of this committee but all members of the Congress are greatly concerned about this problem, if the communications that I have received from the various Members of Congress is any indication.

I wish to thank you for your patience and the many interruptions that we have had to endure with this hearing. You have been gracious and I sincerely hope that we can all work toward bringing about that grand new industry, television, to its ultimate height as a medium of communications in this country.

The record will be kept open for 5 days to submit any additional statements.

(Whereupon, at 4 : 57 p. m., the public hearing was closed.)

(The following material was submitted for the record :)

STATEMENT OF FRANK C. CARMAN, TELEVISION STATION KUTV, SALT LAKE CITY, UTAH, ON THE JOHNSON BILL, S. 3095, AND RELATED PROPOSED LEGISLATION

I am Frank C. Carman, president of Utah Broadcasting and Television Corp., the permittee of KUTV, Salt Lake City, Utah.

We are presently building a television station to serve the Salt Lake City area. We face competition with at least two other Salt Lake City stations, and from stations in surrounding communities, which also may serve substantially the same area. We have planned the coverage to be most extensive so that people living in distant areas will receive diversified program service.

The members of the subcommittee are quite familiar with the famous Sixth Report and Order of the Federal Communications Commission in the matter of the amendment of section 3,606, et cetera, of the Commission's Rules and Regulations. We believe that the sixth report and order, which was based upon hearings extending over many months and upon several years of earnest consideration by the Commission, is a sound document even in the posture of present-day conditions. One of the most significant findings of that report is that which declares that the utilization of the UHF spectrum is essential to a nationwide competitive television broadcasting system.

Although the problem does not exist in Salt Lake City, we see no technical method of eliminating intermixture of UHF and VHF in the same market where there isn't sufficient spectrum space in the VHF band of frequencies. On the other hand, we believe that there is sociological and economic necessity for such intermixture, because of the very necessity of establishing a nationwide, competitive television broadcasting system.

We are opposed to any plan which would eliminate all the VHF channels and permit television broadcasting only in the UHF spectrum. Wholly aside from the fact that pioneers who really established television in the United States should not be at this late date faced with an extreme penalty, it is obvious that

the tremendous investment of the citizens of the United States in all manner of VHF equipment should not be destroyed. There is simply no good reason to support such a lethal proposal.

There has been some suggestion that the service areas of VHF and UHF stations should be reduced for the purpose of permitting the establishment of a larger number of stations. We believe that the Commission in its sixth report and order provided for minimum service areas, and the implementation of this suggestion would only mean that rural dwellers in the fringe areas of television reception would be further penalized.

In view of the necessity for an adequate national competitive television broadcasting service it is obvious that every assistance should be made available to those who have the courage and the pioneering spirit to render television service in the UHF spectrum. As I understand it, one of the problems in connection with UHF coverage is the penetration of blank spots. I am advised that booster or satellite stations will be helpful in this connection, and therefore the Commission should, in proper instances, authorize such necessary auxiliary facilities.

The Commission might well relax its policy with respect to authorizing microwave relay links between the station transmitter and a program source, such as a network interconnection point.

The Congress might still afford some relief in the form of elimination of the 10 percent excise tax on the UHF receiving sets and components.

The Federal Communications Commission in its proposed rulemaking of December 23, 1953, in effect recommends that any party may own, in addition to 5 VHF stations, 2 UHF stations. This is a step in the right direction as something of a premium is afforded to the UHF stations in those who desire to expand, have a greater opportunity in the UHF spectrum.

The Federal Communications Commission might well take another look at its procedural rules with the thought that UHF permittees or licensees will be permitted to apply for modification of their permit or licenses to change to a VHF channel if such a channel should become available.

I can well understand the emotions of many UHF operators throughout the United States in the light of our own misgivings when we appropriated great sums of our company's assets to establish a television station in Salt Lake City, where the competition is great and we have no real assurance of financial profit. We undertook this risk in a spirit of American free enterprise. Sometimes these ventures succeed and sometimes they fail. I believe it is extremely difficult to arrive at a program of subsidy without doing some violence to the fabric of our free competitive system.

JUNE 22, 1954.

STATEMENT OF WILLIAM P. WRIGHT, SACRAMENTO TELECASTERS, INC., APPLICANT TO ESTABLISH A NEW TELEVISION STATION IN SACRAMENTO, CALIF., ON THE JOHNSON BILL, S. 3095, AND RELATED PROPOSED LEGISLATION

I am William P. Wright and I am appearing on behalf of Sacramento Telecasters, Inc., an applicant to establish a new television station on channel 10 in Sacramento, Calif. I am president of the applicant corporation.

The application of Sacramento Telecasters, Inc., was filed on June 30, 1952. A hearing was had before the Federal Communications Commission to determine whether that application or the competing application of McClatchy Broadcasting Co., for the same facility should be granted. The hearing commenced on November 17, 1952, the record was closed on June 5, 1953, and the case is now awaiting final decision of the Commission. The application has been prosecuted with the greatest diligence, large sums of money have been expended on the hearing, and it would be very inequitable to be faced with a freeze at this time when we are on the threshold of a decision.

The members of the subcommittee are, of course, quite familiar with the sixth report and order of the Federal Communications Commission which ended the freeze and made possible the advent of what we believe to be a soundly based, nationwide method of bringing television to the people of the entire country. We believe that the sixth report and order, based as it was upon extensive hearings extending over a period of many months and upon mature deliberation by the Commission extending over an even longer period of time, is sound in principle and the most practical method that could have been devised to bring into being a nationwide competitive television broadcasting system. A careful reading of that report, and particularly consideration of the premises upon which it is

based, shows that, unless the UHF spectrum is utilized, such a nationwide system is not possible.

Intermixture—the use of both UHF and VHF frequencies to the exclusion of the use of either band alone—is, as a matter of practicality, a necessary basis for a nationwide television broadcasting system, although it is theoretically possible to have all television in the UHF band. We are opposed to any plan which would eliminate all the VHF channels and permit television broadcasting only in those channels which fall within the UHF part of the spectrum. One has but to look at the investment of the citizens of Sacramento and the surrounding territory, in VHF receiving antenna installations and sets (it is possible on an intermittent basis to receive television signals from San Francisco) to realize the tremendous investment of the citizens of the United States in all manner of VHF equipment. It would be against all principles of sound economics to junk at this late date what can only be described as a tremendous investment. All this is apart, of course, from the investment of those pioneers of television who, at considerable financial sacrifice to themselves in the early stages at least, made possible commercial television in this country. It should not be forgotten that the VHF operator went through a phase of no return and sizable losses before a market for his product—television programming—was achieved. There is no sound reason why the UHF operator should not expect to undergo some of the difficulties a VHF operator had to go through. It must not be forgotten that it is the public interest that is paramount here and not the desire to have the way smoothed out at the expense of a large segment of the population. Competition has always been the keynote of American industry. Given a sound basic system—and we believe the system of the sixth report and order is that—the workings of the free competitive system, skill in management and good business practices, will enable the operator of a television station, whether he be UHF or VHF, to take his place in the American economy. Any scheme to favor one segment of the telecasting industry at the expense of another is not in the best traditions of the American competitive system.

We sincerely hope that a freeze, which would prevent the establishment of television stations in communities which have looked forward to its advent with such great anticipation, will not be forthcoming. The idea is without sound basis and can only be characterized as the somewhat hysterical palliative of those who do not know just what they desire.

There has been some suggestion that the service areas of VHF and UHF stations should be reduced for the purpose of permitting the establishment of a larger number of stations. We believe that the Commission, in its sixth report and order, provided for minimum service areas, and the implementation of this suggestion would only mean that rural dwellers in the fringe areas of television reception would be further penalized.

This is not to say that every assistance should not be made available to those who have the courage and the pioneering spirit to render television service in the UHF spectrum. As I understand it, one of the problems in connection with UHF coverage is the penetration of blank spots. I am advised that booster or satellite stations will be helpful in this connection, and therefore the Commission should, in proper instances, authorize such necessary auxiliary facilities.

The Commission might well relax its policy with respect to authorizing microwave relay links between the station transmitter and a program source, such as a network interconnection point.

The Congress might still afford some relief in the form of elimination of the 10 percent excise tax on the UHF receiving sets and components.

The Federal Communications Commission, in its proposed rulemaking of December 23, 1953, in effect recommends that any party may own, in addition to 5 VHF stations, 2 UHF stations. This is a step in the right direction as something of a premium is afforded to the UHF stations in that those who desire to expand have a greater opportunity in the UHF spectrum.

The Federal Communications Commission might well take another look at its procedural rules with the thought that UHF permittees or licensees will be permitted to apply for modification of permits or licenses to change to a VHF channel if such a channel should become available.

JOINT COMMITTEE ON EDUCATIONAL TELEVISION,
Washington 6, D. C., June 22, 1954.

Senator CHARLES E. POTTER,

Communications Subcommittee of the Senate Committee on Interstate and Foreign Commerce, United States Senate, Washington 25, D. C.

MY DEAR SENATOR POTTER: I am writing to you in my capacity as counsel for the Joint Committee on Educational Television for the purpose of amplifying in one respect the statement I submitted on May 21, 1954, to your subcommittee studying the problems concerning the status and development of UHF television channels.

Certain of the witnesses representing commercial UHF stations who have appeared before your subcommittee have pointed out that one of the major difficulties encountered by UHF commercial stations has been their inability to secure a sufficiently large number of high quality network commercial programs from the major networks. This problem is not present in the case of the UHF noncommercial educational television stations because educational stations do not rely upon the commercial networks for their programs. The noncommercial educational television stations (both UHF and VHF) will rely upon their own local live educational programs and, in addition, to the kinescope and film programs available to them from educational sources.

The most important of these sources is the Educational Television and Radio Center established by a grant from the Fund for Adult Education and which for several months now has been actually distributing film programs from its headquarters at Ann Arbor, Mich. The film and kinescope program service of the Educational Television and Radio Center at the present time is distributing to educational television stations 5 hours of programs per week; and it is expected that the amount of film programs available to educational television stations will be increased substantially before the end of the year. This program service includes such programs as the award-winning series on Shakespeare by Professor Baxter of the University of Southern California, and the Great Ideas series by Professor Mortimer Adler, and other programs in the fields of political science, the physical sciences and international relations, which represent the best of the educational television programs now being produced by educational television stations, colleges and universities over the United States.

The sources of programs of the center are threefold: (1) programs produced by educational television stations and distributed to other such stations through the center; (2) programs produced for the center by educational and commercial television stations, by universities and colleges, and by commercial film producers; (3) programs selected from the great variety of film resources already available and which have been, or can be, cleared and acquired for educational television uses.

At the present time the center has available to it programs of the educational television stations operating in Houston, Tex.; Pittsburgh, Pa.; Los Angeles, Calif.; East Lansing, Mich.; and Madison, Wis. In the near future it is expected that educational television stations will go on the air on a regular basis in San Francisco, Calif.; Chicago, Ill.; Cincinnati, Ohio; St. Louis, Mo.; and Boston, Mass. As the rich program resources of these large cities are translated into educational programs over the educational television stations in these cities, these programs will become available in kinescope form in increasing number to the center for distribution to noncommercial educational television stations throughout the United States. In this way, the center will make available for broadcast to noncommercial educational television stations an increasingly large number of high quality educational programs.

Since the noncommercial educational television stations do not rely for their programs upon network commercial sources, it is reasonable to expect that the UHF educational television stations will not be faced with this particular difficulty that the UHF commercial stations have encountered.

Of course, UHF educational stations will have to rely upon the manufacturers of transmitters and receivers and upon commercial broadcasters for the solution of the engineering problems that are facing UHF. In the basic problem of at-

tempting to bring UHF up to the level of VHF in technical quality and in the effort to increase the number of sets that are equipped to receive a UHF signal, the educational UHF station has problems that are similar to the commercial UHF station. It is not expected that the availability of fine programs from the Educational Television and Radio Center will solve these technical difficulties facing UHF; but the availability to the UHF educational stations of these fine programs should be of considerable assistance in the development of UHF educational television.

Respectfully yours,

SEYMOUR KRIEGER,

Counsel for the Joint Committee on Educational Television.

THE FAUGHT COMPANY, INC.,
New York City, June 21, 1954.

HON. ANDREW F. SCHOEPEL,
Senate Office Building, Washington, D. C.

My dear Senator SCHOEPEL: Because in the past you have expressed some interest and agreement with my views on certain aspects of the economics of television, may I without undue presumption offer some further observations on this subject which are particularly related to the current hearings before the Senate subcommittee on communications. May I emphasize that these are purely personal opinions and conclusions and are offered as such.

Being both avocationally and professionally interested in the current and future patterns of television, I have followed closely the testimony to date in these significant hearings, especially as they have broadened from their initial concern with the special problems of UHF.

That they have broadened so widely is, I believe, significant evidence that the economics of UHF are inextricably a part of the total television pattern, and therefore UHF's problems cannot be solved basically by special treatment formula.

At the same time and by the same evidence these hearings have revealed facet after facet of a basic fact; namely, that the communications miracle, television, is economically sterile. That is to say, television has no life-giving economic organs of its own. For all of its accomplishments, and they can surely be far more miraculous than yet revealed, television must draw its economic support from some other commercial consideration. Without the advertising function and advertising economics to support it, our extant TV service would not exist (unless subsidized outright as in England).

It is hardly surprising, therefore, that the voluminous testimony so far offered in the hearings amounts as much or more to a detailed treatise on the economics and social patterns of advertising as of television. That this is so is of course no reflection on advertising. To the contrary, it is to be marveled at, in light of the vast dimension already achieved by TV in the United States of America, that advertising has been able to nurture so great a growth or so extensive a service.

But it is equally clear that the advertising function alone cannot, nor should it be obligated or expected to, underwrite all of the potentials of service that television holds for society. As the hearings have abundantly shown, the advertising revenue potential is insufficient to bring television service to many of our smaller communities and sparse population areas.

Because of such patent limitations on this single method of supporting television, I have for some years been exploring the theory and watching the various technical efforts to find alternative and supplementary methods of overcoming television's economic sterility.

The most promising of these, a prodigiously promising one in my view is to utilize television as a much-needed modern, instantaneous, economical electronic distribution system. To do this requires only the addition to a television broadcast, at its receiving end, of a practical method of collecting revenue for the program so delivered. And, since the necessary technical knowledge and devices to do this are now at hand, needing only authorization for their use, I should think—and am indeed surprised—that these new potential solutions for the basic economic problems of television have not been explored in greater detail during the committee hearings.

That subscription use of television—as such uses have come to be known—holds great promise for helping solve, not only UHF's problems, but all the

economic shortcomings of TV—including the vast new economic problems of color TV—stems I believe from the following factors, which I itemize for brevity:

1. Subscription use of TV to deliver premium quality or unique programs, now beyond the scope of sponsored TV, would be an addition to, not a substitute for, any present TV service.

2. It would therefore add a totally new, and I believe a very great, service of revenue to TV;

3. Thus making many more stations economically possible, especially in the smaller communities.

4. It would require no separate or exclusive channels.

5. It would be an added service and added source of revenue to present and future television stations.

6. It would increase the advertising usefulness of TV by adding more stations and a larger net audience—since the average viewer would buy only an occasional premium show, as compared to his continued viewing of the regular sponsored shows—probably 90 percent of the time at least.

7. Yet the available opportunity to derive consumer support for the premium shows would provide a wholly new economic approach to a number of auxiliary problems of television; namely,

8. How to utilize TV to add to, rather than restrict as it now does, the economic distribution of spectator sports, Broadway plays, opera, symphonies, first-run motion pictures, etc.

9. Surely of great significance to the Nation at a time when our way of life is in danger of dying of ignorance, the utilization of subscription TV to collect tuition for educational television could finally overcome the economic iron curtain which now hangs between us and the full utilization of the TV allocations set aside for educational television stations. At the same time, academic institutions, museums, great libraries, etc., could also utilize subscription time on regular stations for new types of cultural programs now too specialized or costly for commercial sponsorship.

10. In summary and in essence such subscription use of TV as an electronic distribution service therefore offers the prospects of (1) new services and (2) new and direct sources of revenue to television—yet without curtailing any of its present uses or revenue; indeed with a good chance to expand them all and reduce their costs. The advertisers would be relieved of carrying the whole economic burden of TV, yet the public would pay far less for the subscription shows delivered to their homes on TV than they now pay for the same types of shows in public places.

Since the technology now exists to put these hopeful hypotheses to the test, I believe the public interest, convenience, and necessity justifies their fullest exploration. If in such inquiry I can be of any service to you or the committee, I shall be most happy to serve.

Respectfully,

MILLARD C. FAUGHT.

TESTIMONY OF THEODORE G. BERGMANN, DIRECTOR OF BROADCASTING, ALLEN B. DU MONT LABORATORIES, INC., CLIFTON, N. J.

The following material is respectfully submitted in reply to requests made by various members of this committee during Mr. Bergmann's testimony:

1. Question from Senator Pastore: "Are the rates higher where you have one channel in the city than where you have several channels?"

In answer to this question, the attachment marked "Exhibit 1" indicates markets contained within the top 100 markets in the United States which have either all UHF or all VHF television facilities broken down into categories of 4-station markets, 3-station markets, 2-station markets, and single-station markets with their accompanying rates.

An analysis of this compilation indicates the following:

A. The average class A, 1-hour rate per 1,000 television homes in the 4-station markets is \$1.32.

B. The average class A, 1-hour rate per 1,000 television homes in the 3-station markets is \$1.85.

C. The average class A, 1-hour rate per 1,000 television homes in the 2-station markets is \$2.66.

1096 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

D. The average class A, 1-hour rate per 1,000 television homes in the single-station markets is \$2.66.

2. Senator Hunt: "I would just like to know the exact impact of television on radio broadcast advertising."

Exhibit II attached indicates national advertising expenditures in millions of dollars for all media as reported in Printers Ink from 1935 to 1953 and projected by the Du Mont Television Network Research Department from 1954 through 1958. It will be noted from these compilations that during the rise of television in 1949, 1950, and 1951 radio billing also increased. However, in 1952, radio billing dropped back to a level which it is expected to maintain through 1955. A rise is indicated in 1956 due to the fact that this is a presidential election year and experience has shown that radio billing normally can be expected to increase in a national-election year.

3. Question of Senator Pastore: "Could you give us statistics on how many radio stations own television stations?"

Exhibit III shows by State the television stations owned by corporations who are operating AM stations. A second part shows the group owners of television and AM stations, and for both of these lists, we have indicated the affiliation of the radio stations.

4. In answer to the question from Senator Schoepel: "Have the television advertisers gotten together on a kind of uniform scale of charges for television advertising?"

The answer given indicated that rates in television are set to be commensurate with the amount of circulation that each station delivers within its own market, and there is no uniformity. Exhibit IV shows markets with equal television facilities (either all UHF or all VHF) in descending number of television homes.

It will be noted from this compilation that for the most part, the rates are approximately commensurate with the circulation delivered except that where a station is affiliated with NBC or CBS, a higher rate usually prevails than where it is affiliated with ABC or Du Mont.

EXHIBIT I

Markets contained within the top 100 in the United States which have either all UHF or all VHF television facilities

	Homes	Class A 1-hour rate			
		ABC	CBS	Du Mont	NBC
-station markets:					
Chicago.....	1,835,270	\$2,200	\$2,500	\$2,000	\$3,000
Denver.....	210,313	500	600	450	600
Los Angeles.....	1,730,960	2,000	2,250	1,600	2,750
New York.....	4,207,290	4,250	6,000	3,200	6,200
Seranton-Wilkes Barre ¹	137,030	225	250	250	400
Washington.....	510,320	950	1,300	950	1,350
Total.....	8,661,153	10,125	12,900	8,450	14,300
3-station markets:					
Atlanta.....	386,930	\$725	800	-----	950
Baltimore.....	676,310	1,200	1,300	-----	1,300
Cincinnati.....	432,690	1,200	1,200	-----	1,200
Cleveland.....	1,031,400	1,500	1,500	-----	1,900
Columbus, Ohio.....	382,660	800	850	-----	850
Detroit.....	1,236,820	1,700	1,850	-----	2,000
Fresno-Tulare ¹	97,740	200	350	-----	350
Kansas City.....	370,490	1,075	1,075	-----	1,075
Minneapolis-St. Paul.....	456,900	950	1,070	-----	1,150
Philadelphia.....	1,625,820	2,200	2,400	-----	2,400
Phoenix.....	96,390	350	500	-----	450
San Francisco.....	888,330	1,300	1,500	-----	1,700
Total.....	7,732,510	13,200	14,395	-----	15,325

See footnotes at end of table.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 1097

Markets contained within the top 100 in the United States which have either all UHF or all VHF television facilities—Continued

	Homes	Class A 1-hour rate			
		ABC	CBS	Du Mont	NBC
2-station markets:					
Birmingham	253,180		\$675		\$700
Dallas	376,500		1,050		1,050
Davenport-Rock Island-Moline	253,370		600		700
Dayton, Ohio	360,370		850		850
El Paso	52,070		300		300
Harrisburg, Pa. ¹	105,250		250		250
Memphis	251,750		675		800
Nashville	198,630		550		550
Omaha	220,290		800		750
Peoria	101,660		200		275
Reading	135,000		300		150
Rochester, N. Y.	254,190		700		800
Salt Lake City	131,190		550		550
San Antonio	199,580		600		675
San Diego	224,760		800		700
Spokane	74,350		300		400
Springfield-Holyoke	112,090		250		250
Staubenville-Wheeling	435,110		400		400
Syracuse	342,660		900		800
Youngstown	117,830		350		300
Total	4,200,210		11,100		11,250
1-station markets:					
Binghamton	278,730		500		500
Charleston, S. C.	65,640		300		
Erie	159,610				700
Fort Wayne	45,210				250
Fort Worth	376,500				1,050
Grand Rapids	345,800				800
Greensboro	226,450		600		
Huntington-Ashland	300,550				700
Indianapolis	427,950		1,000		
New Britain-Hartford	105,460		350		
Providence	627,170				1,000
Richmond	167,760				625
Sacramento	56,750				300
St. Petersburg-Tampa	74,720				250
Shreveport	31,760				200
South Bend	96,920		300		300
Tacoma	325,440		725		
Toledo	286,380				800
Utica-Rome	166,320				425
Wilmington	161,300				575
Total	4,328,420			\$11,500	
Total CBS	1,526,590		3,775		
Total, NBC	3,175,480				8,525

¹ UHF stations.

Source: Du Mont TV Network Research Department, June 17, 1954.

1098 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

Top 100 markets—Class A 1-hour rate

1-STATION MARKETS

Market	Station	TV homes	Affiliation SRDS May 1954			
			ABC	CBS	DUM	NBC
Akron.....	WAKR ¹	41,350	\$150			
Binghamton.....	WNBF	278,730	500	\$500	\$500	\$500
Charleston, S. C.....	WCSC	65,640	200	300	300	300
Charleston, W. Va.....	WKNA ¹	40,060	200		200	
Erie.....	WICU	159,610	700		700	700
Evansville.....	WFIE ¹	48,090	150		150	150
Flint.....	WTAC ¹	(?)	200			
Fort Wayne.....	WKJG ¹	45,210	250		250	250
Fort Worth.....	WBAP	378,500	1,050			1,050
Grand Rapids.....	WOOD	345,800		800	800	800
Greensboro.....	WFMY	226,450	600	600	600	600
Huntington-Ashland.....	WFAZ	300,550	700	700	700	700
Indianapolis.....	WFBM	427,950	1,000	1,000	1,000	1,000
Little Rock.....	KRTV	(?)				
New Britain-Hartford.....	WKNB ¹	105,460		350		
Providence.....	WJAR	687,170	1,000	1,000	1,000	1,000
Richmond.....	WTVR	167,760	625	625	625	625
Sacramento.....	KCCC ¹	56,750			300	300
St. Petersburg-Tampa.....	WSUN ¹	74,720	250		250	250
Shreveport.....	KSLA	31,760		200	200	200
South Bend.....	WBSB ¹	96,920		300	300	300
Tacoma.....	KTNT	325,440		725	725	
Toledo.....	WSPD	286,380	800	800	800	800
Utica-Rome.....	WKTU	166,320		475	475	475
Wilmington.....	WDEL	161,300			575	575
Worcester.....	WWOR ¹	42,260	250		250	

¹ UHF station.

² Not available.

Source: Du Mont TV Network, research department, June 16, 1954.

2-STATION MARKETS

Allentown-Bethlehem-Easton.....	WLEV ¹	34,390				\$200
	WGLV ¹		\$200		\$200	
Birmingham.....	WABT	253,180	675	\$675	600	
	WBRC					700
Buffalo.....	WBEN	420,700		1,125		1,125
	WBUF ¹	131,090	350		350	
Charlotte.....	WBTV	400,440		850		
	WAYS ¹	15,140	150		150	150
Dallas.....	KRLD	376,500		1,050		
	WFAA		1,050		1,050	1,050
Davenport-Rock Island-Moline.....	WOC	253,370				700
	WHBF		600	600	600	
Dayton.....	WHIO	360,750	850	850	850	
	WLW-D					850
El Paso.....	KROD	52,070	300	300		
	KTSM					300
Greenville, S. C.....	WFBC	190,780				325
	WGLV ¹	48,050	200		200	
Harrisburg, Pa.....	WHP ¹	105,250		250		
	WTPA ¹				250	250
Hutchinson-Wichita.....	KTVH	117,100		425	300	
	KEDD ¹	67,150	250			250
Jacksonville.....	WJHP ¹	26,890	150		150	
	WMBR	134,430		600		600
Johnstown.....	WJAC	365,890		750		750
	WARD ¹	22,540			200	
Knoxville.....	WROL	78,630	250			250
	WTSK ¹	37,180		250	250	
Lansing.....	WILS ¹	36,560	200		200	
	WJIM	280,790		700		700
Madison.....	WKOW ¹	40,970		200		
	WMTV ¹		200		200	
Memphis.....	WBBQ	251,750		675	675	
	WMCT		800			800

See footnotes at end of table.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 1099

Top 100 markets—Class A 1-hour rate—Continued

2-STATION MARKETS—Continued

Market	Station	TV homes	Affiliation SRDS May 1954			
			ABC	CBS	DUM	NBC
Mobile.....	WALA.....	71,770	\$300	-----	-----	\$300
	WKAB ¹	59,150	-----	-----	\$200	-----
Nashville.....	WSIX.....	198,630	550	\$550	-----	-----
	WSM.....	-----	-----	-----	550	550
New Haven-Waterbury.....	WNHC.....	655,750	-----	1,000	-----	1,000
	WATR ¹	78,010	200	-----	200	-----
New Orleans.....	WDSU.....	261,030	-----	700	-----	700
	WJMR ¹	48,890	250	-----	250	-----
Omaha.....	KMTV.....	220,290	800	800	-----	-----
	WOW.....	-----	-----	-----	750	750
Peoria.....	WEEK ¹	101,660	-----	325	-----	275
	WTVH ¹	-----	200	-----	200	-----
Portland, Oreg.....	KOIN.....	174,220	700	700	-----	-----
	KPTV ¹	174,220	-----	-----	500	500
Reading.....	WEEU ¹	135,000	150	-----	-----	150
	WHUM ¹	-----	-----	300	300	-----
Portland, Oreg.....	KOIN.....	174,220	700	700	-----	-----
	KPTV ¹	174,220	-----	-----	500	500
Reading.....	WEEU ¹	135,000	150	-----	-----	150
	WHUM ¹	-----	-----	300	300	-----
Rochester, N. Y.....	WHAM.....	254,190	800	-----	800	800
	WVET.....	-----	-----	700	-----	-----
Saginaw-Bay City.....	WKNX ¹	70,900	200	200	-----	-----
	WNEM.....	164,290	-----	-----	350	350
Salt Lake City.....	KDYL.....	131,190	-----	-----	-----	550
	KSL.....	-----	550	550	550	-----
San Antonio.....	KEYL.....	199,580	600	600	600	-----
	WOAL.....	-----	-----	-----	-----	675
San Diego.....	KFMB.....	224,760	800	800	-----	-----
	KFSD.....	-----	-----	-----	700	700
Seattle.....	KING.....	325,440	900	-----	-----	-----
	KOMO.....	-----	-----	-----	-----	900
Spokane.....	KHQ.....	74,350	400	-----	-----	400
	KXLY.....	-----	-----	300	300	-----
Springfield-Holyoke.....	WHYN ¹	112,090	-----	250	250	-----
	WWLP ¹	-----	250	-----	-----	250
Steubenville-Wheeling.....	WSTV.....	435,110	-----	400	-----	-----
	WTRF.....	-----	400	-----	-----	400
Syracuse.....	WHEN.....	342,660	900	900	900	-----
	WSYR.....	-----	-----	-----	-----	800
Tulsa.....	KCEB ¹	(²)	-----	-----	-----	-----
	KOTV.....	172,310	700	700	-----	700
Youngstown.....	WFMJ ¹	117,830	-----	-----	-----	300
	WKBN ¹	-----	250	350	250	-----

3-STATION MARKETS

Albany-Schenectady-Troy.....	WROW ¹	45,510	\$250	-----	\$250	-----
	WRGB.....	315,710	-----	-----	-----	\$1,000
	WTRI ¹	45,510	-----	\$250	-----	-----
Ames-Des Moines.....	WOL.....	177,000	-----	550	550	550
	KGTV ¹	23,320	150	-----	-----	-----
	WHO.....	177,000	-----	-----	-----	-----
Atlanta.....	WAGA.....	386,930	-----	800	-----	-----
	WLW-A.....	-----	725	-----	750	-----
	WSB.....	-----	-----	-----	-----	950
Baltimore.....	WAAM.....	676,340	1,200	-----	1,200	-----
	WBAL.....	-----	-----	-----	-----	1,300
	WMAR.....	-----	-----	1,300	-----	-----
Boston.....	WBZ.....	1,195,430	-----	-----	-----	2,200
	WNAC.....	-----	2,000	2,000	-----	-----
	WTAO ¹	85,120	-----	-----	250	-----
Cincinnati.....	WCPO.....	432,690	1,200	-----	1,200	-----
	WKRC.....	-----	-----	1,200	-----	-----
	WLW-T.....	-----	-----	-----	-----	1,200
Cleveland.....	WEWS.....	1,031,400	-----	1,500	-----	-----
	WNBK.....	-----	-----	-----	-----	1,900
	WXEL.....	-----	1,500	-----	1,500	-----
Columbus, Ohio.....	WBNS.....	382,660	-----	850	-----	-----
	WLW-C.....	-----	-----	-----	-----	850
	WTVN.....	-----	800	-----	800	-----
Detroit.....	WJBK.....	1,286,820	-----	1,850	1,850	-----
	WWJ.....	-----	-----	-----	-----	2,000
	WXYZ.....	-----	1,700	-----	-----	-----

See footnotes at end of table.

1100 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

Top 100 markets—Class A 1-hour rate—Continued

3-STATION MARKETS—Continued

Market	Station	TV homes	Affiliation SRDS May 1954			
			ABC	CBS	DUM	NBC
Duluth-Superior.....	WFTV ¹	32,770	\$200		\$200	\$200
	WDSM.....	42,110		\$250		
Fort Lauderdale-Miami.....	KDAL.....					
	WFTL ¹	54,830				
Fresno-Tulare.....	WITV ¹		200		150	
	WTVJ.....	192,720		850		850
	KJEO ¹	97,740	200			
Galveston-Houston.....	KMJ ¹			350		350
	KCOK ¹				200	
	KGUL.....	337,920		700		
	KPRC.....		900			900
Kansas City.....	KNUZ ¹	70,680			150	
	KCMO.....	370,490	1,075		1,075	
	WDAF.....					1,075
Louisville.....	WHB.....			1,075		
	WAVE.....	325,510				900
Milwaukee.....	WHAS.....			850		
	WKLO ¹	40,370	250		250	
	WCAN ¹	206,160		\$500		
Minneapolis-St. Paul.....	WOKY ¹		\$300		\$300	
	WTMJ.....	551,530				\$1,400
	KSTP.....	456,900				1,150
Norfolk.....	WCCO.....			1,070		
	WTCN.....		950		950	
	WTAR.....	222,620		775		
Philadelphia.....	WTOV ¹	86,150	200		200	
	WVEC ¹					250
	WCAU.....	1,625,820		2,400		
Phoenix.....	WFIL.....		2,200		2,200	
	WPTZ.....					2,400
	KOY.....	96,390	350			
Pittsburgh.....	KPHO.....			500	500	
	KTYL.....					450
	WDTV.....	893,040		1,400	1,400	
Portland, Maine.....	WENS ¹	172,540	400			
	WKJF ¹					350
	WCSH.....	88,080				250
St. Louis.....	WPMT ¹	32,880			200	
	WGAN.....	88,080	250	250		
	KSD.....	562,090		1,500		1,500
San Francisco.....	KSTM ¹	175,930	400			
	WTVI ¹				400	
	KGO.....	888,330	1,300			
York-Lancaster.....	KPIX.....			1,500	1,500	
	KRON.....					1,700
	WGAL.....	279,630		750		750
	WNOW ¹	69,930			200	
	WSBA ¹		250			

4-STATION MARKETS

Chicago.....	WBBM.....	1,835,270		\$2,500		
	WBKB.....		\$2,200			
Denver.....	WGN.....				\$2,000	
	WNBQ.....					\$3,000
	KBTU.....	210,313	500			
Los Angeles.....	KFEL.....				450	
	KLZ.....			600		600
	KOA.....					
	KABC.....	1,730,960	2,000			
New York.....	KHJ.....				1,600	
	KNBH.....					2,750
	KNXT.....			2,250		
	WABC.....	4,207,260	4,250			
Oklahoma City.....	WABD.....				3,200	
	WCBS.....			6,000		
	WNBT.....					6,200
	KMPT ¹	47,730			250	
	KTVQ ¹		200			
	KWTU.....	221,990		650		-700
	WKY.....					

See footnotes at end of table.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 1101

Top 100 markets—Class A 1-hour rate—Continued

4-STATION MARKETS—Continued

Market	Station	TV homes	Affiliation SRDS May 1954			
			ABC	CBS	DUM	NBC
Scranton-Wilkes Barre.....	WARM 1.....	137,030	\$225			
	WBRE 1.....					\$100
	WGBI 1.....				\$250	
	WILK 1.....				\$250	
Washington.....	WMAL.....	540,320	950			
	WNBW.....					1,350
	WTOP.....				1,300	
	WTTG.....				950	

EXHIBIT II

National advertising expenditures

REPORTED

[In millions]

Year	Total	News-papers	Radio	Magazines	Direct mail	Business papers	Out-door	Television	Miscellaneous
1935.....	\$858.7	\$151.8	\$84.3	\$136.3	\$281.6	\$51.0	\$23.3		\$130.4
1936.....	1,003.2	171.0	108.1	162.0	319.0	60.5	28.5		154.1
1937.....	1,102.5	172.6	129.4	192.5	333.2	70.0	32.9		171.9
1938.....	1,036.6	150.2	136.6	168.7	323.7	60.5	31.9		159.0
1939.....	1,085.8	153.4	149.1	180.1	333.3	68.8	32.6		168.5
1940.....	1,162.8	163.0	174.8	197.7	333.7	76.0	33.5		184.1
1941.....	1,258.7	164.6	201.7	213.6	352.6	88.9	36.9		200.4
1942.....	1,212.4	143.9	217.5	198.7	329.1	98.4	30.8		194.0
1943.....	1,451.6	182.2	258.3	274.9	321.5	142.4	29.6		242.7
1944.....	1,669.2	196.6	321.5	323.6	326.2	176.7	38.9		285.7
1945.....	1,775.3	211.0	343.0	364.5	290.2	204.1	50.2		312.3
1946.....	1,963.2	247.8	339.2	426.5	334.4	211.2	60.1		344.0
1947.....	2,487.3	335.6	356.4	492.9	579.0	232.5	78.9		412.0
1948.....	2,776.1	393.7	387.2	512.7	689.1	250.9	89.2		453.3
1949.....	2,965.1	475.7	383.0	492.5	755.6	248.1	88.4	\$49.2	472.6
1950.....	3,256.8	533.4	394.3	514.9	803.2	251.1	96.2	145.9	517.8
1951.....	3,736.3	548.9	406.4	573.7	923.7	292.1	100.7	296.7	594.1
1952.....	4,105.1	562.4	369.5	615.8	1,024.3	365.2	109.4	405.8	652.7
1953.....	4,517.4	634.3	379.9	663.1	1,075.5	398.8	117.9	529.7	718.2

ESTIMATED

1954.....	\$4,836.0	\$646.0	\$375.0	\$711.0	\$1,115.0	\$425.0	\$124.0	\$675.0	\$765.0
1955.....	5,135.0	675.0	375.0	740.0	1,150.0	450.0	130.0	800.0	815.0
1956.....	5,619.0	730.0	400.0	780.0	1,200.0	470.0	139.0	1,000.0	900.0
1957.....	5,772.0	745.0	370.0	800.0	1,220.0	460.0	142.0	1,110.0	925.0
1958.....	6,045.0	770.0	375.0	825.0	1,245.0	475.0	150.0	1,240.0	955.0

Source: Du Mont TV Network, research department, June 4, 1954.

1102 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

EXHIBIT III

TV and AM ownership in top 100 markets showing AM network affiliation

	TV	AM radio	Network affiliation	Licensee
Alabama:				
Birmingham	WABT	WAPI	CBS	TV Corp., Alabama.
Mobile	WALA	WALA	NBC	Pape Broadcasting Co.
	WKAB ¹	WKAB		Pursley Broadcasting Co.
Arizona:				
Phoenix	KTYL	KTYL		Harkins Broadcasting Co.
	KOY	KOY		Koy Broadcasting Co.
California:				
Fresno	KMJ ¹	KMJ	NBC	McClatchy Broadcasting Co.
San Diego	KFMB	KFMB	CBS	Wrather-Alvarez Broadcasting Co.
	KFSD	KFSD	NBC	Airfan Radio Corp.
San Francisco	KPIX	KSO		KPIX, Inc.
Tulare	KCOK ¹	KCOK		Sheldon Anderson.
Colorado: Denver	KFEL	KFEL		Eugene O'Fallon, Inc. (now KIMN).
Connecticut:				
New Britain	WKNB ¹	WKNB		New Britain Broadcasting Co.
New Haven	WNHC	WNHC	NBC	Elm City Broadcasting Corp.
Waterbury	WATR ¹	WATR	ABC	WATR, Inc.
District of Columbia: Washington.	WMAL	WMAL	ABC	Evening Star Broadcasting Co.
Florida:				
Fort Lauderdale	WFTL ¹	WFTL		Tri-County Broadcasting Co.
	WITV ¹	WBRD		Gerico Investment Co.
Jacksonville	WJHP	WJHP		Jack Journal Co.
	WMBR ¹	WMBR	CBS	Washington Post Co.
St. Petersburg	WSUN ¹	WSUN	ABC	City of St. Petersburg.
Illinois:				
Chicago	WGN	WGN		WGN, Inc.
Peoria	WEEK ¹	WEEK	NBC	West Central Broadcasting Co.
	WTVH ¹	WTVH		Hilltop Broadcasting Co.
Rock Island	WHBF	WHBF	CBS	Rock Island Broadcasting Co.
Indiana:				
Fort Wayne	WKJG ¹	WKJG		North Eastern Indiana Broadcasting Co.
	WSBT ¹	WSBT	CBS	South Bend Tribune.
Iowa:				
Ames	WOI	WOI	Not commercial.	Iowa State College, A. & M.
Davenport	WOC	WOC	NBC	Central Broadcasting Co.
Kentucky:				
Louisville	WAVE	WAVE	NBC	WAVE, Inc.
	WHAS	WHAS	CBS	WHAS, Inc.
	WKLO ¹	WKLO	ABC	Mid-America Broadcasting Co.
Louisiana: New Orleans	WDSU	WDSU	NBC	WDSU Broadcasting Co.
	WJMR ¹	WJMR		Supreme Broadcasting Co.
Maine: Portland	WCSH	WCSH	NBC	Congress Square Hotel Co.
Maryland: Baltimore	WBAL	WBAL	NBC	Hearst Corp.
Massachusetts:				
Boston	WTAO ¹	WTAO		Middlesex Broadcasting Co.
Springfield	WHYN ¹	WHYN	CBS	Hansysden-Hampshire Corp.
	WWLP ¹	WSPR	ABC	Springfield TV Broadcasting Co.
Michigan:				
Detroit	WWJ	WWJ	NBC	Evening News Association.
Flint	WTAC ¹	WTAC	ABC	Trendle-Campbell Broadcasting Co.
Lansing	WILS ¹	WILS		Lansing Broadcasting Co.
	WJIM	WJIM	NBC-ABC	WJIM, Ind.
Saginaw	WKNX ¹	WKNX		Lake Huron Broadcasting Corp.
Minnesota:				
Minneapolis	WTCN	WTCN	ABC	Minnesota TV P. S. Corp.
St. Paul	KSTP	KSTP	NBC	KSTP, Inc.
Missouri:				
Kansas City	KCMO	KCMO	ABC	KCMO Broadcasting Co.
	WDAF	WDAF	NBC	Kansas City Star Co.
	WHB	WHB		WHB Broadcasting Co.
St. Louis	KSD	KSD	NBC	Pullitzer Publishing Co.
	KSTM ¹	KSTL		Broadcast House, Inc.
	KMTV	KMA	ABC	May Broadcasting Co.
Nebraska: Omaha	WATV	WAAT		Bremer Broadcasting Corp.
New Jersey: Newark-New York.				

See footnotes at end of table.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 1103

TV and AM ownership in top 100 markets showing AM network affiliation—Con.

	TV	AM radio	Network affiliation	Licensee
New York:				
Albany.....	WROW ¹	WROW.....	ABC.....	Hudson Valley Broadcasting Co.
Binghamton.....	WNBF.....	WNBF.....	CBS.....	Clark Associates.
Buffalo.....	WBEN.....	WBEN.....	NBC.....	WBEN, Inc.
Rochester.....	WHAM.....	WHAM.....	NBC.....	Stromberg-Carlson.
Schenectady.....	WRGB.....	WRGB.....	NBC.....	General Electric Co.
Syracuse.....	WSYR.....	WSYR.....	NBC.....	Central New York Broadcasting Co.
North Carolina: Charlotte.....	WAYS ¹	WAYS.....	ABC.....	Inter-City Advertising Co.
	WBTV.....	WBT.....	CBS.....	Jefferson Standard Broadcasting Co.
Ohio:				
Akron.....	WAKR ¹	WAKR.....	ABC.....	Summit Radio.
Cincinnati.....	WKRC.....	WKRC.....	CBS.....	Radio Cincinnati.
	WLWT.....	WLW.....	NBC.....	Crosley Broadcasting Co.
Columbus.....	WBNS.....	WBNS.....	CBS.....	Dispatch Printing.
Dayton.....	WIFE ¹	WOWO.....		Skyland Broadcasting Co.
Youngstown.....	WFMJ ¹	WFMJ.....	NBC.....	Vindicator Printing Co.
	WKBN ¹	WKBN.....	CBS.....	WKBN Broadcasting Corp.
Oklahoma: Oklahoma City.....	WKY.....	WKY.....	NBC.....	WKY Radiophone.
Oregon: Portland.....	KOIN.....	KOIN.....	CBS.....	Mount Hood Radio & Television Broadcasting Co.
Pennsylvania:				
Harrisburg.....	WHP ¹	WHP.....	CBS.....	WHP, Inc.
Johnstown.....	WARD ¹	WARD.....	CBS.....	Rivoli Realty Co.
	WJAC.....	WJAC.....	NBC.....	WJAC, Inc.
Philadelphia.....	WCAU.....	WCAU.....	CBS.....	WCAU, Inc.
	WFIL.....	WFIL.....	ABC.....	Triangle Publications.
Reading.....	WEEV ¹	WEEV.....	ABC.....	Hawley Broadcasting Co.
Scranton.....	WARM ¹	WARM.....	ABC.....	Union Broadcasting Co.
	WGBI ¹	WGBI.....	CBS.....	Scranton Broadcasters, Inc.
Wilkes-Barre.....	WBRE ¹	WBRE.....	NBC.....	Louis G. Baltimore.
	WILK ¹	WILK.....	ABC.....	Wyo. Valley Broadcasting Co.
York.....	WNOW ¹	WNOW.....		Broadcast Division, Helm Coal Co.
Rhode Island: Providence.....	WSBA ¹	WSBA.....	ABC.....	Susquehanna Broadcasting Co.
South Carolina: Charleston.....	WJAR.....	WJAR.....	NBC.....	Outlet Co.
Tennessee:				
Memphis.....	WHBQ.....	WHBQ.....		Harding College.
Nashville.....	WSIX.....	WSIX.....	ABC.....	WSIX Broadcasting Co.
	WSM.....	WSM.....	NBC.....	WSM, Inc.
Texas:				
Dallas.....	KRLD.....	KRLD.....	CBS.....	KRLD Radio Corp.
	WFAA.....	WFAA.....		A. H. Belo Corp.
El Paso.....	KROD.....	KROD.....	CBS.....	Roderick Broadcasting Co.
Fort Worth.....	WBAP.....	WBAP.....	ABC-NBC.....	Carter Publishing, Inc.
Houston.....	KNUZ ¹	KNUZ.....		KNUZ TV Co.
	KPRC.....	KPRC.....	NBC.....	Houston Post Co.
San Antonio.....	WOAI.....	WOAI.....	NBC.....	Southland Industries.
Utah: Salt Lake City.....	KDYL.....	KDYL.....	NBC.....	Intermountain Broadcasting & Television Corp.
	KSL.....	KSL.....	CBS.....	Radio Service Corp. of Utah.
Virginia:				
Norfolk.....	WVEC ¹	WVEC.....		Peninsula Broadcasting Co.
	WTAR.....	WTAR.....	CBS.....	WTAR Radio Corp.
	WTOV ¹	WLOW.....	NBC.....	Commonwealth Broadcasting Co.
Richmond.....	WTVR.....	WMBG.....	NBC.....	Martin & Havens, Inc.
Washington:				
Seattle.....	KING.....	KING.....	ABC.....	KING Broadcasting Co.
	KOMO.....	KOMO.....	NBC.....	Fisher's Blend Station, Inc.
Spokane.....	KHQ.....	KHQ.....	NBC.....	KHQ, Inc.
	KXLY.....	KXLY.....	CBS.....	Symons Broadcasting Co.
Tacoma.....	KTNT.....	KTNT.....		Tribune Publishing Co.
West Virginia:				
Charleston.....	WKNA ¹	WKNA.....	ABC.....	Joe L. Smith.
Huntington.....	WSAZ.....	WSAZ.....	ABC.....	WSAZ, Inc.
Wheeling.....	WTRF.....	WTRF.....		Tri City Broadcasting Co.
Wisconsin:				
Madison.....	WKOW ¹	WKOW.....	CBS.....	Monona Broadcasting Co.
Milwaukee.....	WCAN ¹	WCAN ¹		Midwest Broadcasting Co.
	WOKY ¹	WOKY.....	ABC.....	Bartell Broadcasting Co.
	WTMJ.....	WTMJ.....	NBC.....	Journal Co.

¹UHF stations.

Source: Du Mont TV Network Research Department, June 17, 1954.

1104 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

Group ownership—TV and AM

Area	TV	AM	Affiliation	Group name
New York, N. Y.	WABC	WABC	ABC	American Broadcasting Co. stations.
Chicago, Ill.	WRKB	WFNR	ABC	
Detroit	WXYZ	WXYZ	ABC	
Los Angeles	KFCA	KFCA	ABC	
San Francisco	KGO	KGO	ABC	
Phoenix	KOOL	KOOL	CBS	Gene Autry stations.
Indianapolis	WFBM	WFBM	CBS	H. M. Bitner stations.
Grand Rapids	WOOD	WOOD	NBC	
New York	WCBS	WCBS	CBS	Columbia Broadcasting Co. stations.
Chicago	WBBM	WBBM	CBS	
Los Angeles	KNXT	KNXT	CBS	
Washington, D. C.	WTOP (45 percent).	WTOP (45 percent).	CBS	
Minneapolis	WCCO (47 percent).	WCCO (47 percent).	CBS	
Dayton	WHIO	WHIO	CBS	James M. Cox stations.
Atlanta	WSB	WSB	NBC	
Steubenville	WSTV	WSTV		Friendly group.
Rochester, N. Y.	WHCC	WHCC	CBS	Gannett Newspaper station.
Boston	WNAC	WNAC		General Teleradio (General Tire & Rubber Co.)
Los Angeles	KHJ	KHJ		
New York	WOR	WOR		
Erie, Pa.	WICU	WIKK	ABC	Edward Lamb Enterprises, Inc.
Denver	KLZ (20.3 percent).	KLZ	CBS	J. Elroy McCaw stations.
Omaha	WOW	WOW	NBC	Meredith Publishing Co.
Phoenix	KPHO	KPHO	ABC	
New York	WNBT	WNBC	NBC	NBC stations.
Chicago	WNBC	WMAQ	NBC	
Cleveland	WNBK	WTAM	NBC	
Washington	WNBW	WRC	NBC	
Cincinnati	WCPO	WCPO		Scripps-Howard group.
Memphis	WMCB	WMC	NBC	
Longster	WGAL	WGAL	NBC	Steinman stations.
Wilmington	WDEL	WDEL	NBC	
Bethlehem-Easton	WLEV ¹	WEST	NBC	
Detroit	WIBK	WIBK		Storer Broadcasting Co.
Atlanta	WAGA	WAGA	CBS	
Toledo	WSPD	WSPD	NBC	
Birmingham	WBRC	WBRC	NBC	
San Antonio	KEYL	KGBS	CBS	
Boston	WBZ	WBZ	NBC	Westinghouse Broadcasting Co.
Philadelphia	WPTZ	KYW	NBC	

¹ UHF station.

Source: Du Mont TV Network Research Department, June 17, 1954.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 1105

EXHIBIT IV

Markets with equal TV facilities in descending number of TV homes

	Homes	Class A 1-hour rate			
		ABC	CBS	Du Mont	NBC
New York.....	4,207,260	\$4,250	\$6,000	\$3,200	\$6,200
Chicago.....	1,835,270	2,200	2,500	2,000	3,000
Los Angeles.....	1,730,960	2,000	2,250	1,600	2,750
Philadelphia.....	1,625,820	2,200	2,400	2,200	2,400
Detroit.....	1,286,820	1,700	1,850	1,700	2,000
Cleveland.....	1,031,400	1,500	1,500	1,500	1,900
San Francisco.....	888,330	1,300	1,500	1,300	1,700
Baltimore.....	676,340	1,200	1,300	1,200	1,300
Providence.....	627,170				1,000
Washington.....	540,320	950	1,300	950	1,350
Minneapolis-St Paul.....	466,900	950	1,070	950	1,150
Steubenville-Whceling.....	435,110		400		400
Cincinnati.....	432,690	1,200	1,200	1,200	1,200
Indianapolis.....	427,950		1,000		
Atlanta.....	386,930	725	800	725	950
Columbus, Ohio.....	382,660	800	850	800	850
Fort Worth.....	376,500				1,050
Dallas.....	376,500		1,050		1,050
Kansas City.....	370,490	1,075	1,075	1,075	1,075
Dayton.....	360,750		850		850
Grand Rapids.....	345,800				850
Syracuse.....	342,660		900		800
Tacoma.....	325,440		725		
Huntington-Ashland.....	300,550				700
Toledo.....	286,380				800
Binghamton.....	278,730				500
Rochester.....	254,190		700		800
Davenport-Rock Island-Moline.....	253,370		600		700
Birmingham.....	253,180		675		700
Memphis.....	251,750		675		800
Greensboro.....	226,451		600		
San Diego.....	224,760		800		700
Omaha.....	220,290		800		750
Denver.....	210,313	500	600	450	600
San Antonio.....	199,580		600		675
Nashville.....	198,630		550		550
Richmond.....	167,760				625
Utica-Rome.....	166,320				475
Wilmington.....	161,300				575
Erie.....	159,610				700
Scranton-Wilkes-Barre ¹	137,030	225	250	250	400
Reading ¹	135,000		300		150
Salt Lake City.....	131,190		550		550
Youngstown ¹	117,830		350		300
Springfield-Holyoke ¹	112,090		250		250
New Britain-Hartford ¹	105,400		250		
Harrisburg, Pa. ¹	105,250		200		250
Peoria ¹	101,660		200		275
Fresno-Tulare ¹	97,740	200	350	200	350
South Bend ¹	96,920		725		
Phoenix.....	96,390	350	500	350	450
St. Petersburg-Tampa ¹	74,720		300		250
Spokane.....	74,350		300		400
Charleston, S. C.....	65,640		300		
Sacramento ¹	56,750				300
El Paso.....	52,070		300		250
Fort Wayne.....	45,210				300
Shreveport.....	31,760		200		

¹ UHF station.

NOTE.—No rate is shown in 1- and 2-station markets for the Du Mont and ABC networks. The CBS or NBC rates would apply in these markets when station time is available to Du Mont and ABC.

Source: Du Mont TV network research department, June 17, 1954.

NEW YORK CITY 17.

Senator CHARLES E. POTTER,
United States Senate.

MY DEAR SENATOR POTTER: The subject of subscription uses of television, as a new approach to solution of the economic problems of TV stations, especially in smaller communities, has come up during the hearings of your subcommittee on UHF and related matters.

However, since the many ramifications of this new potentiality were discussed only briefly in the hearing, may I respectfully request that the attached article from the July 1954 issue of the Reader's Digest (entitled "Television: The Best Is Yet to Come") be entered in the record of the subcommittee hearings. It summarizes many of the most salient aspects of this emerging potentiality of subscription use of television.

Respectfully yours,

MILLARD C. FAUGHT.

[Reader's Digest, July 1954]

TELEVISION: THE BEST IS YET TO COME

Condensed from *The American Mercury*, by Millard C. Faught.

At the flick of a TV dial some 100 million Americans now can get free seats at a major-league baseball game or a star-studded variety show. But TV's magic screen has one vital part missing. It has no direct source of income.

A single program may cost \$100,000 per hour. So far the advertising sponsor or TV station has picked up these prodigious bills. But because of TV costs, few advertisers can afford it. (About half of TV's total income comes from less than a score of national advertisers.) Color TV will spiral costs even higher.

Further, as long as the programs are paid for by the advertiser, who can sponsor only the programs the most people will watch, the individual viewer has little control over what programs will be on TV. He can merely accept or reject what is offered.

The answer to this unique headache may soon be subscription, or pay-as-you-see television: you'll pay for some of the new programs you want by means of a gadget on your set. The gadget itself is already perfected. With it, in addition to the programs you now see, you will be able to view first-run movies, Broadway shows, championship prizefights, public-service programs—features that are now too specialized or too costly for commercial sponsors or that are banned from TV by producers.

As things now stand, the home viewer is in danger of losing some of the programs he prizes most. Theater television has already removed many of the big prizefights, and again this fall only one major college football game will be shown each Saturday. Even the world series may disappear from home television when the present contract for commercial TV sponsorship expires next year.

The trouble is that with its Zoomar lens the TV camera can improve even on a 50-yard-line seat; its long-distance closeups can watch every play of a ball game as closely as an umpire; it can almost ride the derby with the winning jockey. All of this is fine for the fans, but it keeps too many of them at home. Said a big-league baseball owner, "The trouble with television is that we have to give away our ball game to sell the sponsor's beer."

The National Collegiate Athletic Association concedes that restricting the number of football games televised is an unhappy solution to the problem of diminishing gate receipts. But until TV gets its own box office to substitute for the stadium turnstiles the colleges cannot let the public see all big games free. When TV does get its own ticket taker, however, its box-office prices may be as low as one-tenth of stadium admissions. If 25 cents could be collected from every home set tuned in to a championship fight, the return would make the million-dollar gate look small. Apply the same principle to a Broadway show: if all of us who now have sets paid only the price of a bus ride to and from a theater as our admission fee to South Pacific on TV, the total revenue would far exceed all that this great musical show grossed in 5 years on Broadway. And millions of people would still want to see the play itself.

At least three companies have demonstrated devices which will provide the home TV set with its own cash register. One of these, the Zenith Radio Corp., has had a request pending for some time before the Federal Communications Commission to authorize such an added service. Recently a group of telecasting

stations similarly petitioned the Commission. The FCC's decision is hoped for this year.

Use of a subscription-TV set would be simple. The viewer-customer would do one of three things: He would drop coins into a decoder in his set in order to unscramble the program he wishes to see (nonpaying viewers would see only a jumbled-up signal). Or he would insert a purchased card into a slot to effect the unscrambling. Or he would order the program by dialing his telephone. (The decoding information would be fed to his TV via his telephone without interfering with the regular phone service.)

Instead of the approximately 380 stations now supported by advertising, we could have 1,000 stations operating on the added revenue from subscription programs. Hundreds of smaller cities and towns would have a better chance to possess stations.

The FCC has set aside 250 of its allocations for educational television stations, acceding to the almost unanimous recognition that TV could be the greatest educational advance since the invention of printing. But after 2 years, less than half a dozen educational stations are on the air. The stumbling block, again, is economics.

If an educational station could collect tuition via subscription TV for a few outstanding programs, it would have the funds to operate many more hours per week on a free public-service basis. Thus could televisions open, for every set owner, the storehouses of knowledge that now serve only those who can go to a library, museum, campus, or other cultural center.

Would there be less opportunity to see sponsored programs without charge? No. With more stations there will be more sponsored programs. And since the average viewer would probably buy only 1 paid show for every 10 sponsored shows watched, the advertisers would have access to the bigger audience.

With subscription income to defray part of operating costs, advertising rates on TV might well be lowered to permit more sponsors to use it. At least the competition from the paid shows might induce the advertisers to offer better shows of their own. Competition is the greatest stimulant we have to the improvement of service, and it should do wonders to improve TV programing.

Veteran movie producer Samuel Goldwyn has repeatedly forecast that when TV gets a home box office it will be an ally of movies rather than the rival it now is. There is evidence back him up. Limited tests of subscription TV, using quality movies, suggest that this new way of exhibiting films could at least treble the market for the movies. (On any given night there are more people who are ill, too old, too remote or who can't get a baby-sitter, but would like to see a movie, than there are customers for the movie theaters.)

A new film like *Gone with the Wind* released on TV would command a fabulous audience. If it were released at \$1 per family, and even if only one-third of all set owners decided to pay to see it, in 2 hours the program would gross \$10 million.

If television today has feet of clay it is simply because it has no economic life-blood of its own and must continually be sustained by financial transfusions from other businesses. But in a society such as ours, in which a free choice by people is essential, TV should be allowed to serve the public interest in more and better ways than as an adjunct to advertising.

STATEMENT WITH RESPECT TO S. 3095, BILL TO REGULATE MULTIPLE OWNERSHIP OF TELEVISION BROADCAST STATIONS, INTRODUCED BY SENATOR JOHNSON OF COLORADO

Joint views presented on behalf of Mrs. Hugh McClung, of the McClung Broadcasting Stations, which include station KHSL-TV, Chico, Calif.; Frank C. Carman, on behalf of Utah Broadcasting & Television Corp., permittee of station KUTV, Salt Lake City, Utah; Donald A. Norman, on behalf of Television East Bay, doing business as Television California, applicant for a new station in the San Francisco-Oakland area

I. With specific reference to McClung Broadcasting Stations, it should be noted that "Chico is one of the smallest cities in the United States having a television station. The decision to establish a television station in Chico could not be justified on economic grounds alone, but we proceeded nevertheless because of our consistent policy of endeavoring to render the best in public service."

II. With specific reference to Utah Broadcasting & Television Corp., it should be noted that "We are presently building a television station to serve the Salt Lake City area. We face competition with at least two other Salt Lake City stations, and from stations in surrounding communities, which also may serve substantially the same area. We have planned the coverage to be most extensive, so that people living in distant areas will receive diversified program service.

III. With specific reference to Television East Bay, doing business as Television California, it should be noted that "Television California is a pioneer applicant and a pioneer television experimental operator. Its application was initially filed on May 5, 1948. It actually broadcast the first television program in San Francisco on May 25, 1948, over the facilities of W6XJD, which Television California owned and operated. This experimental station was operated for a period of 5½ years and the equipment finally was donated to the University of California along with a cash endowment to operate the equipment for scientific purposes."

IV. JOINT VIEWS

We believe that the Sixth Report and Order of the Federal Communications in the matter of amendment of sections 3.606, etc., of the Commission's rules and regulations should not be disturbed by the congressional committee, but should be left for further consideration and action by the arm of Congress, namely the Federal Communications Commission. We believe that the Sixth Report and Order in itself is a workmanlike document but, like all regulatory orders, it must be reassessed from time to time in the light of progress and in the light of dynamic changes in civilization. The problem of "inter-mixture" of UHF and VHF is not critical in any of our operations. Nevertheless, we believe that a nationwide competitive television broadcasting system is essential, and if adequate spectrum space is not available in one or the other of the television bands, intermixture is essential. The solution of this problem requires the highest degree of expertise, and here again we recommend that the solution of the problem be left to the discretion of the Federal Communications Commission, as an arm of Congress.

The citizens of the United States have a very large investment in VHF receivers and related equipment, and this investment should not be destroyed by eliminating the VHF television broadcasting stations.

If any policy change with respect to coverage is recommended by Congress, such recommendations should be in the direction of increasing service areas instead of reducing service areas. This is obvious from the plain scientific consideration, namely, that the rural dwellers and the suburban dwellers should be afforded adequate television service and such service cannot be delivered unless the transmitting stations are permitted to emit an adequate signal.

There is no good scientific reason why the Commission and Congress should not demand and require that "blind spots" in VHF and UHF coverage be removed through booster or satellite operation. There is no good regulatory or scientific reason why television broadcasting stations should not be permitted, through intercity relay circuits or otherwise, to pick up adequate program material. Restrictions on such proposals are indefensible.

STATEMENT OF MRS. HUGH M'CLUNG, PRESIDENT OF THE M'CLUNG BROADCASTING STATIONS, SAN FRANCISCO, CALIF.

I am Mrs. Hugh McClung and I am appearing on behalf of the McClung Broadcasting Stations which include station KHSL-TV, Chico, Calif.

Chico is one of the smallest cities in the United States having a television station. The decision to establish a television station in Chico could not be justified on economic grounds alone, but we proceeded nevertheless because of our consistent policy of endeavoring to render the best in public service.

The members of the subcommittee are quite familiar with the famous Sixth Report and Order of the Federal Communications Commission in the matter of the amendment of section 3.606 et cetera of the Commission's rules and regulations. We believe that the Sixth Report and Order, which was based upon hearings extending over many months and upon several years of earnest consideration by the Commission, is a sound document even in the posture of present day conditions. One of the most significant findings of that report is that which declares that the utilization of the UHF spectrum is essential to a nationwide-competitive television broadcasting system.

We see no technical method of eliminating intermixture of UHF and VHF in the same market where there isn't sufficient spectrum space in the VHF band of frequencies. On the other hand we believe that there is sociological and economic necessity for such intermixture, because of the very necessity of establishing a nationwide, competitive television broadcasting system.

We are opposed to any plan which would eliminate all the VHF channels and permit television broadcasting only in the UHF spectrum. Wholly aside from the fact that pioneers who really established television in the United States should not be at this late date faced with an extreme penalty, it is obvious that the tremendous investment of the citizens of the United States in all manner of VHF equipment should not be destroyed. There is simply no good reason to support such a lethal proposal.

There has been some suggestion that the service areas of VHF and UHF stations should be reduced for the purpose of permitting the establishment of a larger number of stations. We believe that the Commission in its Sixth Report and Order provided for minimum service areas, and the implementation of this suggestion would only mean that rural dwellers in the "fringe areas" of television reception would be further penalized.

In view of the necessity for an adequate national competitive television broadcasting service, it is obvious that every assistance should be made available to those who have the courage and the pioneering spirit to render television service in the UHF spectrum. As I understand it, one of the problems in connection with UHF coverage is the penetration of blank spots. I am advised that booster or satellite stations will be helpful in this connection, and therefore the Commission should, in proper instances, authorize such necessary auxiliary facilities.

The Commission might well relax its policy with respect to authorizing microwave relay links between the station transmitter and a program source, such as a network interconnection point.

The Congress might still afford some relief in the form of elimination of the 10 percent excise tax on the UHF receiving sets and components.

The Federal Communications Commission in its proposed rulemaking of December 23, 1953, in effect recommends that any party may own, in addition to 5 VHF stations, 2 UHF. This is a step in the right direction as something of a premium is afforded to the UHF stations in that, those who desire to expand, have a greater opportunity in the UHF spectrum.

The Federal Communications Commission might well take another look at its procedural rules with the thought that UHF permittees or licensees will be permitted to apply for modification of their permits or licenses to change to a VHF channel, if such a channel should become available.

I can well understand the emotions of many UHF operators throughout the United States in the light of my own misgivings when we appropriated great sums of our company's assets to establish a television station in Chico, when the set circulation was entirely negative and we had no real assurance of financial return. We undertook this risk in a spirit of American free enterprise. Sometimes these ventures succeed and sometimes they fail. I believe it is extremely difficult to arrive at a program of subsidy without doing some violence to the fabric of our free competitive system.

STATEMENT OF DONALD A. NORMAN OF TELEVISION EAST BAY DOING BUSINESS AS
TELEVISION CALIFORNIA

I am Donald A. Norman and I am appearing on behalf of Television East Bay doing business as Television California, an applicant to establish a new station in the San Francisco-Oakland area. I am executive vice president of the applicant corporation.

Television California is a pioneer applicant and a pioneer television experimental operator. Its application was initially filed on May 5, 1948. It actually broadcast the first television program in San Francisco on May 25, 1948, over the facilities of W6XJD, which Television California owned and operated. This experimental station was operated for a period of 5½ years and the equipment finally was donated to the University of California along with a cash endowment to operate the equipment for scientific purposes.

We have prosecuted our application most diligently every inch of the way. We expended large sums of money on the initial hearings, and we were expecting Commission action the very period of time the last "freeze" was ordered. We sincerely hope there will be no "freeze" at this time—just as we are prepared to proceed again.

The members of the subcommittee are quite familiar with the famous sixth report and order of the Federal Communications Commission in the matter of the amendment of section 3.606, etc., of the Commission's rules and regulations. We believe that the sixth report and order, which was based upon hearings extending over many months and upon several years of earnest consideration by the Commission, is a sound document even in the posture of present-day conditions. One of the most significant findings of that report is that which declares that the utilization of the UHF spectrum is essential to a nationwide competitive television broadcasting system.

Although we have no problem along this line in San Francisco-Oakland, we see no technical method of eliminating intermixture of UHF and VHF in the same market where there isn't sufficient spectrum space in the VHF band of frequencies. On the other hand, we believe that there is sociological and economic necessity for such intermixture, because of the very necessity of establishing a nationwide, competitive television broadcasting system.

We are opposed to any plan which would eliminate all the VHF channels and permit television broadcasting only in the UHF spectrum. Wholly aside from the fact that pioneers who really established television in the United States should not be at this late date faced with an extreme penalty, it is obvious that the tremendous investment of the citizens of the United States in all manner of VHF equipment should not be destroyed. There is simply no good reason to support such a lethal proposal.

Having once been the victim of a "freeze," we hope that no such hysterical and unnecessary measure will be again forced upon those citizens who desire, at their own risk, to establish television service for the public of the United States.

There has been some suggestion that the service areas of VHF and UHF stations should be reduced for the purpose of permitting the establishment of a larger number of stations. We believe that the Commission in its sixth report and order provided for minimum service areas, and the implementation of this suggestion would only mean that rural dwellers in the "fringe areas" of television reception would be further penalized.

In view of the necessity for an adequate national competitive television broadcasting service, it is obvious that every assistance should be made available to those who have the courage and the pioneering spirit to render television service in the UHF spectrum. As I understand it, one of the problems in connection with UHF coverage is the penetration of blank spots. I am advised that booster or satellite stations will be helpful in this connection, and, therefore, the Commission should, in proper instances, authorize such necessary auxiliary facilities.

The Commission might well relax its policy with respect to authorizing microwave relay links between the station transmitter and a program source, such as a network interconnection point.

The Congress might still afford some relief in the form of elimination of the 10 percent excise tax on the UHF receiving sets and components.

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The Federal Communications Commission might well take another look at its procedural rules with the thought that UHF permittees or licensees will be permitted to apply for modification of permits or licenses to change to a VHF channel if such a channel should become available.

I can well understand the emotions of many UHF operators throughout the United States in the light of our own misgivings when we appropriated great sums of our company's assets to establish a television station in the bay area, which after 7 years is still a speculative enterprise. We undertook this risk in a spirit of American free enterprise. Sometimes it is extremely difficult to arrive at a program of subsidy without doing some violence to the fabric of our free competitive system.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 1111

WRTV, CHANNEL 58,
WALTER READE THEATERS, INC.,
New York, N. Y., May 18, 1954.

HON. ROBERT C. HENDRICKSON,
United States Senate,
Senate Office Building, Washington, D. C.

DEAR SENATOR HENDRICKSON: I noted in the newspapers earlier this week that Senator Bridges of New Hampshire had asked the Federal Communications Commission to comment on a suggestion that television set manufacturers install a combination VHF-UHF tuner in every color television set they make. He made this suggestion in a letter to the FCC Chairman, Mr. Hyde.

A respectfully call this to your attention because the apparent reluctance or hesitancy on the part of television set manufacturers and distributors to furnish television sets (with or without color) which have all-channel bands capable of receiving UHF as well as VHF stations, has been one of the major problems of securing listeners for WRTV. Not only do we, as well as virtually all other UHF stations, have the problem of securing conversions of existing sets to receive our UHF signal, but the problem is being constantly compounded by the influx of new sets which also have to be converted.

If manufacturers and distributors would send only all-channel sets into our area as well as other UHF areas, this problem, within a relatively short time, would disappear as listeners traded in old sets or bought new ones.

May I respectfully request your consideration of supporting Senator Bridges' inquiry as being vital to the future of UHF television. I would also point out that this will be one of the prime suggestions from UHF stations at the forthcoming hearings to be conducted by Senator Potter.

Your efforts would be tremendously appreciated.

Very sincerely yours,

WALTER READE, Jr., *President.*

WEAW—AM—FM,
Evanston, Ill., June 23, 1954.

Senator CHARLES E. POTTER,
Senate Subcommittee on Communications,
Senate Office Building, Washington, D. C.

DEAR SENATOR POTTER: Several ill-advised witnesses before the Senate Subcommittee on Communications have persisted in proposing the FM band as a likely source for 2 or 3 additional VHF-TV channels. They have neglected to mention what disposition they suggest for the 663 operating FM stations. Of those 663 operating FM stations, 114 are noncommercial stations operated by educational institutions. This cure-all for TV presumably would, in the Chicago area, casually eliminate 16 FM stations and substitute 1 additional TV channel instead.

It is difficult to understand how any intelligent person could make such a proposal, but if the Senate subcommittee plans to give serious consideration to something of that sort, as an FM broadcaster, I would like to request an appearance before the committee. I don't believe that any inquiry into TV's woes should be expanded to include the FM picture, but if you want appearances from several hundred FM broadcasters, I think they would be happy to appear.

I would like to state in passing that those of us who stayed in FM long enough to make it profitable, did not go to the Senate to request alleviation of the problems that were just as serious to the FM broadcasters as are the present difficulties of the UHF people.

I get a little tired of hearing people voice the prediction that UHF will suffer "the same fate as FM." In the first place, FM hasn't suffered any fate. When operated properly, it can be and is a profitable operation in the public interest.

In comparing UHF to FM, one extremely important point of dissimilarity is never noted, that is, while UHF provides inferior coverage to VHF, FM provides vastly superior coverage to over 80 percent of the AM signals on the air.

1112 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

It is particularly ironic to read of E. L. Jahnecke, vice president of ABC, advocating the elimination of FM. For years the only full-time radio outlet ABC has had in Chicago, the Nation's second market, has been WENR-FM. Many fine ABC programs have only been available on WENR-FM in Chicago. However, ABC never saw fit to publicize that fact or even operate that station beyond the minimum 6 hours per day required by the Commission. Is that operation in the public interest?

If anybody wants to bring out all the dirty laundry with regard to several of the networks and FM, that in itself would make quite a hearing.

FM is here to stay and the sooner the powers that be stop trying to figure out how to avoid it and start promoting it and using it to support and even increase their radio rates, the better off everyone, including the public, will be.

Yours truly,

EDWARD A. WHEELER, *President.*

J. H. WHITNEY & Co.,
New York 20, N. Y., June 22, 1954.

Senator CHARLES E. POTTER,

Chairman, Subcommittee on Communications, Committee on Interstate and Foreign Commerce, United States Senate, Washington, D. C.

DEAR SENATOR POTTER: It has come to our attention that J. H. Whitney & Co. were referred to in testimony given by Mr. J. Patrick Beacom of Fairmont, W. Va., on May 21 in the hearings on UHF problems which are being concluded today by the subcommittee. We obtained a copy of the statement delivered by Mr. Beacom and have written to him today a letter in which we seek to correct certain factual inaccuracies. A copy of our letter to Mr. Beacom is enclosed.

I am sure that the subcommittee will want to have all of the facts on the questions raised by Mr. Beacom and we therefore request that the enclosed letter be made a part of the record of the hearings.

Sincerely,

WILLIAM H. JACKSON, *Managing Partner.*

J. H. WHITNEY & Co.,
New York 20, N. Y., June 22, 1954.

Mr. J. PATRICK BEACOM,

Station WJPB-TV, Inc., Fairmont, W. Va.

DEAR MR. BEACOM: One of the members of the press who attended the hearings before the Subcommittee on Communications of the Senate Interstate and Foreign Commerce Committee in Washington on May 21, 1954, gave us one of the mimeographed copies of the statement you delivered to the subcommittee on that day. Our reading of it indicates certain factual inaccuracies which we wish to invite to your attention in the interest of keeping the record straight.

You testified in part as follows:

"Now the situation becomes complicated, because the Jock Whitney interests of New York, through their Jerrold Electronics Corp., in Philadelphia, have come into West Virginia and under the name of the Fairmont Television Cable Corp., in Fairmont and the Clarksburg Television Cable Corp. in Clarksburg, have built a network offering closed circuit television service to these communities with programs from Wheeling, Pittsburgh and Johnstown stations."

Jerrold Electronics Corp., is a manufacturing company in Philadelphia founded and headed by Milton J. Shapp. Mr. Shapp is a stockholder in the Fairmont and Clarksburg companies. Among other things, Jerrold Electronics Corp. engineers, manufactures and services community television antenna equipment. It has sold to the Fairmont and Clarksburg corporations the equipment in use in those two communities and renders certain engineering services in connection with maintaining the equipment in proper working order. J. H. Whitney & Co. has no financial or other interest in Jerrold Electronics Corp. While J. H. Whitney & Co. is an investor in both the Fairmont and Clarksburg corporations, there are also other investors. In Fairmont there are very substantial local investors of the highest standing in the community, as I am sure you are aware.

We cannot agree with your statement concerning the adding of station WJPB-TV to the Fairmont television cable system and its subsequent removal from the system. The essential facts are as follows:

(1) On March 26, 1954, the Fairmont company ran a full-page advertisement carrying the banner headline "The Fairmont Television Cable Corp. Welcomes Fairmont's Own TV Station WJPB-TV and Will Carry WJPB-TV Pro-

grams on the TV Cable." Immediately under this headline was the following statement:

"In order to provide the widest possible choice of TV programing to our subscribers and to enable them to receive the signal of our new local Fairmont station without the expense of UHF set conversion or antenna installation, the Fairmont Television Cable Corp. will carry WJPB-TV's programs during the station's broadcast hours.

"In order to do this, the Fairmont station will be substituted for Pittsburgh WDTV, from 4 p. m. daily (WJPB-TV's sign-on time) until midnight. Since many of the evening network programs to be carried on WJPB-TV will duplicate those of the Pittsburgh station, subscribers will gain local programing without loss of these Pittsburgh programs. The Pittsburgh station will continue to be carried from 7 a. m. to 4 p. m. daily. This plan will continue as long as the majority of our subscribers wish it."

(2) Immediately upon the publication of this announcement the Fairmont Television Cable Corp. began receiving telephone calls and visits to its office by its subscribers protesting the adding of WJPB-TV to the cable system in place of WDTV Pittsburgh. Tabulations of these protests show the following totals:

Mar. 20-----	312
Mar. 27-----	142
Mar. 28-----	115
Mar. 29-----	223
Mar. 30-----	323
 Total-----	 1,015

¹ Phone calls to the home of the general manager, the office being closed on Sunday.

(3) In response to these protests the company on March 31 did not carry WJPB-TV but restored WDTV Pittsburgh to the system. The general manager states that the telephone protests immediately stopped and that 50 to 76 subscribers called to thank the company for restoring the Pittsburgh station to the system. On March 31 and succeeding days the company received a total of 17 protests over discontinuance of WJPB-TV.

(4) The company then mailed a letter to all subscribers explaining why WJPB-TV was added to the system and why it was taken off. This letter included the following statement:

"In the future should there be a change in subscriber sentiment we will be guided by your wishes. Within the next few weeks we will give all subscribers an opportunity to vote again on the question of substituting WJPB-TV for 1 of the 3 metropolitan stations now carried on the cable."

(5) In keeping with this promise, the company on June 11, 1954, sent a letter to all subscribers, a copy of which is attached, asking them to express their wishes by June 15, by checking and returning a ballot card enclosed with the letter. This card asked the subscriber to check one of the four following combinations of channels:

- Pittsburgh, Wheeling, and Johnstown
- Fairmont, Wheeling, and Johnstown
- Pittsburgh, Fairmont, and Johnstown
- Pittsburgh, Wheeling, and Fairmont

As of today approximately 60 percent of the subscribers have signed and returned their cards, and of those responding 83 percent voted for continuation of Pittsburgh, Wheeling, and Johnstown.

From these facts it should be clear to anyone that the Fairmont Television Cable Corp. has been and is motivated only by the desire to provide its subscribers with the service they want. Your testimony might be construed by some to imply that the company removed your station from the system in an arbitrary or spiteful manner. The above facts prove that the company acted reasonably and fairly and had no choice but to abide by the wishes of the subscribers. As far as J. H. Whitney & Co. is concerned we assure you that we favor the policy of carrying on the system those stations which our subscribers want, and if the subscribers vote to carry your station in place of one of the ones now being furnished, we would expect the Fairmont Television Cable Corp. to make that substitution.

The statement from your testimony quoted above also implies that the situation of WJPB-TV became complicated because the Fairmont cable system was built after your station was in operation. This is not in accord with the facts. The Fairmont system began construction work on March 20, 1953. The first sub-

scribers were connected on May 19, 1953. You received the construction permit for station WJPB-TV about July 1, 1953, and went on the air in March 1954, more than a year after the first construction work on the system. Thus there is no element of surprise to you as might be inferred from the language of your testimony.

I am sending a copy of this letter to Senator Potter with the request that it be made a part of the record of the hearings on UHF broadcasting problems before the subcommittee of which he is chairman.

Very truly yours,

WILLIAM H. JACKSON, *Managing Partner.*

FAIRMONT TELEVISION CABLE CORP.,
Fairmont, W. Va., June 11, 1954.

DEAR SUBSCRIBER: Several weeks ago when the Fairmont station went on the air, it was added to the cable system, and Pittsburgh was dropped. The station, was carried for several days. During that time we were flooded with telephone calls from subscribers who said they preferred Pittsburgh to the local station.

As we wrote you then, we felt we had no choice but to reinstate the Pittsburgh station. That is what we did. We said also that we would, within a few weeks, poll the subscribers and again ask their opinion.

Quite evidently we have only one purpose—that is to give you the kind of television service you are most interested in. This company has the finest equipment there is for bringing you high quality pictures from three stations. You should have the three you want most to watch.

Would you therefore express your wishes on the enclosed post card. Since these cards will be tabulated next Tuesday, please mail the card within the next four days—that is by June 15.

If you care to send any other thoughts or ideas, we'd be very glad, as always, to have them.

Sincerely,

NED PENCE, *General Manager.*

SAGINAW, MICH., *June 22, 1954.*

HON. CHARLES E. POTTER,
*Chairman, Senate Subcommittee,
United States Senate, Washington, D. C.:*

Now that UHF television hearings have been concluded in Washington we, the operators of Michigan's last remaining commercial UHF television stations, urge that immediate action be taken by Senate subcommittee in an effort to remedy the present television dilemma.

Believing intermixture of UHF and VHF channels is the primary cause of the problem, we respectfully request that serious consideration be given to the plan submitted by WFMZ-TV, Allentown, Pa.

Intermixture has been the result not only of FCC allocations but by outside VHF stations covering UHF designated markets by means of superpower increases. We also believe that a plan of confining color to the UHF band deserves immediate study at this time before the American public invests tremendous sums of money in buying color receiving TV sets. Two Michigan UHF stations in Flint and Battle Creek have ceased operations within the past 60 days and the UHF stations in Lansing and Ann Arbor will be forced to immediately discontinue operating for economic reasons leaving Saginaw as the sole UHF market unless constructive action is taken to solve the UHF problem without delay.

We believe that a system of nationwide competitive television in the true American tradition is now in jeopardy and will be lost unless immediate remedial action is taken.

Respectfully yours,

EDWARD F. BAUGHN, *WPAG-TV, Ann Arbor, Mich.*
WILLIAM J. EDWARDS, *WKNX-TV, Saginaw, Mich.*
JOHN C. POMEROY, *WILS-TV, Lansing, Mich.*

WFEA, CBS,
Manchester, June 19, 1954.

Senator CHARLES E. POTTER,
Chairman, Interstate Senate Commerce Subcommittee,
The United States Senate, Washington D. C.

DEAR SENATOR POTTER: Unfortunately, we find ourselves in the old radio AM and FM story as far as television goes. Again we are faced with trying to prove to the people that they should convert their television sets because of a better type of telecasting. As far as we have been able to find out, the average person likes television very much, but when he finds he has to spend between \$50 and \$100 to convert to get the new UHF stations, he finds there are things around the house that have to be repaired first. This puts spending of money for conversion as the last possible expenditure.

Therefore, if there is going to be no monopoly in the art of telecasting, there had better be a decision to put all telecasting on the UHF band. Besides the money angle, as far as the individual family is concerned, consider what a complicated thing a television set is going to be in the future for the average home person when he has two dials to tune in order to get the stations, plus the fact when he gets color he will have to adjust the color dials.

In a recent survey here in the Lehigh Valley it was found that women in the home were at a loss as to how to tune in a converter or a VHF or UHF set, and that the questions regarding UHF ownership and usage of sets were answered mostly by men. It is not feasible, therefore, to think that you are ever going to have a happy situation between broadcaster and listener when you have two systems of television. It is all right for some of our association members to talk about the fact that you ought not make any distinction between UHF and VHF television. However, when the customer goes to the store to buy a new set and it costs him approximately \$50 more than the VHF set, he is going to ask the question "Why?"

It seems that some of the prefreeze VHF stations that sent signals into our area are playing up their coverage for all they are worth; some have slogans such as "Covering the Delaware Valley four-State area." As far as I am concerned I can't see what great value this has as far as the listener is concerned, but it has great value as far as the station is concerned and the national and regional sponsor who is buying his time. As we all know, there has been a tendency upon VHF stations in big markets to keep smaller stations (within 35- to 50-mile range) from getting network programs. This in turn allows them to concentrate on three types of advertisers, i. e., national network, national spot, and regional spot, where a lot of the gravy is in the broadcasting business. I cite, for example, the raising of rates of one Midwestern station who had done the following gross in 1953: local business—some \$200,000; national and regional spot—some \$580,000; national network—some \$475,000. They increased their power to 100,000 watts and the problem then arose whether they should raise their rates or not. They decided to raise their rates because of the added coverage and then were confronted by the fact that the local advertiser couldn't go along with the increased rate setup. In order to make more availabilities for national spot campaigns they would build more local live shows so that they could carry more spot business. This station printed their theory in one of the national advertising magazines.

Therefore, assuming that any small UHF station was to start within 35 miles of this station's range it would not only have a fight to get conversions, but it will have a fight to get any national spot business. Without a bit of doubt, if you have a television station that most people can pick up, 75 percent of your battle is won because then the local advertiser will readily use you and the local advertiser is the one that is missing from the present UHF scene too. Local advertising pays the cost of operations, so that a station can bring its public service or whatever it wants to do.

There are other dangers that come from too much concentration of power in big VHF's as they are presently set up: (1) it can cause big political monopolies, and (2) business monopolies. In regard to political monopolies we can all understand what can happen there. By business monopolies I mean this: for instance, if one of the department stores in the city of Philadelphia decided to do some

terrific merchandising in certain household products and they used all three Philadelphia stations, they can reach right into the Allentown-Bethlehem area and hurt our local department stores. People will either travel to Philadelphia to buy or the department store can use the phone method to sell. This is happening now in the beer situation; nationally advertised beers are making it tough on local Lehigh Valley breweries. You see, it is quite impossible for the local breweries to go to Philadelphia and pay the Philadelphia rates on television when they have no market in Philadelphia. On the other hand, the local brewery is hesitant to invest his dollar into the local stations (UHF) because of the lack of conversions and audience.

Due to the cost of telecasting it is hard for any local station to keep up losing of money for 4 or 5 years, and I truly believe that if we in the Lehigh Valley area operate under the present circumstances it will be 3 or 4 years before we get 50 percent to 60 percent conversion, the percentage which is now being demanded by any national spot advertiser before he buys time.

Those on the VHF side will holler, "But look what we spent to develop it." However, when they were spending television was new and the sale of sets was fantastic. Add one other thing to that—the fact that a lot of the original licensees of TV stations were television set manufacturers, so their investment in the art of telecasting was written off against their production of television sets.

Some VHF stations (not all) in big markets also have a wedge over certain networks and have used it to keep a network from picking up additional stations within the VHF's service area. This wedge is feeding the network program origination.

In the early days of the VHF stations the costs were comparatively low; most stations were of the 500 watt or lower power type; programing wasn't on a large scale; and what programing was around was either wornout films or a network origination. Today as your new films come out on the market the moneymaking VHF gets the first opportunity to buy and if a UHF is starting out, it has to pay approximately the same price, but then can't deliver the number of homes to the advertiser.

In summing it all up I believe, as Commissioner Frieda Henock has pointed out, the eventual solution is to put all television stations in the UHF band and give those VHF's the right to operate on both VHF and UHF for a period of a year so they can get people to convert their sets. Of course, there is another alternative—by assigning what is left of the old FM band, three additional VHF channels could be made, and then by using directional antennas more markets could have VHF stations.

For the immediate relief of the UHF stations in the Lehigh Valley I would suggest that the power of VHF's in Philadelphia be regulated so that they cover the Philadelphia market only, and that the 610,000 people or the 173,900 households in the Lehigh Valley could have their own area TV stations, supported by local people.

This statement is for the record since I was unable to appear before your committee on June 15 as scheduled.

Sincerely yours,

FARRIS E. RAHALL.

WELCH, MOTT & MORGAN,
Washington D. C., June 23, 1954.

Senator CHARLES E. POTTER,

*Chairman, Subcommittee on Communications,
Committee on Interstate and Foreign Commerce,
United States Senate, Washington 25, D. C.*

DEAR SENATOR POTTER: The following remarks are submitted on behalf of Milton J. Sharp, president of Jerrold Electronics Corp., Philadelphia, Pa., for consideration by the Subcommittee on Communications in connection with its investigation of the status of UHF television broadcasting. These remarks relate to a portion of a statement submitted for the record of the proceedings of the subcommittee by Mr. J. Patrick Beacom, Fairmont, W. Va., permittee of television station WJPB-TV, on May 21, 1954. The subject remarks are for the purpose of correcting certain inaccuracies in that statement, as well as to supply additional information in order that the subcommittee may be more fully advised on matters set forth therein. It would be appreciated if you would have this letter included in the record of the subcommittee's proceedings.

It was pointed out in above-mentioned statement that Fairmont, W. Va. is located geographically approximately 78 miles from Wheeling, W. Va., 115 miles from Pittsburgh, Pa., and 125 miles from Johnstown, Pa., there being a television station in each of these cities. It is also stated that the stations in the above-mentioned cities should not, according to the calculation of the Commission engineering staff, provide a signal of sufficient strength to serve Fairmont, and that thus Fairmont would not expect to have a television service other than that furnished by its own UHF station, WJPB-TV, on channel 35. The further assertion is made that "the Jock Whitney interests of New York, through their Jerrold Electronics Corp. in Philadelphia, have come into West Virginia and under the name of the Fairmont Television Cable Corp., in Fairmont, and the Clarksburg Television Cable Corp., in Clarksburg, have built a network offering a closed-circuit television service to these communities with programs from the Wheeling, Pittsburgh, and Johnstown stations."

J. H. Whitney & Co. has no interest whatsoever in the Jerrold Electronics Corp. of Philadelphia. Jerrold Electronics Corp. is a company organized to manufacture, install, and service community antenna television equipment. Mr. Shapp personally has a minority equity interest in the Fairmont Television Cable Corp. together with J. H. Whitney & Co., among others, including several residents of Fairmont and the surrounding areas. The Fairmont residents have participated substantially in the financing of Fairmont Television Cable Corp. and, in addition to being stockholders therein, are represented on the board of directors of that corporation. Moreover the company is managed by local people of the highest reputation in the community.

Notwithstanding the fact that the television stations in Wheeling, Johnstown, and Pittsburgh might not be expected to provide sufficient signal strength to serve Fairmont, there are 3,500 to 4,000 residents of the area, more than twice the number of subscribers to the community television service, who receive television service from these stations utilizing their own antennas, thus providing substantial and effective competition for the Fairmont Television Cable Corp. In considering the impact of the community television system on Station WJPB-TV, it should also be borne in mind that as of May 28, 1954, Fairmont Television Cable Corp. had 1,432 subscribers rather than the "several thousand subscribers" specifically alleged in the above-mentioned statement. It is further to be noted in this connection, that in the June 21, 1954, issue of Broadcasting-Telecasting magazine (p. 112) that a claim of 34,500 sets within the service area of the Fairmont station is made on the basis of information furnished to the magazine by the station. Also, in an article published in a Fairmont, W. Va., newspaper, the Times, on May 30, 1954, announcing that Station WJPB-TV had affiliated with the National Broadcasting Co., it was stated that 27,000 homes are equipped to receive the channel 35 signal in the Clarksburg-Morgantown-Fairmont area. If the claimed potential sets in the service area of Station WJPB-TV approaches either figure, it would seem doubtful that a community television system numbering approximately 1,400 subscribers could constitute a serious economic threat to the existence of the station.

A point was made in the subject statement of the fact that the Fairmont Television Cable Corp. advised its subscribers that it would be able to transmit to them the signals of WJPB-TV when it came on the air in Fairmont and of the fact that 2 days after the station commenced broadcasting the community television company discontinued the transmission of that station's signals. Some further data in connection with these facts might be helpful to the subcommittee.

Prior to the time that WJPB-TV went on the air, various newspaper announcements sponsored by the station advised that the station would rebroadcast the signals of station WTTV in Pittsburgh, whereupon the Fairmont Television Cable Corp. advised its subscribers that it would discontinue transmission of the signals of the Pittsburgh station during the broadcast hours of WJPB-TV and that it would transmit the signals of the local station during that period. Since a single conversion could be made of the channel 35 signals to a VHF channel at the antenna site, eliminating the necessity for subscribers to the antenna service to convert their VHF sets for UHF reception, they were so advised. Station WJPB-TV did not broadcast the full schedule of the Pittsburgh station as had been represented. Within 2 or 3 days several hundred complaints were received from the subscribers to the service of the Fairmont Cable Corp. concerning their failure to receive the Pittsburgh station. More specifically, WJPB-TV went on the air March 28, 1954, and by March 31, 1954, the general manager of the community television system had received 417 tele-

phone calls requesting restoration of the Pittsburgh channel. Accordingly, it was concluded that the Pittsburgh channel should be restored. Since that time a pool of the approximately 1,400 subscribers of the system seeking to ascertain the majority preference of signals to be received over the Fairmont community system shows that a substantial majority desire the Pittsburgh, Wheeling, and Johnstown service. Since the system is not technically capable of transmitting the signals of more than three stations, Fairmont Television Cable Corp. has found it necessary to abide by the requests of its subscribers.

To the extent that there is an implication in the statement which has been submitted to the subcommittee that the service furnished by Fairmont Television Cable Corp. had not been anticipated by the permittee of station WJPB-TV it might be noted that the community television system was operating and providing television service to initial subscribers in Fairmont as early as May 19, 1953, 6 weeks before station WJPB-TV received its construction permit on July 1, 1953.

It has been the experience of the Jerrold Electronics Corp. that the community television service substantially benefits UHF broadcasting. Community television systems are bringing UHF service to many areas where it would be otherwise impossible for the stations involved to serve because of geographic as well as other technical limitations on coverage. There are attached hereto two appendixes showing the added potential coverage of several UHF television stations made possible by community television systems and a list of community television systems utilizing Jerrold community television equipment which distribute UHF television signals.

The situation which has arisen at Fairmont, W. Va., resulting in the Fairmont Cable Television Corp. finding it necessary to discontinue transmitting the signals of that station, is very unfortunate and the community television industry as a matter of policy constantly seeks to avoid such situations by attempting to cooperate fully with local stations in those few cases where community television systems and a television station exist in the same community. It has been and continues to be the policy of the Fairmont Television Cable Corp. to cooperate to the fullest extent possible with station WJPB-TV.

The foregoing is for information for the subcommittee.

Very truly yours,

MILTON J. SHAPP, *President,*
JERROLD ELECTRONICS CORP.,
By E. STRATFORD SMITH,
His Attorney.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 1119

APPENDIX I

UHF channel	Originates from—	Distributed by—	Popu- lation	Total pntial added to cov- erage of each station by community system
61	Reading, Pa	Schuylkill Haven, Pa	6,597	170,845
61	do	Lewistown, Pa	13,894	
61	do	Mahanoy City, Pa	10,934	
61	do	Williamsport, Pa	45,047	
61	do	Sunbury, Pa	15,560	
61	do	Shamokin, Pa	16,879	
61	do	St. Clair, Pa	5,856	
61	do	Shenandoah, Pa	15,704	
61	do	Berwick, Pa	14,010	
61	do	Coal Township, Pa	16,879	
61	do	Ashland, Pa	6,192	
61	do	Montoursville, Pa	3,293	
33	do	Schuylkill Haven, Pa	6,597	21,336
33	do	Mahanoy City, Pa	10,934	
33	do	Hamburg, Pa	3,805	
28	Wilkes-Barre, Pa	Williamsport, Pa	45,047	79,077
28	do	Shickshinny, Pa	2,156	
28	do	Plymouth, Pa	13,021	
28	do	Sunbury, Pa	15,560	
28	do	Montoursville, Pa	3,293	
28	do	Williamsport, Pa	45,047	
34	do	Shickshinny, Pa	2,156	66,200
34	do	Shenandoah, Pa	15,704	
34	do	Montoursville, Pa	3,293	
34	do	Williamsport, Pa	45,047	
27	Portland, Oreg	Albany, Oreg	10,115	15,988
27	do	Lebanon, Oreg	5,873	
22	Scranton, Pa	Sunbury, Pa	15,560	28,581
22	do	Plymouth, Pa	13,021	
50	Zanesville, Ohio	Newcomerstown, Ohio	4,514	19,253
50	do	Cambridge, Ohio	14,739	
49	Charleston, W. Va	Chesapeake, W. Va	2,566	3,604
49	do	Charlton Heights, W. Va	1,038	
29	Yakima, Wash	Richland, Wash	21,809	21,809
16	Pittsburgh, Pa	Weirton, Pa	24,005	24,005
53	Portland, Maine	Biddeford, Maine	20,836	20,836
17	Decatur, Ill	Taylorville, Ill	9,188	9,188
43	Peoria, Ill	Peru, Ill	8,653	8,653
	Grand total			489,375

APPENDIX II.—Jerrold systems which distribute UHF signals

Name of company	Location	Popu- lation	Distribu- tion UHF channel	Call letters	From—
Television Transmission Co	Peru, Ill	8,653	43	WEEK-TV	Peoria, Ill.
West End Television Association	Taylorville, Ill	9,188	17	WTVP	Decatur, Ill.
Maine Television, Inc	Biddeford, Maine	20,836	53	WPMT	Portland, Maine
Television Cable Systems	Cambridge, Ohio	14,739	50	WHIZ-TV	Zanesville, Ohio
Do	Newcomers- town, Ohio	4,514	50	WHIZ-TV	Do.
Albany Television Distributing Co.	Albany, Oreg	10,115	27	KPTV	Portland, Oreg.
Lebanon Television Distributing Co.	Lebanon, Oreg.	5,873	27	KPTV	Do.

1120 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

APPENDIX II.—*Jerrold systems which distribute UHF signals*—Continued

Name of company	Location	Popula- tion	Distribu- tion UHF channel	Call letters	From—
Ashland Video Co.	Ashland, Pa.	6, 192	61	WHUM-TV	Reading, Pa.
Lee Antenna Co., Inc.	Berwick, Pa.	14, 010	61	do	Do.
Television Extension Corp.	Coal Town- ship, Pa.	16, 879	61	do	Do.
Hamburg Tire Co.	Hamburg, Pa.	3, 805	33	WEUU-TV	Do.
Pennwire Television Co.	Lewistown, Pa.	13, 894	61	WHUM-TV	Do.
City Television Corp.	M a h a n o y City, Pa.	10, 934	61	do	Do.
Do	do	10, 934	33	WEUU-TV	Do.
Williamsport-Jerrold Television Cable Corp.	Montoursville, Pa.	3, 293	61	WHUM-TV	Do.
Do	do	3, 293	28	WBRE-TV	Wilkes-Barre, Pa.
Do	do	3, 293	34	WILK-TV	Do.
Shawnee Television Co., Inc.	Plymouth, Pa.	13, 021	22	WGKI-TV	Scranton, Pa.
Do	do	13, 021	28	WBRE-TV	Wilkes-Barre, Pa.
Television Cable Corp. of Schuyl- kill Haven.	Schuylkill Haven, Pa.	6, 597	33	WEUU-TV	Reading, Pa.
Do	do	6, 597	61	WHUM-TV	Do.
Eastern Pennsylvania Relay Sta- tions, Inc.	Shamokin, Pa.	16, 879	61	do	Do.
Shen-Heights Television Associa- tion, Inc.	Shenandoah, Pa.	15, 704	61	do	Do.
Do	do	15, 704	34	WILK-TV	Wilkes-Barre, Pa.
Shickshinny Television Corp.	Shickshinny, Pa.	2, 156	34	do	Do.
Do	do	2, 156	28	WBRE-TV	Do.
St. Clair Television Co.	St. Clair, Pa.	5, 856	61	WHUM-TV	Reading, Pa.
BKP Television Systems, Inc.	Sunbury, Pa.	15, 560	61	do	Do.
Do	do	15, 560	22	WGKI-TV	Scranton, Pa.
BKP Television Systems, Inc.	do	15, 560	28	WBRE-TV	Wilkes-Barre, Pa.
Williamsport-Jerrold Television Cable Corp.	Williamsport, Pa.	45, 047	61	WHUM-TV	Reading, Pa.
Do	do	45, 047	28	WBRE-TV	Wilkes-Barre, Pa.
Do	do	45, 047	34	WILK-TV	Do.
Richland Television Cable Corp.	R i c h l a n d , Wash.	21, 809	29	KIMA-TV	Y a k i m a , Wash.
Weirton Television Cable Corp.	Weirton, W. Va.	24, 005	16	WENS	Pittsburgh, Pa.
Jack Knight	C h a r l t o n Heights, W. Va.	1, 038	49	WKNA-TV	Charleston, W. Va.
Chesapeake Water & Light Co.	Chesapeake, W. Va.	2, 566	49	do	Do.

ANGOLA, IND., June 21, 1954.

Senator CHARLES POTTER,
Washington, D. C.

DEAR SENATOR POTTER: Just a short note from the Hoosier State and, although the writer is not one of your constituents, he feels that he is next door to that. At any rate, note that you are heading a hearing regarding UHF and VHF television and wanted to add my small voice to what we hope Congress will not do. This is not to decrease the power of the pioneer VHF stations nor their antenna heights because of only one important factor to this writer, i. e., these stations are the only ones that can give the public in rural areas, such as the writer lives in, a good and usable signal all of the time.

Miss Hennock's suggestion that all television move to the ultrahigh band would mean that millions in the rural areas would be without this marvelous medium.

In another vein, your opinion expressed at the end of the McCarthy-Army hearing was most apt and lucid.

Yours sincerely,

PHILIP S. JOHNSON.

KQTV, THE NORTHWEST TELEVISION Co.,
Fort Dodge, Iowa, June 10, 1954.

Hon. GUY M. GILLETTE,
*Senate of the United States,
Senate Office Building, Washington, D. C.*

MY DEAR SENATOR: June 15, the day Senator Potter's committee resumes hearings on UHF and its many problems, may well be "D" day—down-the-drain day—for UHF unless that committee takes immediate action.

There are at least two things that should be done at once in fairness to UHF as a system and in fairness to the thousands of investors who have bankrolled the 127 UHF stations now on the air and in fairness to the millions of viewers who have invested a lot of money in sets. Finally certain things should be done to assist UHF to preserve for all Americans, those now living and those yet unborn, a free and competitive TV system. There are no two ways about it, most of us are in a bad spot.

We suffer from several disadvantages. Some are inherent in the system, some are present because we are starting a new system in an area already equipped to some degree for an older and in some respects better system. UHF in the present stage of the art does not get out as far as VHF. Out of the 30 million sets in the hands of viewers only some 2 or 3 million are equipped for UHF and the cost of conversion, which so far hasn't been too well done, is high—I mean anywhere from \$35 to \$75 or \$80 a set. Because VHF goes farther, has its audience established, it has been hard to get network affiliations. I still have none, although I am hoping for NBC any day.

On the other hand VHF stations have done what all of us would do—they have not been interested in helping us—rather they have hoped we would die on the vine—and have held on tenaciously to all network affiliations they could.

If we are to live, a little pump priming is in order. First, priming of the pump—remove the Federal tax from all UHF-VHF sets. Leave it on the VHF sets only. This works no hardship on VHF but does help us and we need this help. Second, in order to retain a license have the FCC require stations in UHF-VHF areas to divest themselves of all but one network if there are UHF or VHF stations in the area that wish network service and have none. This would be a big leg up to UHF stations and would also be a help to the networks, while it would not injure the VHF stations. In fact, I can think of one VHF now prosperous that may need this help as badly as I do within a matter of a year.

To bring these matters into sharp focus and to secure the instant action needed, I would be in favor of a temporary cessation of all licensing activities until these matters are worked out—this hiatus should also apply to power, antenna boosts, and issuance of construction permits.

Please see what can be done. We need help.

With best wishes, I am

Yours very truly,

EDWARD BREEN, *President.*

AMERICAN FARM BUREAU FEDERATION,
Washington, D. C., June 22, 1954.

Hon. CHARLES POTTER,
*Chairman, Subcommittee on Communications
Senate Interstate and Foreign Commerce Committee,
Senate Office Building, Washington, D. C.*

DEAR SENATOR POTTER: The American Farm Bureau Federation since the inception of radio has taken great interest in broadcasting with particular emphasis on seeking the type of operation that would insure adequate coverage to rural areas.

We are somewhat familiar with the proposals being advanced by some of the UHF broadcasters. Farm Bureau has long-standing policy favoring laws and regulations which would encourage and promote broadcasting service to the more remote rural areas. This means that we oppose regulations or laws that would to all practical purposes, limit or prevent the providing of service to such areas.

1122 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

Further limitations of tower height and power to VHF stations would limit service to rural areas. In fact it may prevent some rural areas from ever receiving service even though such areas could receive service if a station were located strategically within it, this because the economy of that area would not be able to support the kind of facilities required to provide such service.

We hope the committee will not propose the enactment of any legislation which to practical purposes would prevent rural areas from receiving adequate television service.

We respectfully request that this letter be made a part of the committee record in regard to this subject.

Sincerely yours,

JOE BETTS, *Legislative Assistant.*

HON. JOHN W. BRICKER,
United States Senate.

HUNTINGTON, W. VA., *June 24, 1954.*

Respectfully urge your earnest endeavor to oppose proposals by UHF group before Potter Subcommittee on Communications which will gravely injure public interest in matter of television program reception. In areas now reached by WSAZ-TV signals, adoption of either major premise of UHF group, to wit, change all television to UHF or restrict VHF coverage to city area, will result in immediate loss of all television reception in 92 out of 102 counties of West Virginia, Virginia, Kentucky, and Ohio. Counting all presently authorized facilities including those not yet built, television will be lost to receivers in 34 counties of West Virginia, lost in 39 counties of Kentucky, lost in 8 counties Virginia panhandle, lost in 11 counties southern Ohio. All present stations operating or authorized will provide service to only 10 of these 102 counties if proposals are allowed. This serious blow to your constituents in these counties must not be allowed, only to serve selfish interest of few distressed operators. Map illustrating problems in mail to you. Earnestly request problem be returned for consideration of FCC technical staff.

Respectfully,

LAWRENCE H. ROGERS,
WSAZ, Inc., Huntington, W. Va.

RADIO-ELECTRONICS-TELEVISION MANUFACTURERS ASSOCIATION,
Washington 5, D. C., June 29, 1954.

HON. CHARLES E. POTTER,
*Chairman, Subcommittee on Communications,
Senate Interstate and Foreign Commerce Committee,
United States Senate, Washington 25, D. C.*

DEAR SENATOR POTTER: Since my testimony on May 19, 1954, before the subcommittee, later witnesses have made two suggestions which would directly affect manufacturers of television sets and upon which I would like to comment.

The first suggestion was that the subcommittee should seek an opinion from the Attorney General looking toward antitrust exemption for manufacturers of television sets who agree to make only television sets that contain all-channel tuners. In effect, the suggestion is that the Attorney General should issue a clearance in which he would consent not to enforce the antitrust laws against manufacturers of television sets insofar as those laws would apply to such an agreement. Even assuming that the Attorney General has the authority for such an action and would consent to a suspension of the antitrust laws, I think it would be a serious mistake for the subcommittee to suggest that it be done.

The basic purpose of the antitrust laws is to preserve free competition. The members of this industry are in full sympathy with that objective and believe that the antitrust laws are a necessary and valuable part of the laws of the United States. This industry, which has been referred to with good reason as being "the most competitive of American industries," adheres to both the spirit and the letter of the Federal antitrust laws. As I stated in my previous testimony, "We believe that a system of free competition is best for the public in the long run." In short, we believe any weakening of the application of the antitrust laws is contrary to the best interests of the American public.

A second proposal which was suggested to the subcommittee was that the power of Congress to control interstate commerce should be used to prohibit the

interstate shipment of any sets that are not all-channel receivers. We believe that acceptance of the suggestion and exercise of such a power by Congress would be an abuse of Federal power, would mean the intervention by Government in the regulation of the manufacture of television sets and would be of doubtful constitutionality. Each of these consequences in itself is ample justification for rejection of the suggested action.

The manufacturers of television sets are aware of the serious problems confronting many broadcasters today. We are vitally concerned in the economic well-being and healthy growth of television broadcasting and hope that these problems can be solved so that growth can continue. But under no circumstances do we believe that it would be proper or desirable to solve the problems by carving out exceptions to the antitrust laws or by imposing Federal regulation on the manufacture of television sets.

We respectfully request that this letter be made a part of the record of the hearing.

Sincerely yours,

GLEN MCDANIEL, *President.*

ADDITIONAL STATEMENT OF PAUL R. BARTLETT, PRESIDENT, KFRE

Gentlemen, already in the record of this hearing is a statement of KFRE (California Inland Broadcasting Co.) made by its president, Paul Bartlett. The statement was prepared before the commencement of the second session of the hearings, and KFRE now desires to augment the statement in the light of testimony given at further sessions of the proceedings.

In its original statement KFRE dealt almost entirely with the private equities involved in the current UHF-VHF dispute; whereas, this statement is intended to deal almost exclusively with the public policy aspects of the problem. We believe it obvious that where public interest comes in conflict with private interest, the Congress and FCC are obligated to find in behalf of the larger public good. This belief does not mean that private equities ought to be ignored, but suggests rather that arguments based on private equities should only be compelling against arguments similarly based.

Because there would already appear to be in the record a plethora of arguments indicating that the public interest and national policy would not be served by a freeze restricted further VHF grants at this time, or by moving all television to the UHF frequencies, further discussion of these two points by us seems unnecessary here. Suffice it to say, with respect to these two proposals, we wholeheartedly and vigorously endorse the CBS position as outlined so succinctly in the comments of Dr. Frank Stanton.

On the other hand, the record is almost wholly silent on certain aspects of the UHF-VHF intermixture problem, while many statements in the record on this subject show fuzzy and contradictory thinking. Consequently, we shall address ourselves hereafter largely to the public-policy aspects of the present intermixture allocation system.

We believe intermixture of UHF and VHF channels in the same cities is not bad but good, and that the policy of intermixture was wisely adopted by the FCC as the only national policy which can assure the Nation a fully competitive television system capable of meeting the national needs over a long period of years. We believe this to be true without regard to any of the economic difficulties or private injustices which would arise from any attempt to invoke what has been called deintermixture at this time. Although we agree that even if the original policy had been unwise, it is both too early and too late to change it now.

Thus we disagree utterly with the CBS position on intermixture. Let us examine the reasons for the basic wisdom of intermixture.

Separation of the country into UHF and VHF only cities would foster the growth of two separate noncompatible television systems in this country.

If, as every witness in these proceedings has seemed to indicate, the national goal is to have every television receiver in America capable of receiving every television station in the country, it is obvious that intermixture of the two types of facilities in the same cities will hasten the achievement of the goal. It is likewise axiomatic that separating the country forever into two types of television cities will make the goal almost impossible of attainment. If there were no UHF stations allocated to New York City or its environs, UHF conversion would not be the problem it now is in New York—instead, it would be impossible. On the other hand, the present allocation which provides for one educational UHF

and one commercial UHF station in New York at least gives promise that if the economy will support additional stations in that market, or there are people to build them, conversion will eventually take place.

One major television manufacturer has told us that he believes the division of the country into separate UHF and VHF markets would lead the manufacturers eventually to the production of UHF only and VHF only receivers. The chaos and inconvenience to the public which would arise when a UHF-only set owner moves into a VHF-only city, or when the situation is reversed, is not difficult to imagine.

The whole issue of compatibility was once a "cause celebre" in other proceedings not yet erased from memory. Are we now to have permanent UHF-VHF incompatibility on a city-to-city basis throughout the land? Under the present allocation plan we need have only varying degrees of it during the conversion period. With deintermixture, conversion would never occur. Television would be forever divided against itself city by city.

The proposal for deintermixture is not unlike suggesting that some cities have AM broadcasting facilities only while others have FM only, or like saying that in some cities only narrow gage railroads will be used while in others standard gage will be employed. Carrying this railroad illustration further, it may be said that spectrum space requires the use of both VHF and UHF, or in other words, both broad and narrow gage railroads for a national system. Only the employment of the two systems side by side in the same cities and areas will assure the universal use of railroad cars capable of using both gages. And, likewise, in television only the need for all listeners to have all-channel sets will bring eventual complete conversion and its benefits.

We submit that the additional time required for the Nation to reach this utopian point is not too big a price to pay for a fully compatible, fully competitive, nationwide television system.

II. Separate UHF-VHF city allocations would lead to waste of the natural resource represented by the VHF channels.

The cochannel and adjacent channel problems incident to any allocation plan preclude the use of more than seven channels in any given closely confined area. Thus it will be found that attempts to create all-UHF or all-VHF cities will often result in the arbitrary placement of one or more valuable VHF channels in cities not geographically or economically capable of providing useful service with these facilities.

The situation in central California brings this problem into the sharpest possible focus. Seven UHF stations have now been on the air for some months, and those in Fresno, Stockton, and Sacramento have no current VHF competition, although VHF channels are allocated to those cities. Consequently, conversion to UHF in some of these areas is virtually 100 percent. If, for the purpose of creating idealized all UHF markets, the California central valley cities of Fresno, Sacramento, Bakersfield, and Stockton were to be allocated only UHF stations, 4 of the 5 VHF channels so released would be virtually wasted because they would be technically unusable in the populous southern California or San Francisco Bay areas. Reassigning them to small towns, which couldn't possibly support any station, might satisfy the planners and make a pretty picture on a map. It wouldn't put many pictures on television sets. It would seem completely ridiculous to throw four valuable VHF channels out the window and deprive the public of service where conversion is already complete. One would ask, are we seeking more service or less competition?

We believe that engineering studies would reveal numerous other situations of similar character where the reassignment of one or more VHF channels would result in having to find places for them in markets where they would never be used. Do we now have so many of these valuable VHF channels that we want to throw some away?

III. Elimination of intermixture will also eliminate competition or the possibility of future expansion for both commercial and educational stations.

The New York metropolitan area is now allocated seven VHF channels (including the one in Newark) and two UHF channels, one of which has been reserved for education. If these two UHF channels were to be removed to make New York an all-VHF city, one of the present commercial channels would have to be converted to educational use or the largest city in the world would be without an educational channel. The same situation obtains in the Nation's third largest city, Los Angeles, which, like New York, is an educational center.

Even if we assume there is no need for an educational channel in these cities both markets would be permanently limited to seven commercial stations. The

fact that they do not comfortably support seven now would not provide justification under our growing society for limiting them to that number for all time.

Here again we may ask, are we seeking more service or less service and less competition? Why shouldn't viewers in San Francisco, Chicago, New York, Los Angeles, and other cities be entitled to more stations when and if there is risk capital to build them?

This expandability of the service for more than seven stations in a given area cannot be had in any proposed VHF only city. All proponents of de-intermixture obviously intend that the major markets will remain VHF only. How anomalous to have a maximum limit of 7 commercial and educational stations assigned to New York and Chicago and the possibility of 10 or 15 UHF stations in some hamlet.

Only complete intermixture will provide for maximum expansion and maximum competition in television with all attendant public benefits of the widest program selection.

IV. Separation of the country into UHF and VHF only markets, either originally or at any later date, can only be predicated on economic considerations.

No one can logically argue that governmental regulation of natural resources is unnecessary or undesirable, whether these resources be radio frequencies or trees in our forests.

But there are many who will argue as we do that Government attempts to regulate the use of these natural resources should not be predicated on attempts to "equalize competition," but rather on the desire to make the fullest possible use of the resources for the public good.

In this proceeding so are every argument advanced for de-intermixture advocates this change in allocation in order to equalize competition. Even Dr. Stanton urges a study of de-intermixture for the very reasons he himself condemns in his convincing attacks on moving all television and in opposing a freeze. To turn his own example around, instituting de-intermixture would be like ruling that only DC-7's can serve some cities and only DC-6's may serve other markets. Or again, like saying that no one should be permitted to build a service station on the best corner in town because the other three corners at the intersection are not also available to service-station owners. Does CBS really believe all airlines serving a city should be required to use the same type aircraft, or that service stations should be on side streets in one town and on the main street in another? And, if so, how is public policy served by this arbitrary and unnatural restriction proposed wholly for economic reasons?

When CBS argues that television should not be moved to UHF just to create equality of facilities and then claims that separate UHF and VHF markets should be created solely for that purpose, it would seem to want to walk on both sides of the street at the same time.

If there are those UHF supporters who argue that UHF and VHF are not sufficiently dissimilar in their characteristics to render these examples appropriate, then one may ask why either service should be protected against the other.

The plain fact seems to be that the FCC in its original allocation plan attempted to create a pattern that would make the greatest number of television services available to the greatest number of people in this land without regard to economics except to assure a sufficient number of channels to provide for full competition. In a free enterprise system, this is as it should be and is the basic reason for the soundness of the present allocation.

So far our comments have assumed that the commonly held belief is basic propagational differences between VHF and UHF channels is true. Yet not one of the basic reasons for retaining intermixture is predicated on an inherent difference in the channels.

If it be true, as we believe, that VHF channels will provide greater coverage by virtue of their propagation characteristics, then there is yet another compelling reason for retaining VHF channels as presently allocated on an intermixed basis, which is that some areas because of topography will never receive good service without the use of one or more VHF channels. Mr. Pierson in his VHF group presentation and others of that group pointed this up.

In the Central Valley of California where seven UHF stations are already operating there are numerous foothill and rural areas where set owners are still awaiting the commencement of the few VHF stations allocated there because they do not now have adequate service from present UHF stations. This is true despite the fact that the Central Valley is widely claimed by UHF enthusiasts to be "ideal for UHF" and a place where there is no difference between the 2

types of coverage, despite the use of nearly half a million watts by 3 of the stations.

De-intermixture here will leave many people with no service. Worse yet, the viewers so abandoned live in the isolated areas where radio and television are their primary ties to the metropolitan areas. What crime have they committed to deserve such abandonment?

Let us now turn for a moment from the philosophy of allocation to some of the practical aspects of de-intermixture.

In our earlier remarks we said it is both too early and too late to attempt de-intermixture now; too late because too many public and private interests have been staked on the present allocation plan and attempts to change the ground rules now would create uncertainty and disquiet that would seriously affect the health of the whole industry and prove to be upsetting and unpopular with the public; and too early because less than half of the stations authorized since the last change of rules have completed a full year of operation. So far no UHF station has yet achieved the maximum power authorized by the Commission. Only after maximum power has been reached by UHF stations and only after other UHF and VHF stations now under construction or still in hearing have come on the air will it be possible to fully assess such problems as may then remain.

Even a recommendation from the committee to the FCC to study deintermixture or any other change in allocation before sufficient time has passed to allow full development of the industry on the present plan would prove to be a highly unsettling influence on every aspect of the business.

In summary, we believe that complete intermixture of UHF and VHF channels in the same cities is essential to the fullest development of television in this country and that the pains so far experienced by this Gargantua of the communication industry are only growing pains—not indicative of serious disorders.

WONE AND WIFE-TV,
SKYLAND BROADCASTING CORP.,
Dayton, Ohio, June 19, 1954.

Senator CHARLES E. POTTER,
Senate Office Building, Washington, D. C.

MY DEAR SENATOR POTTER: The Dayton Daily News, which is owned by the same interests who own WHIO-TV, and the only other daily newspaper in this city, the Journal-Herald, carried the enclosed story last night. It in effect states that Leonard Reinsch attempted to repudiate testimony which I recently gave before your subcommittee.

Therefore, I shall appreciate this letter being made a part of the record of the UHF hearing.

I respectfully suggest your subcommittee take the following steps:

1. That it call me back before the subcommittee and under oath request me to affirm every single statement which I previously made before the committee. At the same time Mr. Reinsch should be required to follow the same procedure. If the committee does not desire this, then I suggest Mr. Reinsch and myself be requested to furnish sworn affidavits that our testimony was the truth. It will then be up to the Department of Justice to ascertain what part of my testimony was false.

2. I further respectfully suggest your subcommittee send its investigators to Dayton, Ohio, and have said investigators make a thorough investigation of all the facts that brought about the closing of WIFE-TV. If this is done I believe your committee will have the full facts of why not only WIFE-TV, but practically all UHF television stations in these United States are failing. I think the true facts will be startling to Members of the Senate whose duty, in my opinion, is to represent all the people of these United States.

3. If the committee does not desire to send its investigators here, I suggest you request the Federal Communications Commission or the Department of Justice to conduct this investigation.

No matter what decision your committee may reach as a result of the UHF hearings, at least one good thing has come out of it which, in my opinion, justifies the time and expense involved. It is that for the first time in my more than 20 years in this business many of the little people have found the courage to testify openly before the elected representatives of the people regarding some of the

conditions that exist in this business. Heretofore the little people in the broadcasting business have always had a fear of challenging the special interests in broadcasting.

In conclusion, please allow me to say the shocking manner in which the failure of UHF stations apparently has been ignored up to this time has led me to formulate plans, which I hope will be successful, to organize for the first time, to the best of my knowledge, a Citizens Broadcasting Committee in each of the 48 States to try and see in the future that the American people have a voice in the use of their airways. It is my intention to attempt to do this job through all types of civic and cultural groups, such as unions, churches, schools, and many other types of organizations. If this can be accomplished, then the day, in my opinion, of special interests dominating broadcasting to the detriment of the people will be brought to an end.

I attach the true facts pertaining to our inability to carry the University of Dayton basketball games. I stand ready to respond at my own expense to comply with any wishes of your committee.

Very truly yours,

RONALD B. WOODYARD.

STATEMENT REGARDING WIFE-TV'S EFFORTS TO TELEVISION UNIVERSITY OF DAYTON BASKETBALL GAMES

I wish at this time to give you the entire facts regarding the inability of WIFE-TV to televise the University of Dayton basketball games. Early last spring Mr. Louis G. Froelich, commercial manager of this station, contacted Rev. Charles L. Collins, S. M., chairman of the athletic board of the University of Dayton, and informed him we desired to televise all of the University of Dayton basketball games and asked for the rights charges on these games. Various stockholders of our company, who are directly and through financial help active in the University of Dayton affairs, also contacted people at the university in an effort to have WIFE-TV televise these games. Various members of the athletic board of the University of Dayton, who had this decision to make, were contacted in an effort to secure the televising of these games. At this point I would like to state that the sports editor of the Dayton Daily News is a member of this athletic board.

After many months of earnest effort on the part of stockholders and officials of WIFE-TV we were informed the university would not permit the televising of all their basketball games. The reason given was that it conceivably could effect the next year's sale of tickets. This naturally caused considerable controversy in this community on the part of some very loyal supporters of the University of Dayton.

Under heading of July 18, 1953, Father Collins wrote a letter to our station in which he offered all Dayton television stations the right to bid on only 4 basketball games out of a total schedule of 16 home games. Naturally, this decision could only please the VHF stations in this city, since they were already carrying all four networks' programs. We did not accept this offer, because we knew we were the only television station in the city that could televise all these basketball games and felt this was merely a gesture of appeasement.

In an effort to keep good faith with the University of Dayton we then agreed to underwrite any deficiencies in box-office returns caused by our carrying the entire basketball games' schedule. This was rejected by the university officials. In this connection it is interesting to note that WHIO-TV, which carried the services of ABC, Du Mont, and CBS, did not choose to carry a single one of the four games offered.

Since Mr. Reinsch has taken exception to my testimony, according to the newspaper article which appeared in the Dayton Daily News, I respectfully suggest that if Mr. Reinsch is called back to testify under oath before this committee, he explain how he justifies their determined and successful effort to take the basic CBS and the bulk of ABC and Du Mont programs in this city. There is no doubt in our minds why WIFE-TV failed. I hope at some time we have the opportunity to state under oath the full story of the ruination of WIFE-TV and why this great metropolitan city is now, and apparently will be for future years, serviced by only two VHF stations, which in turn means a denial of full television service to the people of the great Miami Valley.

1128 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS

UNITED STATES SENATE,
COMMITTEE ON POST OFFICE AND CIVIL SERVICE,

June 25, 1954.

HON. CHARLES E. POTTER,

United States Senate, Washington, D. C.

DEAR SENATOR POTTER: The enclosed material has come to me from Mr. Lawrence H. Rogers of Radio Station WSAZ and Television Station WSAZ-TV.

I would appreciate it very much if this were made part of the record of your subcommittee so that the subcommittee may have this information available to it.

With kindest regards, I am
Sincerely yours,

JOHN SHERMAN COOPER.

EXPLANATION OF MAP

Shaded area represents counties in which WSAZ-TV and/or other television station service is received at present. All shaded areas would lose all TV service now in effect or now authorized but not yet started if UHF proposals are adopted. Following breakdown of service is noted.

1. In Kentucky only 1 county (Boyd) out of 40 shown would continue to receive any service from only 1 station (WSAZ-TV). Present or immediately imminent service is received in some or all of these counties from stations as follows: 3 in Louisville, 3 in Columbus, 2 in Dayton, 1 in Huntington, 1 in Charleston, probably 1 in Oak Hill, as well as possible signals from Knoxville and Johnson City.

2. In Virginia none of 8 counties shown would continue to receive any existing service from Huntington, Roanoke, Bristol, Knoxville, or Johnson City.

3. In West Virginia 34 out of 41 counties would lose all existing service or service from stations in immediate prospect. Only 7 counties not shaded would continue or be able to receive service from WSAZ-TV Huntington, WCHS-TV and WKNA-TV Charleston, WOAY-TV Oak Hill, WBLK-TV Clarksburg, WJPB-TV Fairmont, WTAP-TV Parkersburg, and WSLs-TV Roanoke. In addition, severe loss of coverage would injure northern panhandle viewers of WTRF-TV in Wheeling and eastern panhandle viewers of stations in Washington, D. C., and Cumberland, Md. These are omitted since they were not inside area under immediate consideration.

4. In Ohio 11 out of 13 counties listed would lose all television service, and a 12th, Washington County, would receive only fragmentary service. Lawrence County (Ironton) would receive only minor coverage from WSAZ-TV. The great Scioto County area would be entirely without television service. These 13 counties now receive signals from WTRF-TV Wheeling, WSTV Steubenville, WTAP-TV Parkersburg, WCHS-TV Charleston (under construction), WSAZ-TV Huntington, as well as 3 stations in Columbus, and 3 stations in Cincinnati.

Nothing in the proposals before the Potter Subcommittee would make service via television to these shaded areas either technically or economically feasible. They would serve only to eliminate a present service which is growing daily more adequate and more highly competitive.

Respectfully submitted.

WSAZ, Inc.,
LAWRENCE H. ROGERS II,
Vice President and General Manager.

(Exhibits in official files of committee.)

HUNTINGTON, W. VA., June 24, 1954.

HON. JOHN SHERMAN COOPER,

United States Senate.

Respectfully urge your earnest endeavor to oppose proposals by UHF group before Potter subcommittee on communications which will gravely injure public interest in matter of television program reception. In areas now reached by WSAZ-TV signals, adoption of either major premise of UHF group, to wit, change all television to UHF or restrict VHF coverage to city area, will result in immediate loss of all television reception in 92 out of 102 counties of West Virginia, Virginia, Kentucky, and Ohio. Counting all presently authorized facilities including those not yet built, television will be lost to receivers in

34 counties of West Virginia, lost in 39 counties of Kentucky, lost in 8 counties Virginia Panhandle, lost in 11 counties southern Ohio. All present stations operating or authorized will provide service to only 10 of these 102 counties if proposals are allowed. This serious blow to your constituents in these counties must not be allowed, only to serve selfish interest of few distressed operators. Map illustrating problems in mail to you. Earnestly request problem be returned for consideration of FCC technical staff.

Respectfully,

LAWRENCE H. ROGERS.
WSAZ, Inc.

MARINETTE, WIS., June 24, 1954.

HON. CHARLES POTTER,
United States Senator, Washington, D. C.

DEAR SENATOR POTTER: I am sending you the attached brochure, which describes the area that will be served by station WMBV-TV operating on very high frequency (VHF) channel 11. WMBV-TV should be of special interest to you, Senator Potter, for we will be covering a great part of the Upper Peninsula of Michigan.

WMBV-TV expects to be in operation some time around the middle of August, and because we will cover so much of your own State's area, it is my hope to have a special message from you telecasted on our opening day. However, we will be in contact with you and your office on this matter as soon as we are more definite on our opening.

Our company, Senator Potter, has invested over a half million dollars in the hope that WMBV-TV will be able to bring new television enjoyment and serve the public interest in our area in every adequate fashion. Within recent weeks, hearings have been held before your committee, and I noted these meetings were concluded Monday night, concerning the ultimate status of the ultra high frequency (UHF) channels. I have learned that on June 28, your subcommittee will hold an executive session to even further consider the UHF matter.

Because of WMBV-TV's situation, I would like to go on record with you in my capacity as general manager and secretary-treasurer of WMBV-TV, to urge your support of the very high frequency position, a feeling based on the following conclusions.

- (1) WMBV-TV opposes the elimination of the intermixture of VHF and UHF stations in the same market.
- (2) WMBV-TV opposes the allocation of all television broadcast services to the UHF band.
- (3) WMBV-TV opposes any reduction or limitation beyond the coverage of VHF stations beyond that now imposed by FCC regulations.
- (4) WMBV-TV opposes a freeze on the further issuance of permits and on authorizations to operate pursuant to outstanding permits.
- (5) WMBV-TV opposes the so-called Du Mont proposals.
- (6) WMBV-TV approves the encouragement of the production and distribution of UHF-VHF receivers by lifting of the excise tax.
- (7) WMBV-TV approves the use of booster stations within a television station's own area where it is found by the Commission to be technically feasible.
- (8) WMBV-TV feels with respect to the proposals made to the subcommittee that involve highly complex, technical, social, or economic consideration, or that cannot be fully evaluated at this point because of the lack of empirical knowledge or that require much more careful study or research than is possible even in your proceedings. We recommend that such proposals be referred to the Commission by the subcommittee without recommendation.
- (9) WMBV-TV favors the adoption and continuance by the Commission of lawful procedures that will design to establish at the earliest possible date, a comprehensive national television system by the elimination of time consuming procedures and unnecessary redtape.

May I hope that this letter will personally reach you, Senator Potter, and that you will find my comments and feelings of some value in your deliberations on this question.

Cordially,

JOSEPH D. MACKIN,
General Manager, Station WMBV-TV.

(Exhibits in official files of committee.)

WSAZ AND WSAZ-TV,
Huntington 18, W. Va., June 25, 1954.

HON. CHARLES E. POTTER,
Senator from Michigan, United States Senate, Washington 25, D. C.

MY DEAR SENATOR POTTER: Having spent all last week in attendance at the hearing of your Subcommittee on Communications, I should like to take the liberty of commending you for your calm deliberation and patient interest in all of the testimony presented by all sides of the controversy. Additionally, I should like to thank you personally for the privilege of presenting written testimony into the record together with the rest of the VHF station group.

Listening to the proposals presented to your committee for a week was necessary in order for me to bring into sharper focus the possible immediate effects of such proposals on the immediate area now being served by WSAZ-TV. Also, they gave me a better opportunity to present facts which I feel were definitely, if not deliberately, misrepresented about the WSAZ-TV situation. With this thought in mind, I am enclosing an exhibit which will demonstrate the results of eliminating the widespread coverage of VHF stations which seems to be so greatly feared by a relative handful of VHF operators but which, nevertheless, are providing the service to the public which has caused them to take so avidly to television in a short span of 5 years.

The enclosed map shows in outline form those areas in four States where the WSAZ-TV signal is now reached in some form. It does not indicate an area where only this signal is reached for, indeed, there are perhaps 30 television signals now serving various parts of this area. In the normal course of events within the next 2 months, there will be no parts of this area that do not receive two or more highly competitive services with the exception of eastern Kentucky.

In effect, a restriction of the output of the VHF stations covering this area, and briefly they number, 1 in Huntington, 1 in Charleston, 2 in the Wheeling area, 1 in the Roanoke area, 1 in the Bristol, Va., area, and a multiplicity of them in Columbus, Dayton, Cincinnati and Louisville, will not add anything to anyone's television service from a public standpoint. Instead, it will destroy a service for probably more than a quarter of a million home viewers who have made extremely expensive installations in order to get the reception of any signal in the extremely rough terrain.

Realizing that this is but a minute part of the overall problem, if indeed it is a problem, I thought it served as graphic illustration that might well be applied to the entire Nation, how the hysterical proposals of a few unhappy men could deprive 90 percent of a geographical area of its existing, perfectly satisfactory service. These proposals would not help a single UHF operator in any of these areas under consideration since it is my information that those present operators in Charleston, Parkersburg, and Fairmont are making good progress and expect momentarily to turn the corner for success—if they have not already done so.

I sincerely appreciate the opportunity to get this additional information into the hands of the committee and assure you that my company stands ready to offer any assistance in the matter of upgrading the service via television to the public of this four-State mountain area.

With sincere best wishes,
Respectfully yours,

LAWRENCE H. ROGERS.

EXPLANATION OF MAP

Shaded area represents counties in which WSAZ-TV and/or other television station service is received at present. All shaded areas would lose all TV service now in effect or now authorized but not yet started, if UHF proposals are adopted. Following breakdown of service is noted:

1. In Kentucky, only 1 county (Boyd) out of 40 shown would continue to receive any service from only 1 station (WSAZ-TV). Present or immediately imminent service is received in some or all of these counties from stations as follows: 3 in Louisville, 3 in Columbus, 2 in Dayton, 1 in Huntington, 1 in Charleston, probably 1 in Oak Hill, as well as possible signals from Knoxville and Johnson City.

2. In Virginia, none of eight counties shown would continue to receive any existing service from Huntington, Roanoke, Bristol, Knoxville, or Johnson City.

3. In West Virginia, 34 out of 41 counties would lose all existing service or

service from stations in immediate prospect. Only seven counties not shaded would continue or be able to receive service from WSAZ-TV, Huntington; WCHS-TV and WKNA-TV, Charleston; WOAY-TV, Oak Hill; WBLK-TV, Clarksburg; WJPB-TV, Fairmont, WTAP-TV, Parkersburg; and WSLS-TV, Roanoke. In addition, severe loss of coverage would injure northern panhandle viewers of WTRF-TV in Wheeling and eastern panhandle viewers of stations in Washington, D. C., and Cumberland, Md. These are omitted since they were not inside area under immediate consideration.

4. In Ohio, 11 out of 13 counties listed would lose all television service, and a 12th, Washington County, would receive only fragmentary service. Lawrence County (Ironton) would receive only minor coverage from WSAZ-TV. The great Scioto County area would be entirely without television service. These 13 counties now receive signals from WTRF-TV, Wheeling; WSTV, Steubenville; WTAP-TV, Parkersburg; WCHS-TV, Charleston (under construction); WSAZ-TV, Huntington; as well as 3 stations in Columbus, and 3 stations in Cincinnati.

(Exhibits in official files of committee.)

Nothing in the proposals before the Potter subcommittee would make service via television to these shaded areas either technically or economically feasible. They would serve only to eliminate a present service which is growing daily more adequate and more highly competitive.

Respectfully submitted.

WSAZ, INC.,
LAWRENCE H. ROGERS II,
Vice President and General Manager.

UNITED STATES SENATE,
COMMITTEE ON FOREIGN RELATIONS,
June 25, 1954.

HON. CHARLES E. POTTER,
*Chairman, Subcommittee on Communications,
Interstate and Foreign Commerce Committee,
United States Senate, Washington, D. C.*

DEAR MR. CHAIRMAN: I have received a telegram from Mr. A. J. Mosby, manager of TV station KGVO of Missoula, Mont., which reads as follows:

"Respectfully urge you call Senator Potter and urge support of the VHF position. A television freeze now would wreck us as we have tremendous investment about ready to take the air. Thanks for your support."

(Signed) A. J. MOSBY, KGVO-TV."

I would appreciate your giving Mr. Mosby's views every consideration during your hearings on the television industry.

With best personal wishes, I am
Sincerely yours,

MIKE MANSFIELD.

CONGRESS OF THE UNITED STATES,
HOUSE OF REPRESENTATIVES,
Washington, D. C., June 25, 1954.

HON. CHARLES E. POTTER,
*Chairman, Subcommittee on Communications,
Interstate and Foreign Commerce Committee,
United States Senate, Washington, D. C.*

DEAR SENATOR POTTER: Many of my constituents in the area of Lake Charles, La., are alarmed at the possibility of retroactive action in regard to the previously approved use of channel 7 by TV station KPLC at Lake Charles, La.

After formal approval was given to the owners of this station to begin operations, they have procured land and equipment involving the cost of many thousands of dollars. Construction has been under way for some time and this station should be operative in the very near future. I have assured the owners and my constituents who have appealed to me in this instance that I felt sure that your subcommittee, or you as chairman, would certainly never act in such extreme fashion as to cause unduly the loss of as large an amount of money as

they have invested in this station and, more important, to deny the many thousands of persons throughout southwest Louisiana acceptable television service which they could not otherwise receive.

I do appreciate the fine work that you and your committee are doing in protecting the interests of the American public and I shall greatly appreciate it if you could at an early date give me indications which I could pass on to my constituents which will assure them of having this previously approved service without modification.

With kindest personal regards, I am

Sincerely yours,

T. A. THOMPSON,
Member of Congress.

WFMZ-TV—WFMZ (FM),
PENN-ALLEN BROADCASTING Co.,
Allentown, Pa., June 24, 1954.

HON. CHARLES E. POTTER,
Chairman, Subcommittee on Communications,
Committee on Interstate and Foreign Commerce,
United States Senate, Washington 25, D. C.

DEAR SENATOR POTTER: Inasmuch as the time for rebuttal arguments in the open hearings on UHF-VHF television was expended entirely by counsel for the UHF Coordinating Committee and the UHF Television Association, respectively, we would like to presume upon the courtesy of your committee in allowing us to present our further views by means of this written statement.

First, may we explain that WFMZ-TV is not a member of either of the UHF groups. Prior to the hearings we listened carefully to the views of these groups and found that on some fundamental points we could not, as a matter of conscience, ally ourselves with them. We refer specifically to the matters of "Government loans to distressed UHF operators" and "the immediate imposition of a freeze on television grants and construction permits." This is not meant as criticism of these groups for both presented excellent arguments seeking the common objective which we all hold, namely, the oft-repeated phrase, "a nationwide, truly competitive television system." We hope your committee understands our decision to present our views independently, for we felt we could do so better by exercising complete freedom of thought and judgment unfettered by compromise to group agreements.

After listening to every witness in every session of oral testimony and after reading all available testimony submitted in writing for the record we have come to the conclusion that no honest person could come out of this hearing holding the identical views with which he entered it. For the president of a great network down to the president of a small company like WFMZ-TV in Allentown the views and facts presented were an education. No one could fail to learn something about the other side of the problem that he did not appreciate before—no one, with any humility, could help but wish he could retract some perhaps intemperate statement which he had made to illustrate a point. With so many industry leaders present the effect of this hearing in this respect alone will be greatly beneficial to the cooperation needed in carrying out whatever recommendations your committee may feel is necessary to achieve the desired objective for nationwide television.

We would estimate that fully 50 percent of the testimony submitted on both sides dealt with the question of financial injury to individual operators. As great as this aspect is in a personal way to those affected (certainly including ourselves) we would like to repeat what we said before in making our presentation, namely, that "We think it pertinent *but not material* to this controversy *who* utilizes *what* channels but that all channels necessary to a nationwide, truly competitive system *be utilized*." [Emphasis added.] We were gratified to hear and we commend the chairman's statement that "The primary consideration of Congress will be to find ways and means to give the best possible television service to the public without trying to especially protect the interests of VHF or UHF broadcasters." If this goal prevails, these hearings, so meagerly publicized except in the trade press, will be of great historical moment, for no one can guess except with underestimation the importance that a proper television system now has and will have to the greatness of this country.

We would like to comment briefly in rebuttal to certain points made in reference to the WFMZ-TV proposals.

1. Mr. Pierson, representing the VHF informal group, incorrectly referred to our proposal on power and antenna heights as limiting grade A service areas for VHF stations to a 20-mile radius. He pointed out that this was not feasible or practical in many areas of the country. He produced 4 witnesses in oral testimony (all from rural, sparsely settled areas) to illustrate his point. Practically all of the other VHF operators in written testimony also attacked this proposal to limit power and antenna heights on the same grounds.

We respectfully call the attention of the committee to our testimony on page 11 in which we said, "At the very heart of the UHF problem, we believe, is the excessive power and antenna heights granted to existing VHF stations, *especially in major markets*. It is our proposal that the Commission first enter into a rulemaking proceeding which would in effect fix new antenna heights and power requirements for VHF stations, *looking toward* confining the influence of each signal to *roughly* its own metropolitan district area. This should not be a *blanket requirement* fixed by zone 1, 2, or 3 as is now maintained in the sixth report plan, *but upon a market-by-market basis*. Such a plan as we now propose would suggest that *in the heavily populated areas of the Northeast* grade A and grade B contours *would be considerably less than, for example, in the Far West, where perhaps even greater power and higher antenna heights than those now allowed should be granted.*" [We have added the emphasis.]

The committee will recall that, in illustrating our proposal with the use of maps and overlays, that we specifically pointed out that the 20-mile radius for the grade A contour was an "arbitrary one" and used to illustrate only—since we did not have the preparation time to draw circles recommending a market-by-market basis, a prescribed mileage radius for each and every station.

However, we will, if the committee requests it, undertake to do just that—although we feel the FCC, with its personnel and facilities, is better able and better qualified to perform this task. It is not insurmountable.

2. We would now like to address ourselves to the letter to the chairman from Mr. Chris J. Witting, president of the Westinghouse Broadcasting Co., Inc. Mr. Witting, incidentally, up until a few months ago was director of the Du Mont television network.

Mr. Witting, as I mentioned to the committee when questioned on this letter by the chairman, was forewarned about our testimony. We are sorry that we perhaps did not make ourselves clear in the preview session because he very obviously misunderstood the whole proposal.

Our proposal did not in any way advocate eliminating all overlap among all stations. Quite the contrary—we specifically pointed out that the Allentown-Bethlehem-Easton area was one market—traditionally, socially, economically—and that, under our plan, it would receive at least four grade A signals allocated within its own market. Even with the suggested 20-mile limitation on the grade A service of the Philadelphia VHF stations, residents of the Allentown area could avail themselves of the fringe area reception of those VHF stations if they felt they wanted to (which thousands did in the earlier years of television before institution of high powers and high towers).

This application is equally true of the Hagerstown, Md., example used by Mr. Witting. If the committee will look once again at the illustrations we used—the maps and overlays—it will see that Hagerstown residents will not suffer from lack of service—at least four UHF signals will be available as well as fringe area VHF service from Washington and Baltimore.

The purpose of our proposal was not to eliminate all overlap, but to limit the grade A blanketing of so many secondary markets capable of supporting local television by VHF stations in major markets. Its objective was and is to eliminate, insofar as it is technically possible, intermixture of VHF and UHF service in the same markets.

Elimination of intermixture—or "de-intermixture" among VHF and UHF stations has been endorsed (with however varying degrees of enthusiasm) by all the four networks.

We believe this step is the only one which can technically be accomplished within perhaps a 3- to 6-month period and would, by itself, provide the first key to the survival of UHF.

3. In regard to the removal of all television to the UHF, we would like to substantiate our statement on page 7 of our testimony which reads, "Once the objective is set—the goal defined—the engineering slide rules can turn out the technical answers to make it work."

For the past month we have been in touch with a group which is one of the foremost allocation and propagation teams in the country. For its own reasons

the company has asked us not to reveal the sources of our information now, but that we can make to your committee the statement that a nationwide, competitive system in the UHF band is possible, and that preliminary studies just completed prove this contention beyond doubt. We are sure that if this committee recommends that such a shift to UHF is indicated, the expert knowledge of this firm would be put at the committee's disposal.

In conclusion, we reiterate that we gained much new information from the testimony given at these hearings. As a result we would like to suggest amendments to steps 1 and 3 of WFMZ-TV's 3-point plan.

1. Power and antenna heights

(a) That the suggested intention of the cutback on powers and antenna heights be proposed for such period of time as to enable the development of UHF equipment to much more equally match the service of VHF. When such a time comes, a determination then can be made as to the adequacy of the service being rendered to the people of the United States, and if determined inadequate for the best television service possible, consideration can then be given for the reinstatement of higher powers and higher antenna heights.

(b) That implementation of the principle of eliminating excessive VHF overlap may be accomplished in many markets by the relatively simple application of directional antennas. This would allow, in instances where necessary and desirable, for increased coverage in one direction while protecting the service area of another market in the opposite direction. In some cases even the application of "antenna beam-tilt" might be all that is necessary.

(c) The use of booster or satellite stations was not mentioned in our previous testimony. We think there are many applications of this principle which would be highly desirable and we would like to amend our testimony to include the judicious use of boosters and satellite stations wherever, in the public interest, this is desirable for the adequate service of more people.

2. Gradual evolution of all television stations to the UHF band

As the result of hearing and reading other testimony, it appears to us that, if engineering predictions are correct, retention of the VHF band to servicewide, sparsely settled areas might indeed be desirable. It should not be difficult for the FCC to define those areas where vast and difficult terrain renders the ultra-high frequencies less efficient to give proper service.

The fortunate aspect of this solution is that in practically all areas where such VHF service might be needed, there is no scarcity of VHF channels—in contrast to the geographical areas in the United States where population density and proximity of cities and towns will not allow a competitive situation using only VHF channels.

With all the sincerity at our command we wish to endorse the chairman's statements at the conclusion of the hearings. We, as one company, now feel assured that whatever action the committee recommends will be for the express interest of this Nation and its people. We also want to wholeheartedly endorse the statements referring to the integrity and sense of public service on the part of the Federal Communications Commission. We, in our judgment, think the majority erred in its sixth report concepts, but we respect them highly.

And, in a final word, may we commend the work of Mr. Nicholas Zapple in handling the many difficult ramifications that this hearing entailed. His demonstration of neutrality and his courteous and willing help to all witnesses deserves the thanks and admiration of all concerned.

Thank you for allowing us to make what we earnestly hope has been some small measure of contribution toward greater enlightenment on this most important problem.

Respectfully submitted.

RAYMOND F. KOHN, *President.*

Senator PORTER. I would like the comments of the Federal Trade Commission on S. 3095 made a part of the record; also correspondence from Senator Andrew F. Schoepel; Knox La Rue, KTVU, Stockton, Calif.; Raymond F. Kohn, WFMZ-TV, Allentown, Pa., William L. Putnam, Springfield, Mass., and a technical report of an experimental investigation of engineering aspects of a UHF booster installation.

FEDERAL TRADE COMMISSION,
Washington, April 23, 1954.

HON. JOHN W. BRICKER,
*Chairman, Committee on Interstate and Foreign Commerce,
United States Senate, Washington 25, D. C.*

MY DEAR MR. CHAIRMAN: This is in response to your letter of March 10, 1954, requesting such comments as the Commission might care to offer concerning S. 3095, 83d Congress, 2d session, a bill to regulate multiple ownership of television broadcast stations.

The proposed legislation would further amend the Communications Act of 1934 by adding a new section which would require the Federal Communications Commission to deny any application for a television broadcast station license in the event the applicant has interests in other television broadcast stations in excess of limits established by the section.

The subject of licensing television broadcast stations is outside the jurisdiction of the Federal Trade Commission. The bill does not purport to amend any of the laws administered by the Commission, and, if enacted, would not affect its duties and functions. The Commission, therefore, is not in a position to make any useful comment upon the proposed legislation.

By direction of the Commission.

Sincerely yours,

EDWARD F. HOWREY, *Chairman.*

UNITED STATES SENATE,
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
June 30, 1954.

HON. CHARLES E. POTTER,
*Chairman, Subcommittee on Communications,
Interstate and Foreign Commerce Committee, United States Senate.*

DEAR SENATOR POTTER: You will recall that I stated that John Burton, vice president, business, Cornell University, spoke to me about submitting a statement or rather, a summary of information re daytime operation of radio stations, which he desired to have presented to our committee during the present hearings.

This matter is so important and of such interest that I think it should become a part of the record of our proceedings. Accordingly, I am enclosing to you herewith 1 original and 2 copies of the same, so that the original may be incorporated into the record.

Sincerely,

ANDY SCHOEPPEL.

SUMMARY OF INFORMATION RE DAYTIME OPERATION OF RADIO STATIONS

On February 20, 1945, the FCC commenced a rulemaking proceeding to determine the future status of clear channel and daytime stations which operate on the clear channels.

On May 8, 1947, this proceeding was enlarged to determine the existence and extent of skywave transmissions of these stations during daytime hours.

In both proceedings considerable engineering evidence was presented, and it was generally agreed by the engineers and the Commissioners that the two problems were closely intertwined.

However, on March 12, 1954, the FCC announced that it was proposing to decide the question of daytime skywave without reference to the ultimate disposition of the clear-channel question. In this proposal the Commission asserts that certain interference will result during the period of 2 hours after the sun rises, and for 2 hours prior to sunset. As a result the following has been suggested by the Commission:

1. That eight stations located in New York, New Hampshire, Missouri, Illinois, and Ohio be immediately ordered to curtail their broadcasts during the sunset period.
2. That certain engineering rules be adopted recognizing the interference during the postsunrise and presunset periods of the day and that at a later time a decision be made on whether existing daytime stations be restricted by reducing the hours of their operation.

3. That certain stations now authorized to operate unlimited time be required during these designated hours to alter the manner in which they now broadcast.

A series of oral arguments is scheduled to be heard on these subjects during the next 60 days.

If carried to conclusion, this proposal may immediately affect eight stations but may ultimately affect the operation of several hundred daytime only stations. A curtail of the hours of these stations will have a drastic effect on their income, and in some cases will cause a loss of as much as 25 percent of the total revenue. This is particularly true since the hours involved are the most attractive for advertisers. In view of the limited income that daytime stations receive, such a loss of revenue would indeed be serious.

Of greater import would be the loss of service to the public from these daytime stations. In many communities, the only local broadcast service comes from the stations that will be affected. In rural areas these stations, in many cases, provide the only reliable information on weather, news, and vital happenings in the area.

In view of the Commission's recognition in 1947 that the problem of daytime skywave and clear-channel operation are intertwined, it would appear illegal and illogical at the present time to separate the two subjects. This is particularly true since it is hoped that the ultimate decision in the clear-channel case might recognize the great public need for expanding the hours of daytime stations rather than curtailing them.

KTVU, CENTRAL VALLEYS TELEVISION,
Stockton, Calif., July 11, 1954.

Senator CHARLES POTTER,
Senate Office Building,
Washington, D. C.

DEAR SENATOR POTTER: Congressman Moss has contacted me recently regarding my communication to you with reference to his testimony in the UHF hearings and my objections to his testimony. Congressman Moss has assured me of his good intentions in making that testimony, and, because of the nature of his statements, I am willing to accept his word that he made his statements in good faith. I would like to suggest that the charges made in my original letter be disregarded.

I wish to apologize to Congressman Moss for making these charges. They were, however, as I pointed out in my previous letter, based on press reports of his testimony and it appeared to me that such charges were warranted at the time.

The fact remains, however, that Congressman Moss' testimony is still inaccurate. There is, according to my best information, more than a single primary service available to the viewers in the Sacramento area. I submit a letter dated July 2, 1954, written by Robert L. Hammett, the consulting radio engineer whose work is accepted and recognized by the FCC. A copy of this letter is attached. Mr. Hammett, contrary to Congressman Moss's allegations, set forth that there is more TV service available in Sacramento than that of KCCC. I feel sure that Congressman Moss will wish to completely revise his testimony in view of the facts set forth, since his testimony is obviously inaccurate.

Sincerely,

KNOX LA RUE.

Copies for Congressmen Moss and Leroy Johnson.

SAN FRANCISCO 3, CALIF., July 2, 1954.

Mr. KNOX LA RUE,
Station KTVU,
Stockton, Calif.

DEAR MR. LA RUE: This is in reply to your recent request for a summary of the coverage measurements which were made on Station KTVU.

An extensive series of field-intensity measurements was made by my firm during January 1954 to determine the coverage provided by Station KTVU in the San Joaquin and Sacramento Valley areas. The measurements were made in areas chosen to provide information on coverage of the major centers of population and also to provide supplemental information on the directivity pattern of the KTVU transmitting antenna.

As a result of the above work it was found that Station KTVU provides grade A service, within the meaning of the Federal Communications Commission rules,

to an area within the Central Valley extending from approximately 7 miles north of Sacramento to approximately 10 miles south of Modesto. Grade B service is provided to a substantially greater area.

As you know, the KTVU transmitting plant was designed to give the maximum possible service to the Central Valley. The use of a 12-kilowatt transmitter and a specially designed directional antenna has resulted in an extensive service area. Based on measurements made by the General Electric Co. on the antenna system, the installation has achieved its designed power of 540 kilowatts effective radiation in the direction of Sacramento. Satisfactory television service, grade A or better, is rendered to the major cities of Modesto, Stockton, Lodi, Sacramento, and North Sacramento.

If I can provide you with further information relative to the performance measurements, please feel free to call on me.

Very truly yours,

ROBERT L. HAMMETT,
Consulting Radio Engineer.

JULY 8, 1954.

Mr. KNOX LA RUE,
*Vice President and General Manager, KTVU,
Stockton, Calif.*

DEAR MR. LA RUE: This will acknowledge receipt of your letter of June 28, 1954 in which you refer to the testimony of Congressman John E. Moss, Jr., before the Subcommittee on Communications of the Senate Interstate and Foreign Commerce Committee which held hearings on the status and development of UHF television stations.

You request in your letter that Congressman Moss's "testimony be stricken from the record on the basis that his testimony is unqualified since he has no personal knowledge of the situation in this area."

This is to inform you that the Congressman's testimony is in the record and will remain part of the record. However, you can rest assured that the views expressed in your letter will be given full consideration by the committee when it considers the various proposals that were submitted during the hearings.

It should be noted that the hearings were announced on April 7 and all interested parties were invited to testify. The hearings were not completed until June 22, 1954.

Sincerely yours,

CHARLES E. POTTER,
Chairman, Subcommittee on Communications.

KTVU, CENTRAL VALLEYS TELEVISION,
Stockton, Calif., June 28, 1954.

Senator CHARLES E. POTTER,
*Senate Office Building,
Washington, D. C.*

DEAR SENATOR POTTER: I have been reading with considerable interest the accounts of your subcommittee hearings on the UHF problem. I only wish that I could afford to be there because I certainly have plenty to say about the treatment that we have received from some networks—ABC, to be specific.

I note in the June 21 issue of the magazine Broadcasting-Telecasting an account of the testimony of Congressman John E. Moss, Jr. (Democrat, California). Congressman Moss represents the district including Sacramento, Calif. Congressman Moss is either (1) lying; (2) ignorant of what he is talking about, having, undoubtedly, been coached by the VHF applicants in Sacramento, or (3) he hasn't been in Sacramento for so long he doesn't know what is going on. Let us give Congressman Moss the benefit of the doubt and say that he just hasn't been in his home area for a long, long time. Congressman Moss' statement, which is so wrong, is that channel 40, KCCC-TV, renders the only primary service to Sacramento. Since December 18, 1953 (we had an election after that—I'd think he would come home for that anyway) KTVU, channel 36, the most powerful station in the United States, licensed for Stockton, Calif., has been providing primary service to Sacramento, Stockton, and Modesto, Calif. Our consulting engineers advise us that we have sufficient signal over Sacramento to be licensed as a Sacramento station as well as a Stockton station, hence, Sacramento has two primary services from UHF.

Congressman Moss' concern about the fact that, on the one hand, people are not buying TV sets because they wish to wait until local VHF goes on the air,

and then, on the other hand, noting that KCCC would not be injured because of wide UHF set circulation already in the market, seems to be a bit contradictory. (Or did his coaching go wrong there again?)

It is true the penetration of sets in the Sacramento area is about 53 percent. I would like to point out, however, that in the past year the number of sets in the Sacramento area, and the Stockton area, too, for that matter, has doubled. All the dealers in this area have sold as many sets in the past year as they sold in the preceding 4 years when they had only a fringe signal from San Francisco to view. Let us suggest that Congressman Moss come home and find out actually what is happening in the area of California he so ably represents.

I would like to ask, altho I am sure that this is completely out of order, that Congressman Moss' testimony be stricken from the record on the basis that his testimony is unqualified since he has no personal knowledge of the situation in this area, judging from what he is reported to have said, and that his testimony is, in fact, untrue.

Sincerely,

KNOX LA RUE,
Vice President and General Manager.

KL:msl

Copies to Congressman Moss and Congressman Johnson.

WFMZ-TV—WFMZ (FM),
PENN-ALLEN BROADCASTING Co.,
Allentown, Pa., July 8, 1954.

HON. CHARLES E. POTTER,
*Chairman, Subcommittee on Communications,
Committee on Interstate and Foreign Commerce,
United States Senate, Washington 25, D. C.*

DEAR SENATOR POTTER: We know the record is closed, but we should like to submit the enclosed clipping for your information. It vividly illustrates the whole thesis of our testimony and especially the overlay exhibit concerning the eastern Pennsylvania area.

The grade A predicted contour which we used in that exhibit was 46 miles, based on procedures as set forth in the FCC Standards of Good Engineering Practices. The 35-county area coverage claimed by this press release greatly exceeds the area which we depicted. This points up how conservative we were in using the 46-mile radius.

The basic question involved here is, "Is it more important to the public interest for WCAU-TV to increase its coverage from 4 million people to 6 million people than it is for Allentown-Bethlehem-Easton, Atlantic City, York, Reading and other markets to have their own television stations, and thus provide the element of local expression to their communities?"

We know you are well aware of the effect these superpower VHF stations have on the development of UHF. We have great faith, as a result of the conscientious and thorough way the hearing were conducted, that if anything should and can be done, you and your committee will not hesitate to recommend it and follow through to see that it is done.

Respectfully yours,

RAYMOND F. KOHN, *President.*

[Radio and Television Daily, Wednesday, July 7, 1954]

WCAU-TV POWER UP TO MAXIMUM TODAY

Philadelphia—Doubling its coverage area to reach a total of 6 million people, WCAU-TV switches to maximum power today as it starts operating from its new 1,000-foot sky tower. The new tower is the tallest structure ever built in the City of Brotherly Love, twice as high as city hall, announces Donald W. Thornburgh, president and general manager of the WCAU stations. The increase in power to the FCC maximum of 316,000 watts and the change to maximum height brings about a tenfold increase in power, Thornburgh announces, enabling an addition of 2 million to its viewing audience.

The new, more powerful signal will reach a 4-state, 35-county area, with a clear picture to be seen as far west as Lancaster and the Appalachian foothills to the north. New sections of Maryland, and Delaware will be able to receive the channel 10 station, as will the entire southern New Jersey coast.

STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS 1139

Construction on the sky tower and a concrete masonry building housing a newly designed 50,000 watt transmitter and a 10,000 watt FM transmitter was begun last March. During the past 2 weeks, WCAU-TV made a series of early morning air tests so that servicemen could check reception. Reports received from New York City, Richmond, Va., Buffalo and other distant points indicated that the station was being received with superior quality and brightness.

SPRINGFIELD TELEVISION BROADCASTING CORP.,
Springfield 3, Mass., July 8, 1954.

Senator CHARLES POTTER,
*Chairman, Subcommittee on Communications,
United States Senate, Washington, D. C.*

DEAR SENATOR POTTER: I wish to thank you again for your kind consideration of my testimony and my correspondence with you.

To bring you up to date on what has happened, from our own experience, I would like to send you herewith a letter we received today from the FCC. As you will note this letter was written a month after we wrote. I do hope that your committee will, in some manner, force the FCC to act with considerably greater speed. In this case it has taken them 1 month, apparently, to do nothing.

I hope you will be able to get them to do something much quicker than that. Certainly the evidence that you have at hand indicates that drastic action is urgently needed.

Very respectfully yours,

WILLIAM L. PUTNAM, *Treasurer.*

JULY 8, 1954.

Mr. ROSEL H. HYDE,
*Chairman, Federal Communications Commission,
Washington 25, D. C.*

DEAR MR. HYDE: I am very grateful for the personal attention you have given me in your letter of July 7, however I note that despite the length of the letter you really haven't said anything encouraging.

I realize that you have serious problems to consider regarding television allocations and power limitations, also that there are a lot of other considerations before the Commission, but it would seem to me that it is about time that you began to do something to correct these inequities. There has been a lot of talk, a lot of long letters and vast amount of testimony and no action.

I realize that my requests embody changes of your rules but it is getting rather critical for us, I know, and I wonder what you are going to do and when you are going to do it.

I hope you will accomplish something and that it is not too little, or too late.

Very sincerely yours,

WILLIAM L. PUTNAM, *Treasurer.*

Mr. WILLIAM L. PUTNAM,
*Springfield Television Broadcasting Corp.,
Springfield, Mass.*

DEAR MR. PUTNAM: This is in response to your letter of June 8, 1954, regarding a recent application by television station WNHC-TV to increase power. You ask whether this is really necessary in order to permit coverage of the New Haven area and ask that action be postponed if possible because of the serious effect on the operation of UHF television station WWLP.

I am greatly appreciative of your interest in writing me further concerning UHF television and its problems. Commission rules expressly provide for power increases such as requested by WNHC-TV, and the Commission in general has encouraged the operation of all stations with maximum permissible power. Under the circumstances you will appreciate the problem that might arise in the absence of a change of existing policies, from action delaying consideration of that application. However, as you are aware, the general UHF problem has recently been the subject of a hearing now in progress before the Senate Interstate and Foreign Commerce Committee. The Commission is keenly aware of the difficulties affecting UHF broadcasting and in addition to its own consideration of the problem is cooperating fully with the Senate committee. Let me assure you that every effort will be made to find a solution that will permit effective utilization of the UHF television channels.

Sincerely yours,

ROSEL H. HYDE, *Chairman.*

TECHNICAL REPORT—PTR-408

An Experimental Investigation of the Engineering Aspects of a
UHF Booster Installation

By J. Epstein, W. C. Morrison, and O. M. Woodward, Jr.

RCA LABORATORIES DIVISION,
RADIO CORP. OF AMERICA,
Princeton, N. J.

TECHNICAL REPORT

Title.—An experimental investigation of the engineering aspects of a UHF booster installation.

Object.—The object of this project was to examine the use of a booster to fill in the area inadequately covered by the primary station. A complete booster equipment including antennas and amplifier was installed and field tested at Vicksburg, Miss., 35 miles distant from the primary station WJTV, channel 25, Jackson, Miss.

Conclusion.—The measurements and observations of the performance of the booster at Vicksburg successfully demonstrate the feasibility of this method in covering a low-signal area. The project is further confirmation that a good engineering estimate of the e. r. p. required to establish a given grade of service can be made once the topography of the given area is known.

The performance obtained with components of the booster system indicate that there are no major technical difficulties present with the approach used.

This report includes photos Nos. 9166, 9167, 9188, 9189, 9190, 9199, 9200, 9213, 9214.

Work done by: Jess Epstein, Wendell C. Morrison, J. B. Rankin, O. M. Woodward, Jr.

Report prepared by: Jess Epstein, Wendell C. Morrison, O. M. Woodward, Jr.

INTRODUCTION

During the past year there has been an increasing notice on the part of various broadcasters of studies showing that the coverage obtained with the same effective radiated power at UHF was substantially lower than that obtained at VHF. These studies have clearly indicated that the losses caused by hills, trees, and buildings increase with frequency.

RCA has been engaged in a program to examine the use of satellites or boosters to fill in the areas not served by the primary station. The FCC has established definitions of these two terms. A satellite is a low-power transmitter operating on a channel other than the main station channel and receiving the signal by either direct reception, microwave, or cable. A booster is an arrangement of equipment located near the secondary area to be covered, which picks up the signal on a receiving antenna, amplifies the signal, and re-radiates the signal on the same channel by means of an antenna directed toward the required area.

After considering the various possibilities, we decided to experiment with booster operation. This decision was not made on the basis that the booster was superior to the satellite. The satellite operation does not raise any basic technical problems, since standard VHF and UHF equipment could be employed in conjunction with a good receiving system.

The concept of the booster is not new but, to our knowledge, this is the first time that such an operation at UHF has been reported. A VHF system similar in principle was installed and operated by WSM-TV, channel 4, Nashville, Tenn.

After a lengthy study of a number of situations, we selected WJTV, channel 25, in Jackson, Miss., as a likely candidate for a cooperative effort. This station, with an effective radiated power of 17.7 kilowatts, was said to have trouble in covering Vicksburg, Miss., located about 35 miles west of WJTV. The major portion of the town is shielded from the station by a ridge of hills.

A preliminary survey was made in Vicksburg to determine whether there were any receiving sites where a reasonably noise-free picture could be obtained. Several such locations were found.

The site chosen is located in the far northern end of town. The reason for this choice will be discussed later.

It might be well at this point to discuss the general factors which determine the components of the booster installation. The obvious starting point is the

input power to the booster amplifier needed to obtain a noise-free picture. This, of course, will determine the required power gain of the receiving antenna for known values of field strength. The pattern of the transmitting antenna is determined by the area to be covered. In the case of Vicksburg a pattern was chosen which would roughly provide constant field strength in the required area. This then determines the power gain of the transmitting antenna. We then specify the e. r. p. needed to obtain the grade of service required. This in turn determines the power output of the amplifier and hence the gain, which in turn sets the amount of attenuation needed between the input and output terminals of the amplifier. Severe ghosting of the booster output will occur if the coupling between the receiving and transmitting antennas is sufficiently high. Experiments indicate that the attenuation required to obtain a ghost-free picture should be 15 to 20 decibels higher than the amplifier gain.

An examination of figure 1 will now indicate the reason for the site choice of the booster. The Vicksburg area is approximately at right angles to the radial between Jackson and Vicksburg. The receiving and transmitting antennas are located 100 feet apart on the radial drawn toward Jackson. Consequently the main lobes of the two antennas are approximately at right angles to one another. The coupling between the antennas for this orientation is low. Another factor of importance is that the receiving antennas in the Vicksburg area which are oriented toward the booster will receive minimum interference from WJTV because of their directivity. A similar condition prevails in the Jackson area for those antennas receiving Jackson. It will be realized, of course, that this condition only holds in a general way for the region between the booster and WJTV antennas.

The measurements made at a height of 50 feet in the vicinity of the booster location gave field strengths of the order of 66 decibels ($\mu\text{v}/\text{meter}$). This notation means that the field strength is 66 decibels above a $\mu\text{v}/\text{meter}$. On this basis it was concluded that a receiving antenna having a gain of 100 with respect to a half-wave dipole would give a noise-free picture. As a matter of good engineering one should use a receiving antenna with as high a gain as is practical. For a required power output, the gain of the amplifier is less and hence the requirements on attenuation between receiving and transmitting antennas are less stringent. The power gain of the transmitting antenna as deduced from pattern consolidations was also in the order of 100. A general estimate of the Vicksburg topography indicated that an e. r. p. of one kilowatt would be required to obtain adequate coverage. On the basis of an antenna gain of 100, this indicated that a 10-watt amplifier would be needed. Hence, on the basis of the anticipated input power, an amplifier having a gain of approximately 85 decibels would be required.

PRINCETON TESTS

The equipment was constructed at Princeton, and the entire system was operated before shipping it to Vicksburg. The primary problems depended on our ability to amplify the picture and sound signals through the same amplifier chain without crosstalk or distortion and obtain the necessary attenuation between the two antennas.

The constructional and design details of both amplifier and the antennas are given in subsequent sections.

A measurement of the attenuation between the receiving and transmitting antennas as a function of separation is shown in figure 2. A separation of 100 feet between the antennas was chosen on the basis of this measurement.

The two antennas were then located 100 feet apart and with the same relative orientation as they would have in Vicksburg. (See fig. 1.) Since it was impractical to mount the two antennas on supporting poles, the relative orientation was obtained by rotating the vertical axis of each antenna parallel to the ground. The antennas were connected to the input and output terminals of the amplifier with $1\frac{1}{8}$ -inch copper line. A signal generator operating at 537.25 megacycles and suitably modulated was fed into an antenna placed 200 feet from the booster receiving antenna. The output of the signal generator was set to produce field strengths of the value measured in Vicksburg. The amplified signal was monitored and observed with a TV receiver. As was expected, severe ghosting occurred with an amplifier gain of 85 decibels since the attenuation between the two antenna terminals was around 90 decibels. The additional attenuation was obtained by bridging the input and output terminals of the amplifier with a length of RG-9/U cable having the required time delay. The details of determining the time delay are given in appendix 1. The components of the system with the feed-back loop are shown in figure 3. The essential criteria for the successful opera-

tion of this circuit is that the phase shift versus frequency curve be linear. In order to cancel the coupled signal between antennas, it is necessary to be able to control the time delay, RF phase, and magnitude of the fed-back signal. With this indicated circuit we obtained the necessary attenuation to permit the amplifier to operate with a gain of 85 decibels. Tests were made to assure ourselves that all components were functioning normally. The equipment was then shipped to Vicksburg.

VICKSBURG TESTS

The booster site chosen in Vicksburg is shown in figure 4. The receiving antenna was centered on the east face of a water tower which stood on the premises. The tank shown in figure 5 is approximately 30 feet in diameter and 20 feet high, with its center 110 feet above the ground. The transmitting antenna shown in figure 6 is set on a wooden tower 100 feet away on a radial drawn between WJTV and the receiving tower. The center of the transmitting antenna is 90 feet above the ground. The test house containing the amplifier was located at the base of the receiving tower. The antennas were connected to the amplifier with seven-eighths inch Styroflex transmission line. The length of line between the receiving antenna and amplifier was 100 feet and between the transmitting antenna and amplifier, 200 feet. Provisions were made so that the physical orientation of each antenna, both in azimuth and elevation, could be made on the towers.

The measured input voltage to the amplifier from WJTV was 4.2 millivolts which is approximately 10 decibels greater than the voltage obtained for a 50-foot height of receiving antenna. The attenuation between the antennas was around 105 decibels. This made the use of a feedback loop unnecessary since the difference between the required amplifier gain of 75 decibels and the 105 decibels of attenuation is 30 decibels. A feedback loop was inserted in the interest of determining how much improvement could be made on the 105 decibel figure. The test was not successful in that no measurable improvement could be observed. It was concluded that the improvement was masked by the limits of our present measuring equipment.

The transmitting antenna was oriented so that the main beam was directed toward the location indicated in figure 4. This choice was made on the basis that optimum coverage of the Vicksburg area would be obtained for this condition.

In making the field tests, we were interested in determining several important factors. First, a thorough sampling of the field strengths in the primary Vicksburg area for both the booster and WJTV. Second, a determination of critical areas surrounding Vicksburg in which trouble might be expected because of the difficulty in discriminating against the unwanted signal. Third, a determination of the ratio of the desired to undesired signals.

The field strength measurements were made at a height of 30 feet. It is quite likely that the field strengths obtained for typical home installations would be higher than those obtained in this survey but no exact determination of this point was obviously possible.

The field strengths for the Vicksburg area for both the booster and WJTV have been analyzed statistically and are shown in figure 7. The ratio of the two signals has also been analyzed and is shown in figure 8. The conclusions are self-evident. The median ratio of booster to Jackson signals is 23 decibels. This means that WJTV would have to increase its power 200 times in order to achieve the same results as with the booster. The power required by WJTV to obtain the same coverage as the booster for a larger percentage of the locations can easily be determined from the curve. The same curve indicates that the contemplated increase in power of WJTV to 12.5 kilowatts will only recapture about 4 percent of the indicated locations. It is difficult to estimate the grade of service that would be rendered by the booster although it would appear to be grade A. It is well to consider, in light of the field strengths measured for the booster, the magnitude of e.r.p. needed to establish acceptable service in a given area. The free space signal at 2.5 miles is 95 decibels ($\mu\text{v}/\text{meter}$). The median measured field strength for the booster is 70 decibels ($\mu\text{v}/\text{meter}$) which represents a loss of 25 decibels. A pertinent question to ask is whether this loss could have been anticipated from a knowledge of profiles and the density of trees and houses.

A series of profiles extending from the booster through the main part of town is shown in figure 9. Examination of these shows that most of the receiving area is shadowed for the transmitting height used at the booster. This means that in addition to the diffraction loss, that a high loss would be expected for local

clutter due to trees and houses since the angle of approach for the propagated wave is very low. A conservative estimate of the loss for this case would be about 25 or 30 decibels based on the work reported in the paper *An Experimental Study of Wave Propagation at 850 megacycles*.¹ Hence we might expect median field strengths of around 65 to 70 decibels $\mu\text{v}/\text{meter}$). This checks the measured median remarkably well.

The undesired signal appears as a displaced image with respect to the desired signal. In Vicksburg the booster signal will generally be displaced to the right of the Jackson signal. Measurements were made to determine the ratio of the desired to undesired signal required to receive a ghost-free picture indicate that this value lies between 15 to 20 decibels.

The areas in which we might expect equal field strengths from Jackson and the booster is shown in figure 4. The determination of this region was made by analyzing the data shown in figures 10, 11, 12, 13, and 14. A knowledge of specific receiving antenna patterns is necessary to properly interpret this data. Let us assume that the antenna has a pattern discrimination of desired to undesired signal of 10/1 in voltage. This would mean there would be no area in which the desired signal could not be obtained and that a ghost-free picture could be received. Suppose, however, that the receiving antenna pattern discrimination was less than 10/1. If Jackson were desired, it would be necessary to advance toward Jackson in order to obtain the desired 10/1 ratio of Jackson to booster signal. Conversely, if the booster signal is desired, one would have to move toward the booster. The area between these two contours would then represent a region where neither signal could be obtained free from ghosting. It becomes obvious then that the area in which a picture with a ghost will be received depends upon the individual receiving antenna characteristics.

Another factor of importance is a determination of how the expected field strength contours of WJTV might be affected by the booster. This curve is shown in figure 15 and is based on the FCC F (50, 10) curves for channels 14-83. These curves are conservative in that they are based on an e. r. p. of 1 kilowatt for the booster in all azimuth directions. Even so they indicate that the cochannel interference would not be materially altered since the contours of the booster lie well within those of WJTV. When WJTV increases its e. r. p. the station's contours will be even better protected. The actual contours of the booster would be directly related to the radiation pattern of the transmitting antenna.

THE AMPLIFIER

The decision to use a 10-watt amplifier that carries both sound and picture information presents certain problems. First, there must be negligible cross-modulation between the two signals. Second, the response must be relatively constant over the entire six megacycle channel. Third, the system must have adequate gain to produce normal output—with minimum noise contribution—for the minimum input level. Finally, automatic gain control should be provided to keep the output constant. A further consideration was the complexity of the equipment. Realizing that a simpler, and therefore less costly unit, could be utilized in smaller communities, one goal was to simplify the amplifier as much as possible.

METHODS CONSIDERED

Several different approaches were available. The signal could be demodulated to both video and audio frequencies and then these signals used to re-modulate two separate small transmitters. This would offer the advantages that known techniques could be utilized, the video signals could be subjected to well-known cleanup procedures and phase and amplitude corrections could be applied as desired. The difficulties would involve such things as separate frequency control (which would result in the well-known venetian-blind type of interference in some areas unless certain frequency relations are maintained) and the necessity of providing a sideband filter with its increased cost and complexity.

With regard to the interference problem just mentioned, tests have shown² that for two cochannel stations with unsynchronized carriers, the desired signal must

¹ *An Experimental Study of Wave Propagation at 850 megacycles*, J. Epstein and D. W. Peterson, IRE, May 1953.

² *A Study of Cochannel and Adjacent-Channel Interference of Television Signals*, pt. I, *Cochannel Studies*, RCA Review, vol. XI, No. 1, March 1950, p. 99.

be 54 decibels stronger than the undesired to make the interference just perceptible. If the carriers are synchronized, a difference of 40 decibels is required. If the carriers are offset $10\frac{1}{2}$ kilocycles a difference of 36 decibels is adequate. The above information was obtained with different video information on the two carriers. From very limited observations made at Vicksburg, it appears that for synchronized carriers and pictures—such as is the case with a booster amplifier—the desired signal need be only 20 decibels stronger than the undesired to make the interfering picture just perceptible.

A second approach would be to heterodyne both sound and picture carriers down to some intermediate frequency, amplify, and then reheterodyne the signals back to the original frequencies for radiation. A numerical example of this for channel 25, which extends from 536 to 542 megacycles, would be to use a local oscillator frequency of 583 megacycles. This would heterodyne the incoming signals to an IF channel extending from 47 to 41 megacycles. After amplification this band would again be mixed with the 583 megacycle local oscillator to give the difference-frequency band of 536 to 542 megacycles which is identical to the incoming frequencies. Note, however, that an upper sideband of from 630 to 624 megacycles would be produced. The advantages of this approach are the possibility of using certain standard components; for example, a UHF head-end from a receiver and the IF strip might be modified for such services. Also it might be easier to obtain the required gain at the lower frequency. The disadvantages of this approach are that the extraneous side band, as pointed out above, must be eliminated from the output and that a high-level mixer would have to be built which carried both the sound and picture signals without producing cross-modulation. The extraneous side-band would be easier to eliminate if the IF frequency were made higher. However, this nullifies the advantage of using available components. The cross-modulation problem is minimized by working with smaller signals. This rapidly leads to the conclusion that several amplifiers must follow the mixer, and therefore there is no advantage to using the double heterodyning process.

The third approach is to use straight amplification at the carrier frequencies. The principle disadvantage to this approach is that nothing can be done to improve the video signal in passing through the amplifier. Therefore, it is essential that any distortions encountered in the amplifier be negligible. Similarly, the system must be sufficiently linear to eliminate any cross-modulation difficulties.

This last method is the one we chose to use. In order to provide a linear system, we planned to use class A amplification throughout. An additional factor which had considerable effect on the design was our interest in building this amplifier as rapidly as possible. This led us to use available power supplies and cavities that had been used previously in a small UHF transmitter. The anticipated system would utilize in cascade a low-noise preamplifier, a variable-gain voltage amplifier, several additional voltage amplifiers (these could use small receiving type tubes), and then two of the available cavities which employed type 4X150A tubes for the IPA and power amplifier stages. Automatic gain control would operate from the composite output-line voltage to control the variable-gain amplifiers.

THE LOW-LEVEL VOLTAGE AMPLIFIERS

A number of design arrangements for the low-level voltage amplifiers were considered. The method chosen was especially attractive because of the adaptability to operation over the entire UHF band. The interior of one of these amplifiers is shown in figure 16, and the circuit in figure 17. It is a grounded-grid stage utilizing a type 6AN4 tube. The input circuit is not tunable, but the component values have been chosen to make the input impedance very close to 75 ohms resistance over the channel 25 band. The output circuit uses a one-half-wave line with capacitive loading available to tune the lower UHF channels. Output coupling is provided by a series capacitor appropriately tapped on the plate line. This tap point was chosen to give a midband gain of 10 decibels and a band width flat within $1\frac{1}{2}$ decibels over the 6-megacycle channel. The bandwidth of one of these amplifiers is shown in figure 18. The markers are at 1-megacycle intervals. These amplifiers have a noise figure of approximately 12 decibels. The power requirements are 6.3 volts at 225 milliamperes for the heater and 200 volts at 11 milliamperes (varies somewhat between tubes) for the plate. This unit type construction has proven very desirable to simplify the fabrication and for other reasons which will be apparent later. The subassembly of five of the amplifiers is shown in figure 18A.

The variable gain requirement was something of a problem. In discussing the subject with others, it was evident that TV receiver designers had encountered considerable trouble because the process of changing the gain resulted in a change in band width. Our experience turned out to be the same. However, in our case we were not limited by economics to a single stage as in the case of receivers, and found that by utilizing 2 stages appropriately tuned, the band width remained practically constant over a 50-decibel range. The physical structure of the variable-gain stages is nearly identical to the previously described voltage amplifier. The only difference consists of tying the grid of the tube to a plate which is then bypassed to ground, so that a control voltage can be applied to the grid. The channels used in this case are somewhat wider in order to accommodate this bypass condenser assembly. The gain and band width of these stages are nominally the same as the voltage amplifiers. In operation, the variable gain amplifiers are preceded by sufficient gain so that the noise figure of the overall system will not be degraded when minimum gain is used.

THE HIGH-LEVEL STAGES

As previously mentioned, we had available cavities utilizing type 4X150A tubes in grounded-cathode circuits. As plate-modulated class B amplifiers these units had a gain of 10 decibels. When we attempted to use them as class A amplifiers, we found they exhibited a gain of 0 decibel even with the grid circuit undamped, so that the band width was very small. Nothing that we tried made any appreciable improvement in these stages. Therefore, we modified the cavities to utilize type 4X150G tubes in grounded-grid circuits. These were tuned up and matched and found to have a gain of 10 decibels and a very reasonable band width. A photo of one of these stages is shown in figure 19. Figure 19A shows the band width obtained with these two stages in cascade. The marker pips are at 1-megacycle intervals.

With the amplifier assembled utilizing several 6AN4 stages and the two 4X150G stages just described, the amplifier could be tuned for adequate band width and gain. However, the last 6AN4 stage was not capable of supplying sufficient power to drive the final to 10 watts of usable power. This made necessary another medium-level stage. Another 4X150G stage in a cavity such as was being used could have been employed. However, this did not fit into the physical layout already built. This made it desirable to produce a new design, so it was decided to use a 2C39A tube since it is somewhat smaller than the 4G150G and much easier to cool. Unfortunately, for the band width required and with class A operation, we could not obtain a gain of more than 5 to 6 decibels and this was not sufficient. Therefore, a second 2C39A stage was built. The circuitry of these stages follows the 6AN4 design quite closely. However, in this case the input circuit was also tuned with a separate variable line. The interior of one of these stages is shown in figure 20 and one of the stages assembled is shown in figure 21. The electrical circuit is given in figure 22.

GAIN CONTROL

To arrive at a general design for booster amplifiers, one cannot predict the amount of gain that will be required. Although a variable gain of 50 decibels is included, there is no assurance that this will cover all contingencies or that it is the best approach. The advantage of the unit construction in this situation is quite evident. Additional gain can be added or the overall gain reduced simply by shifting cables within the amplifier so as to change the number of stages.

In addition to the coarse gain control mentioned, it is also necessary to provide automatic gain control to take care of changes in the incoming signal and gain variations within the amplifier. Originally, we planned to provide manual gain control (for experimenting and adjusting) and both a long time constant peak detector and a short time constant keyed automatic gain control. The development of the automatic gain control circuitry became involved in a series of events that resulted in an AGC chassis that operated quite differently than originally planned. The AGC chassis that was sent to Vicksburg contained a manual bias control and what was labeled a peak and a keyed AGC system. Although unorthodox in design, the peak AGC system operates in a conventional manner. The keyed AGC system however, is not equivalent to what is usually referred to by the term. Usually a keyed AGC system uses a short keying pulse derived from synchronizing pulses to connect a detector to the signal voltage. The detector time constants are such that during the keying pulse the voltage

is brought rapidly to a value determined by the signal at that time and this voltage is maintained—by a long discharge time constant—until the next keying pulse. In our version, a short time constant detector follows signal variations quite rapidly and the keying pulse produces an output bias voltage proportional to the detector voltage at the time of the keying pulse. This system should be adequate for airplane flutter but would not be satisfactory with high noise-level conditions. Although the evidence is far from adequate, it appears that the signal changes requiring keyed AGC are not present in the Vicksburg installation in an amount sufficient to warrant the inclusion of this type of control.

POWER SUPPLIES

Power for the amplifier is provided by three separate supplies. The type 6AN4 voltage amplifiers are all run from the same regulated 200 volt supply. The two 2C39A stages are supplied 400 volts regulated at 80 milliamperes from a second supply. The two 4X150G stages are run from a single 1,000 volt supply, which is unregulated. The P'A stage operates at 1,000 volts and 120 milliamperes. The P'A stage is fed through a dropping resistor which supplies 600 volts at 120 ma.

Although it is not known just what will be permitted with regard to automatic operation, certain provisions have been made. A time clock turns the amplifier on and off at preset times. Time delay relays turn on the equipment in the usual starting sequence; that is, filaments, low voltage, and finally high voltage. There also is provided an interruption lockout. This brings the amplifier into operation immediately following any short power interruption.

FINAL ASSEMBLY

The complete amplifier has been assembled in an RCA Type BR-84 cabinet rack which provides 77 inches of panel space. The front of the amplifier is shown in Figure 23 and the rear in Figure 24. The power supply is in the bottom with the preamplifier and the variable gain amplifier in the shielded box immediately above. This is topped by the two shielded boxes containing additional voltage amplifiers and the two 2C39A stages. Above these are the automatic gain control circuits and the 400-volt regulated power supply. The two 4X150G stages are in the cavities which can be seen in the front view. The automatic operation and starting sequence relays are in the top panel. A total of 16 stages are built into the unit, but only 14 stages have been utilized at any one time. Under this condition, the amplifier is capable of a gain of the order of 100 decibels and a band width essentially flat over 6 megacycles. Some stagger tuning is used to accomplish this. A typical response curve of the amplifier is shown in Figure 25. The tube complement is shown in Figure 26.

The method of constructing the voltage amplifiers in separately shielded units was undertaken at the beginning as a precautionary measure against internal feedback. Later performance has justified the approach. When first assembled, we had trouble with feedback and found it necessary to use double-shielded lines between amplifier boxes. Since we have done this, there has been no evidence of instability in the amplifier. Although there are many tuning controls involved, we have found that with a little experience an operator using a UHF sweeper can align the entire amplifier in about 30 minutes.

PERFORMANCE

The booster amplifier was moved to Vicksburg, Miss., and installed there along with the two antennas. As previously indicated, the input signal level was higher than had been anticipated, thus making it possible to operate with approximately 75 decibels gain. To take care of fading or changes within the amplifier, some additional gain was installed, of course. The performance was most gratifying. There was no indication of cross-modulation of either the sound into the picture or synchronizing pulses into the sound. Test patterns observed with a well aligned receiver directly on the receiving antenna and then on the output of the amplifier showed no appreciable change in resolution or gray scale.

At the start, tests were made on an extremely experimental basis and only manual gain control was used except for short intervals. As the work became more routine, we used the automatic gain control and discovered the first defect in the booster amplifier system. When the equipment was first turned on in the morning, it was found sometimes that the AGC system was inoperative. The

developed bias was zero and gradually returned to normal over a 15-minute interval. During this warmup period the system was subject also to motorboating. These effects were found with both the keyed and the peak AGC systems. Probably this was a result of high humidity and several very high-value resistors in the gain control system. Because of this inadequate performance no details of the AGC system have been given in this report. A new chassis, which will provide only peak detection, will replace the present one as soon as it is available.

Since we were making field strength measurements, it was necessary to determine the peak video power delivered by the amplifier in order to establish absolute values. Through the process of making these measurements we noted another idiosyncrasy of the system. The following is not completely resolved, but it does appear that the gain of the amplifier is a function of the signal level at the input. For example, with just a visual signal and without the aural carrier, the amplifier may put out 16 watts of peak power. When the aural carrier is added, the peak power may drop to the order of 8 watts. This is not due simply to ordinary nonlinearity as this would be evident in the video signal, and would result in cross-modulation. As a result of this characteristic, we were forced to use unconventional means to measure peak-power under operating conditions. Several different methods were used and gave inconsistent results. At this time we can only say that the video power of the amplifier at the peak of sync is within $1\frac{1}{2}$ decibels of 6 watts.

Since this experiment was made near the low-frequency end of the UHF television band, the question frequently arises as to whether or not the amplifier could operate at the high-frequency end of the band. We made no attempt to try this, however the voltage amplifiers should operate throughout the entire band with minor modifications but with somewhat less gain. The coaxial cavities used were not intended to tune over a wide range but the basic design would be useful over the band. The remaining factor is the tube type used in the final amplifier. Since we have had no experience to rely upon, the tube data must be used. This indicates that the tube probably would be satisfactory but would have less gain.

GENERAL ANTENNA DESIGN CONSIDERATIONS

The zigzag type of antenna was used in the design of both the transmitting and receiving arrays because of the simplicity of construction. Basically, the radiator elements consists of a long, single wire bent at half-wave intervals into the form of a vertical zigzag. The plane of this array is spaced sufficiently distant from a vertical sheet reflector so that the line radiates in addition to functioning as a transmission line. Since a phase reversal occurs every half-wave, the horizontal components of the zigzag currents flow in the same direction and the vertical components alternate in direction. Hence the zigzag operates essentially as an array of in-phase, horizontal dipoles stacked vertically to produce a narrow elevation pattern.

A considerable number of experimental measurements have been made on various types of zigzag arrays. Based on this work, a few generalized observations on the design problems follow.

The vertical aperture of the array increases with the inclination angle of the half-wave elements for a given wire length. However, this gives a greater ratio of vertical to horizontal current components, resulting in undesirably large vertically polarized radiation at certain elevation angles.

Conversely, lowering the inclination angle decreases the vertically polarized radiation but reduces the vertical aperture. If the aperture is increased for this case by adding to the wire length, the amplitude distribution along the array falls off rapidly.

The amplitude distribution is also closely related to the spacing between the zigzag and screen reflector. For large spacings and long arrays, most of the radiation occurs from the first few radiators, resulting in poor aperture illumination. For very small spacings, the zigzag is essentially a transmission line with little radiation except near the far end.

Therefore it is seen that a compromise adjustment of the various array parameters is necessary for antennas designed for a minimum number of feed points.

From measurements on various types of zigzags, an element inclination angle of 45° and a screen spacing of approximately one-eighth wave-length have been found to be reasonable design values for antenna bays of about 6 or 8 wave-lengths in height. Although the physical length of each zigzag element is affected

somewhat by the type of standoff insulator used and size of wire, in general the length is within a few percent of a free-space half-wavelength.

For arrays made of such bay sections, stacked vertically, four times the array height in wavelengths gives an approximation of the power gain relative to a half-wave dipole. This value is about two-thirds of the power gain that would be produced by a perfect current sheet of the same dimensions.

THE RECEIVING ANTENNA

Figure 27 shows a photograph of the receiving antenna mounted on its side for field testing. A schematic layout of the antenna and feed network is drawn in figure 28.

Eight zigzag rows spaced one-half wavelength apart are mounted on a reflector screen 8 feet square. Each row is constructed of three-sixteenth inch brass rod formed with 11 right angle bends into a zigzag unit. The individual elements are $10\frac{1}{2}$ inches long, or 0.48 wavelength. The two middle elements are foreshortened to join with the coaxial end-seals mounted on the center line of the zigzag. The rows are supported approximately one-eighth wavelength from the screen by six ceramic standoff insulators.

The four end-seals of each half of the array are joined with equal-length coaxial lines to a 50-ohm matching transformer. These two transformers are in turn joined to a main matching transformer with two equal-length lines. The VSWR of the receiving antenna on the 50-ohm coaxial input line is plotted in figure 29.

The measured elevation field pattern plotted in figure 30 is practically identical to the characteristic produced from an ideal current sheet of the same aperture. From the measured azimuth pattern of four zigzag rows, the azimuth field pattern of the complete antenna was computed (figure 31).

The calculated power gain with respect to a half-wave dipole is slightly more than 22 decibels. The measured power gain of the receiving antenna including the slight loss introduced by the feednetwork was found to be 20.5 decibels.

THE TRANSMITTING ANTENNA

A photograph (fig. 32) of the transmitting antenna shows the double row of zigzag radiators attached to a steel supporting tube. This antenna, constructed previously for field tests on channel 23, was found to have radiation characteristics broad enough for satisfactory operation at channel 25 by altering the matching arrangement. The schematic diagram of figure 33 illustrates the layout of the antenna and the feed network.

Each row is made of three zigzag bays stacked vertically. The individual bay consists of 20 center-fed zigzag elements constructed similar to those of the receiving antenna.

Improved impedance characteristics were obtained by joining each pair of bays with short lengths of 75-ohm cable to a 50-ohm matching transformer. These three units were joined with three equal-length 50-ohm lines to the main matching transformer. Measured VSWR data versus frequency is plotted in figure 34. The somewhat sharper characteristic obtained is believed to be associated with mutual coupling effects between the two vertical rows, as a greater band width was originally obtained from a single row.

The measured azimuth field pattern is given in figure 35. Because of difficulties connected with obtaining a good measuring setup for the entire 38-foot array, the elevation pattern of only a single bay was measured. From this data, the elevation pattern of the complete antenna was calculated as plotted in figure 36.

The measured power gain of the complete transmitting antenna with respect to a half-wave dipole was found to be 19.4 decibels. This figure includes a cable loss of approximately 0.75 decibel in the feed network.

CONCLUSION

The measurements and observations of the performance of the booster at Vicksburg successfully demonstrate the feasibility of this method in covering a low-signal area. The project is further confirmation that a good engineering estimate of the e.r.p. required to establish a given grade of service can be made once the topography of the given area is known.

The performance obtained with components of the booster system indicate that there are no major technical difficulties present with the approach used.

ACKNOWLEDGMENT

We wish to express our sincere appreciation to the Mississippi Publishing Corp. for its generous cooperation in this project. In particular we are greatly indebted to J. R. Whitworth, chief engineer, and K. Parks, assistant chief engineer, of WJTV for the untiring effort and interest they have given to this experiment.

APPENDIX 1

MEASUREMENT OF TIME DELAY BETWEEN ANTENNA TERMINALS

For any four-terminal network having linear phase shift and constant amplitude the time delay is equal to

$$t = \frac{d(\beta)}{d(\omega)} = \frac{\Delta\beta}{\Delta\omega} = \text{a constant}$$

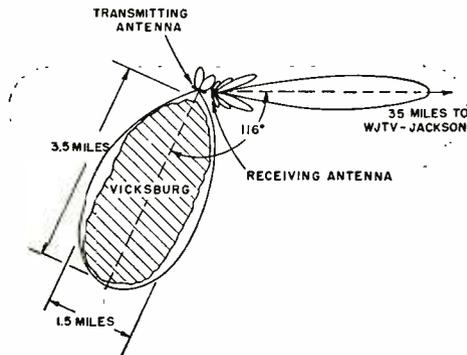
where t = time delay, seconds
 β = phase constant, radians
 $\omega = 2\pi f$

Hence in order to determine t we must find $\Delta\beta$ for an incremental change of frequency, Δf . The experimental setup for determining these values is shown in figure 37. The signal coupled to the receiver via the space between the antennas is nulled by a signal of the proper phase and amplitude derived from a probe coupled to the matched transmission line. The quantity t is plotted versus frequency as shown in figure 38. Then the time delay is computed in the following manner:

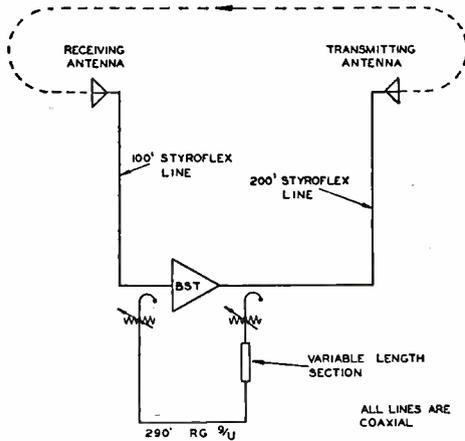
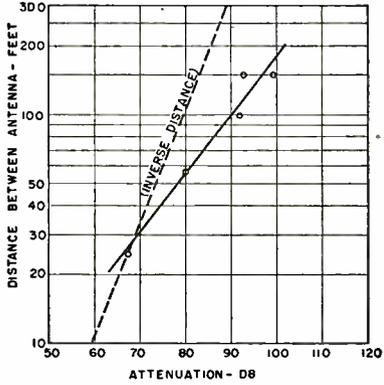
$$t = \frac{\Delta\beta}{\Delta\omega} = \frac{2\nu\Delta l}{\lambda} \cdot \frac{1}{2\nu\Delta e} = \frac{\Delta l}{\Delta f\lambda}$$

The time delay for both the Princeton and Vicksburg configuration is 0.445 μ -s.

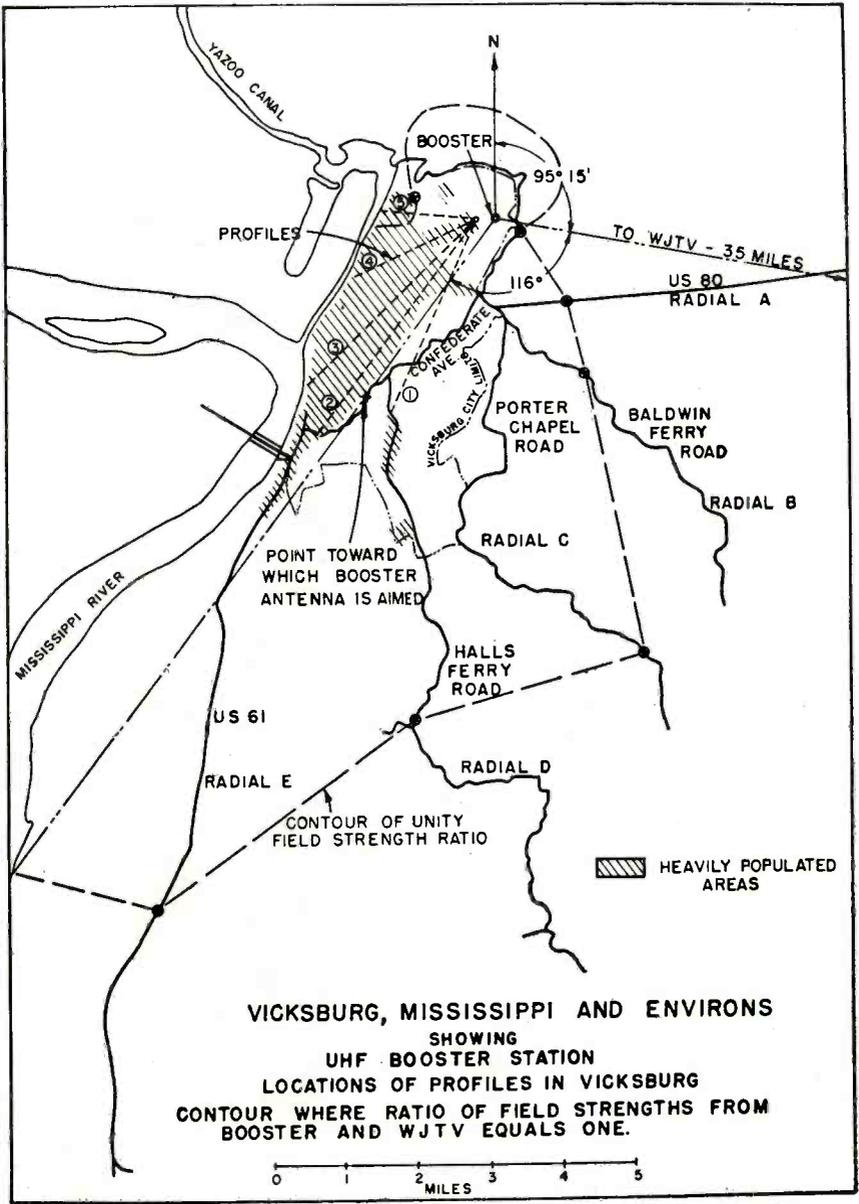
RELATIVE LOCATION OF BOOSTER STATION AND WJTV



CROSS-FEED ATTENUATION VERSUS SEPARATION OF TRANSMITTING AND RECEIVING ANTENNAS



BOOSTER STATION CIRCUIT FOR CANCELLING RADIATED FEEDBACK BETWEEN TRANSMITTING AND RECEIVING ANTENNAS



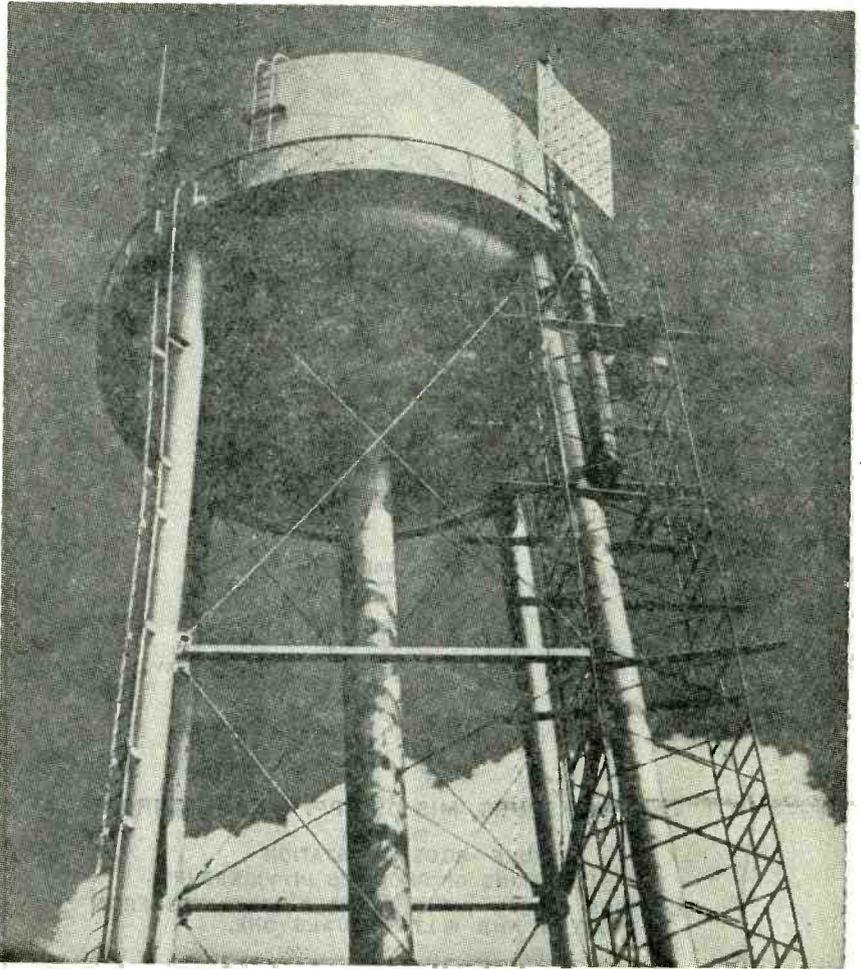


FIGURE 5.—Receiving antenna mounted on face of water tower at Vicksburg.

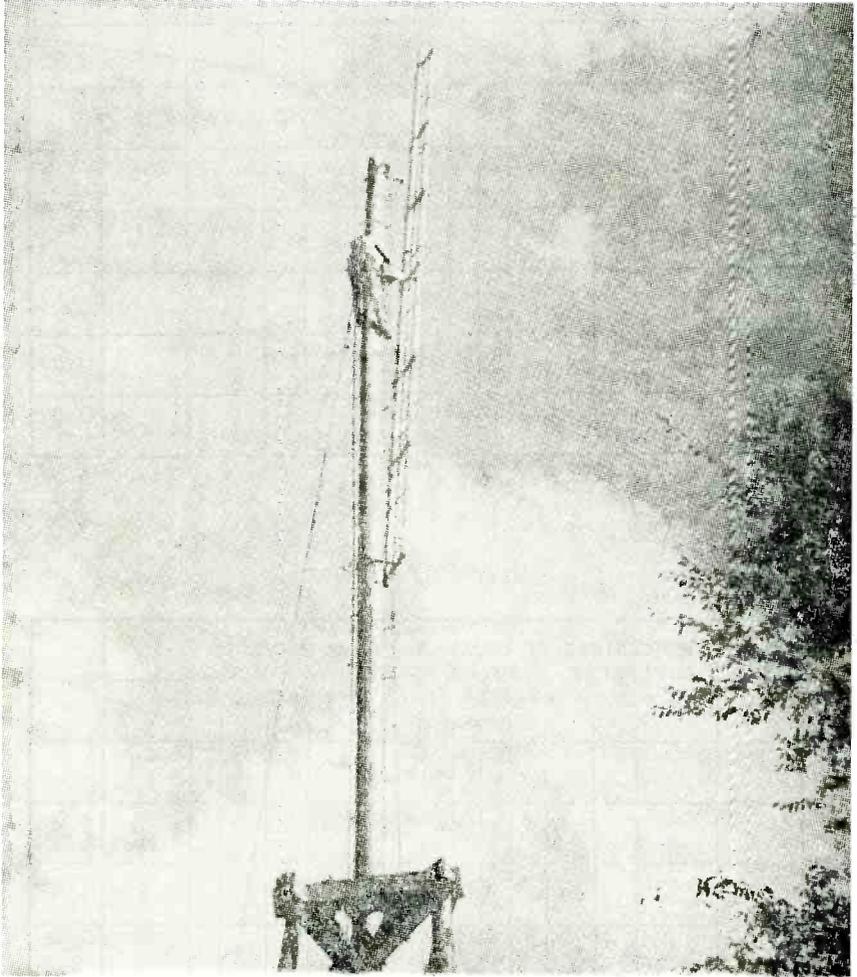
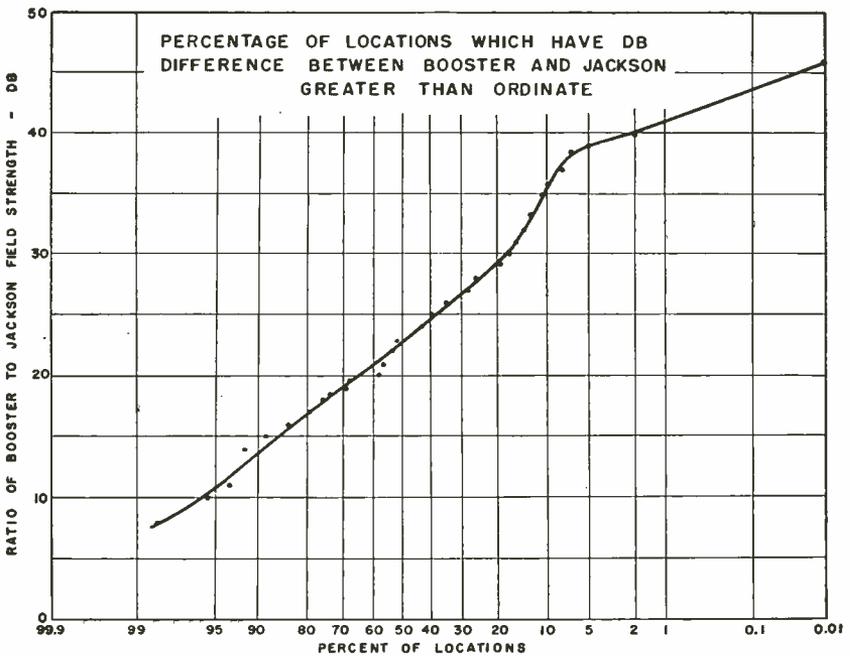
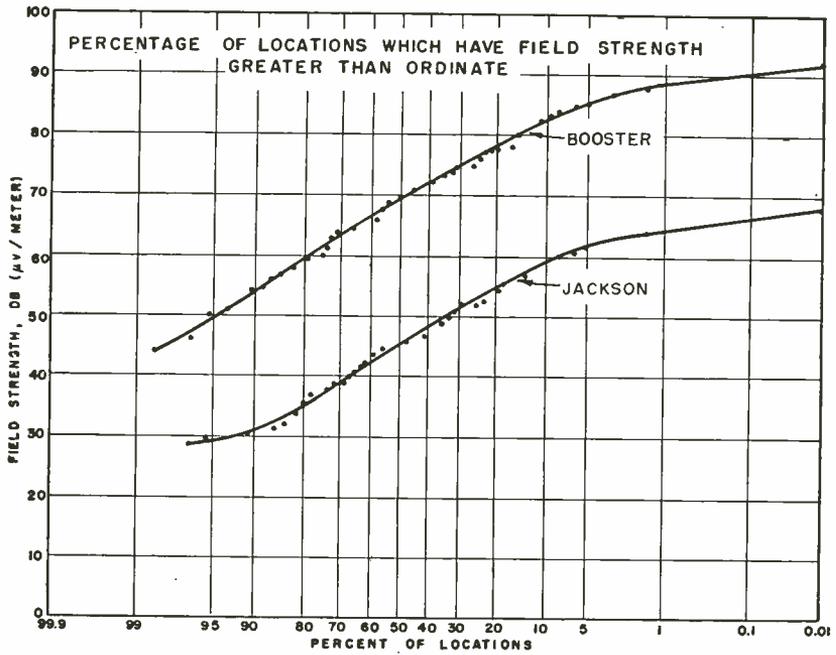
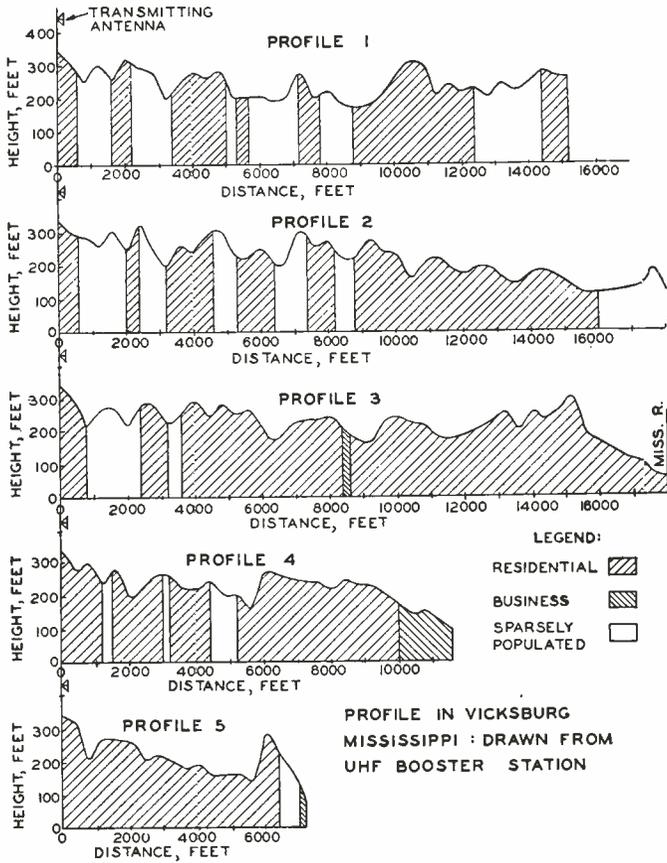
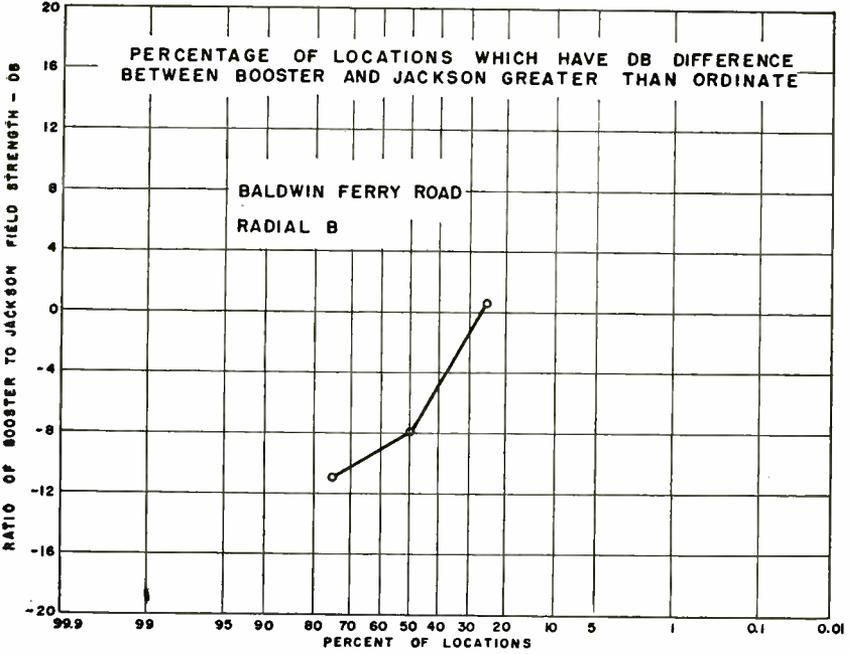
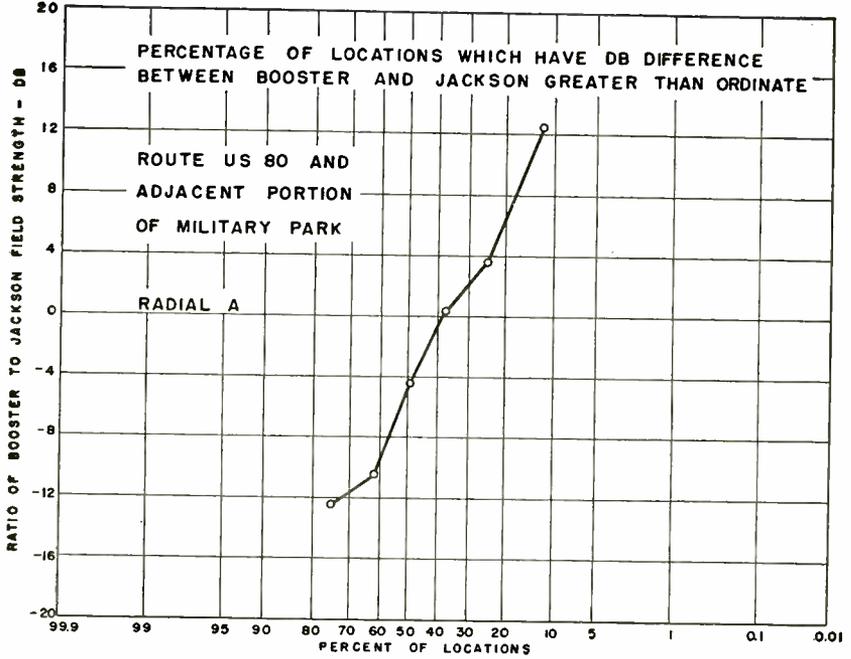


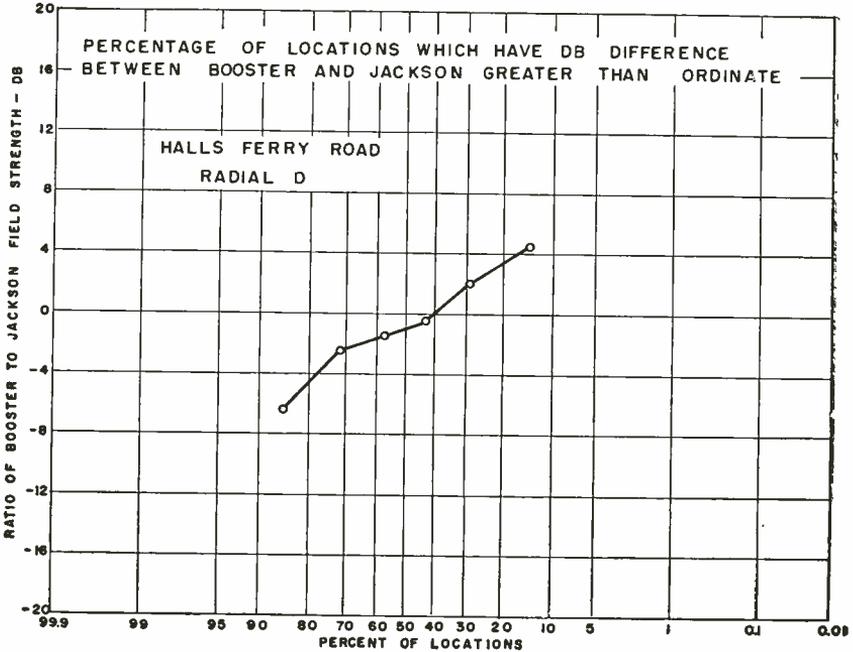
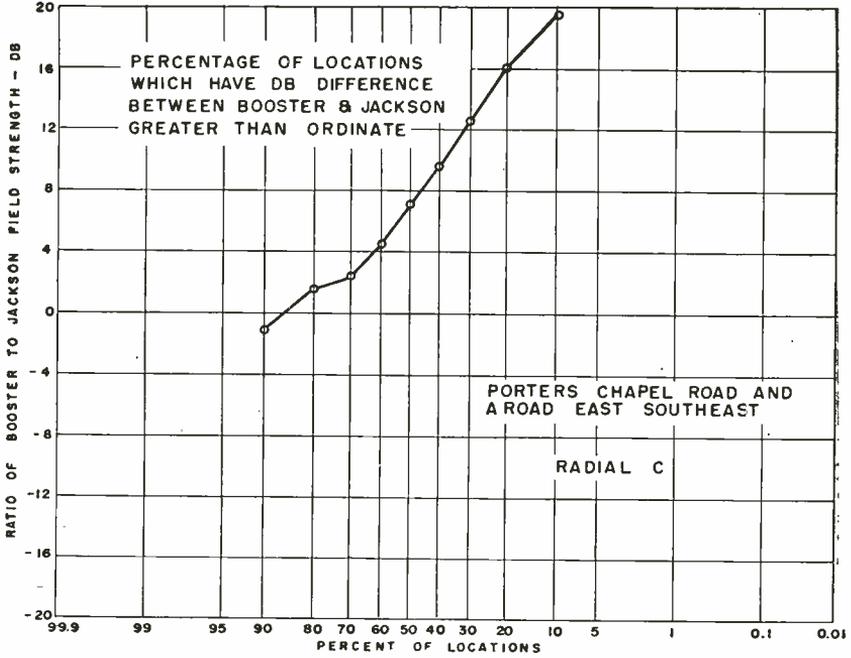
FIGURE 6.—Transmitting antenna mounted on tower at Vicksburg.

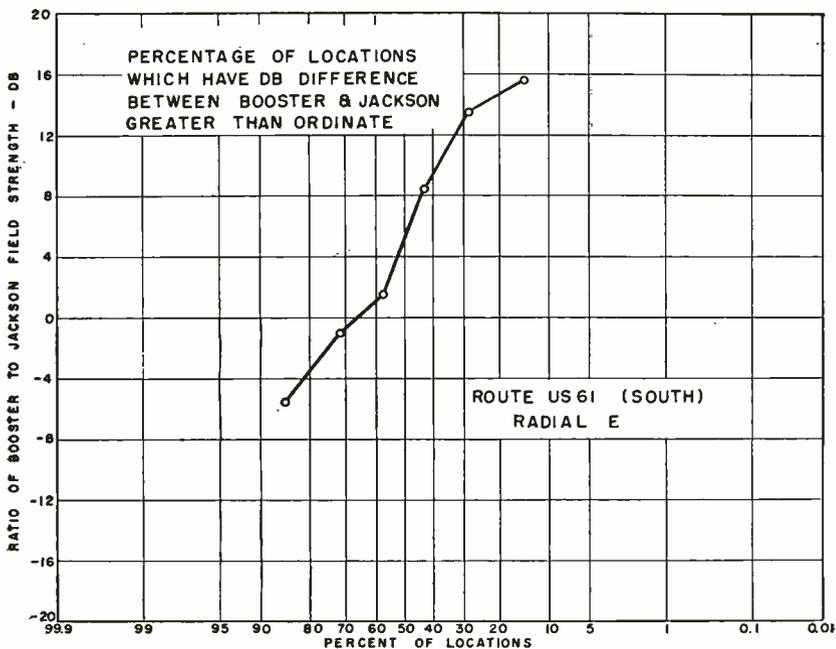




1156 STATUS OF UHF AND MULTIPLE OWNERSHIP OF TV STATIONS



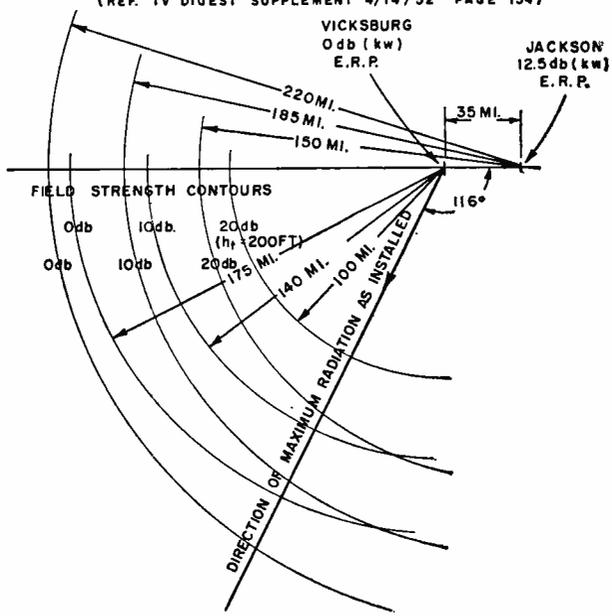




ESTIMATED FIELD STRENGTHS EXCEEDED IN 50% OF POTENTIAL RECEIVER LOCATIONS FOR AT LEAST 10% OF THE TIME. RECEIVING ANTENNA HEIGHT = 30 FEET

FIELD STRENGTHS ARE IN db REFERRED TO ONE μ VOLT/METER BASED ON FCC 'F(50,10) CURVES FOR CHANNELS 14-83. TRANSMITTING ANTENNA HEIGHTS ARE 2000 FEET OR LESS EXCEPT WHERE OTHERWISE SPECIFIED.

THE VICKSBURG CONTOURS ARE THE LOCI OF AZIMUTH PATTERN MAXIMA FOR VARIABLE DIRECTION.
(REF. TV DIGEST SUPPLEMENT 4/14/52 PAGE 154)



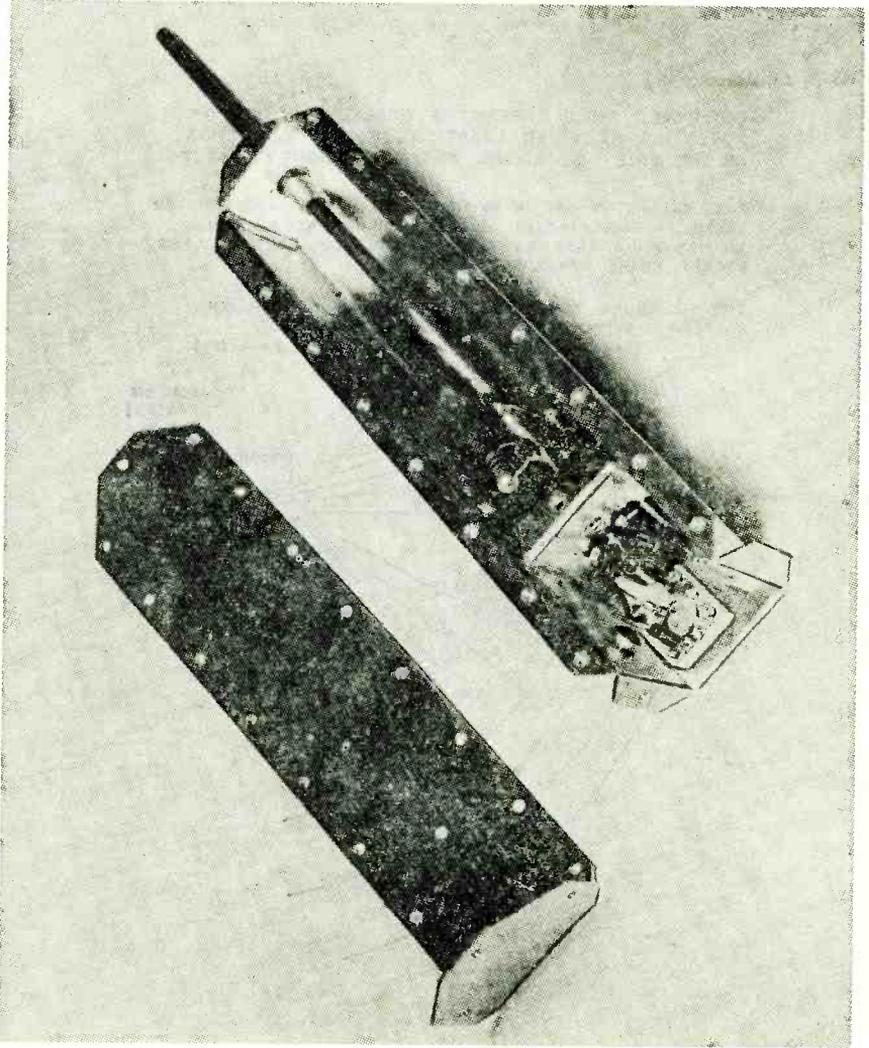


FIGURE 16.—Interior of 6AN4 voltage amplifier stage.

CIRCUIT OF 6AN4 STAGE

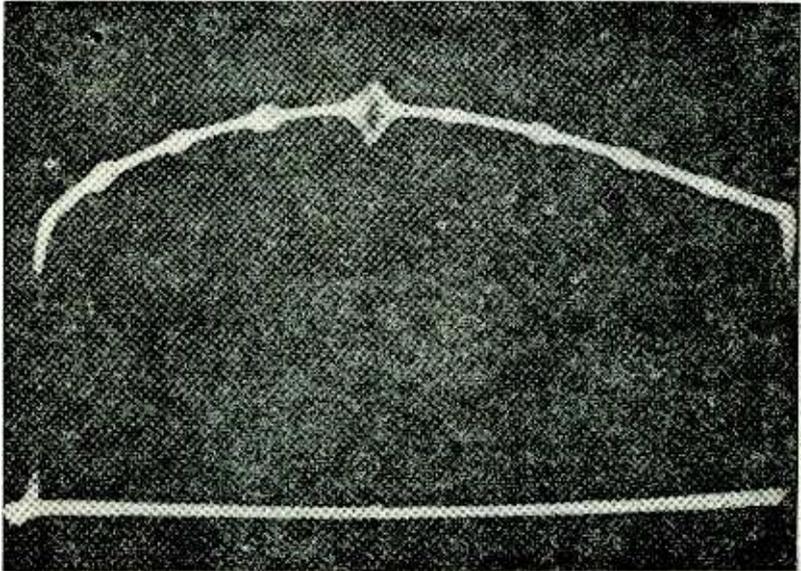
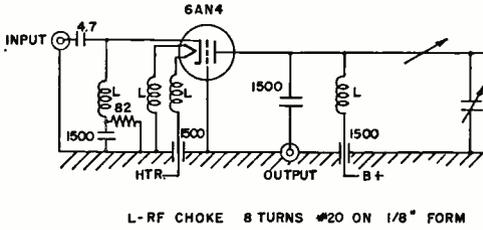


FIGURE 18.—Bandwidth of one 6AN4 stage.

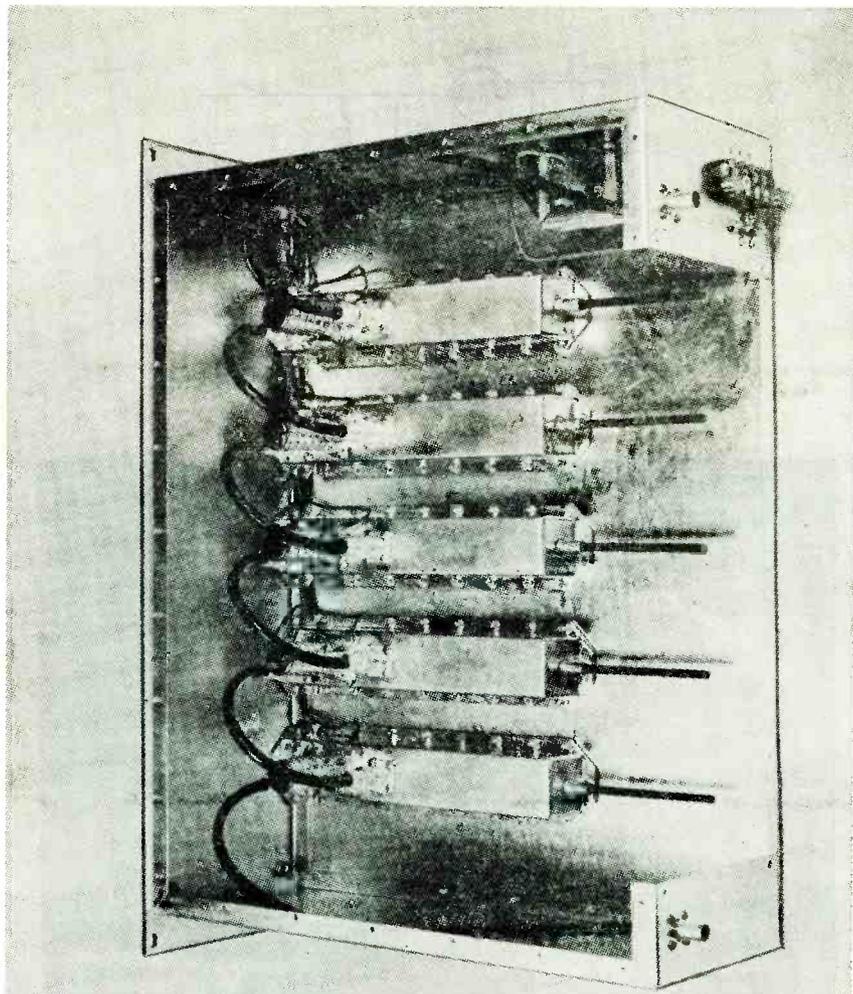


FIGURE 18A.—Five 6AN4 stages in shield with cover removed.

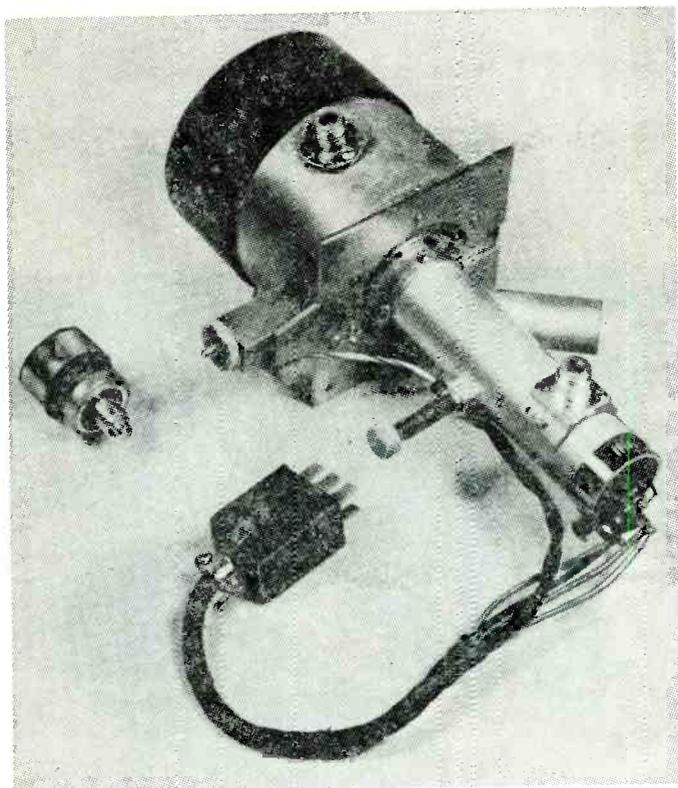


FIGURE 19.—Exterior of one 4X150G stage.

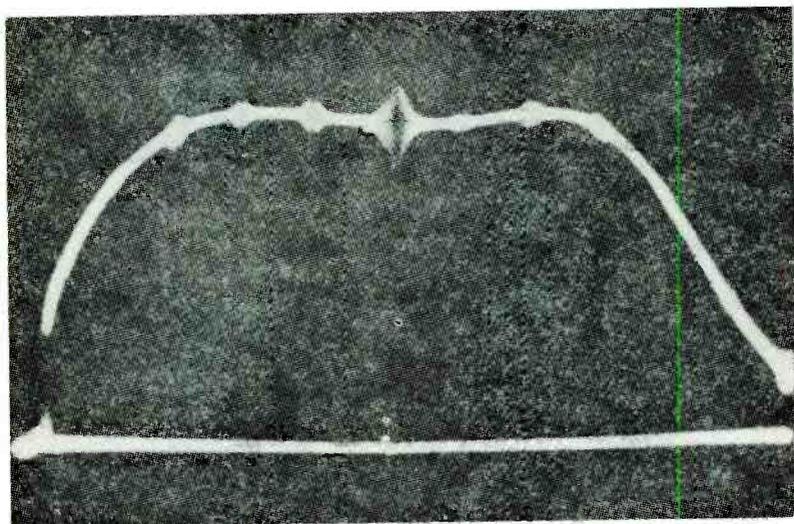


FIGURE 19A.—Bandwidth of two 4X150G stages.

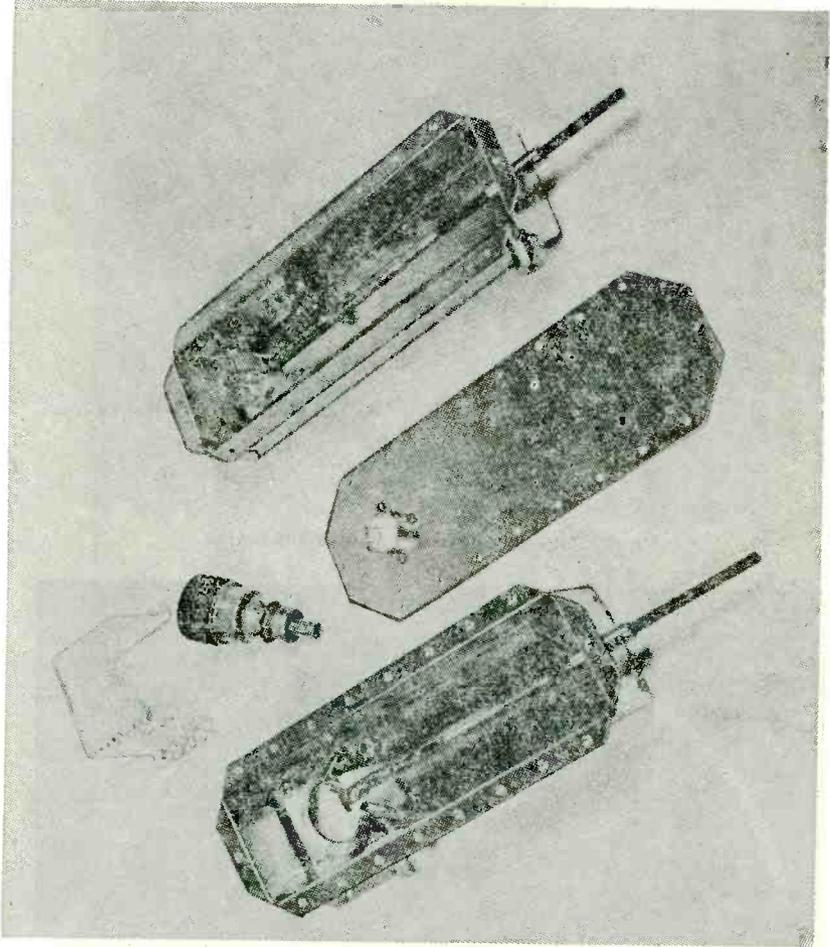


FIGURE 20.—Interior of 2C39A stage.

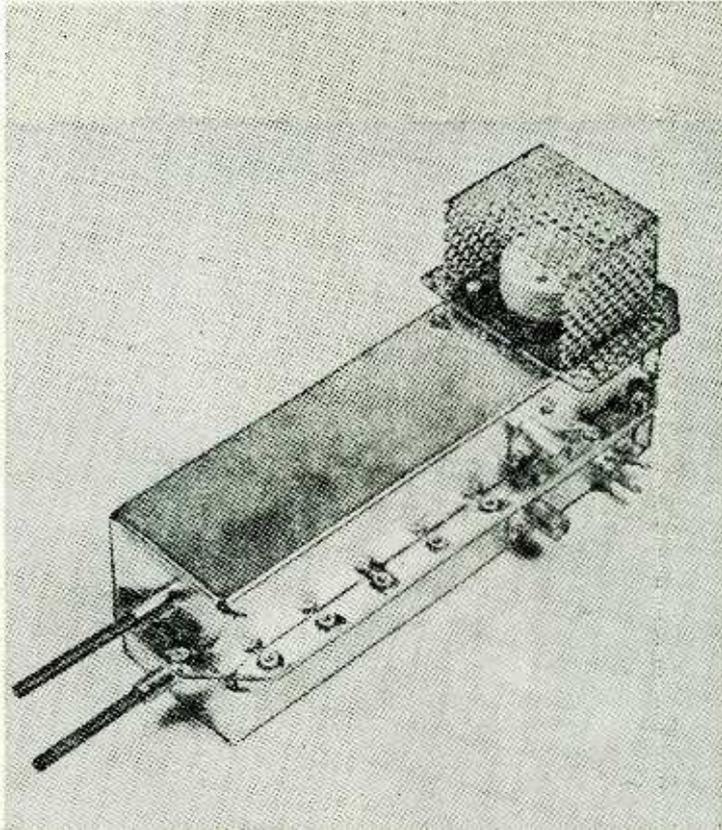
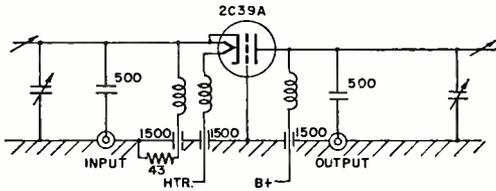


FIGURE 21.—An assembled 2C39A stage.

CIRCUIT OF 2C39A STAGE



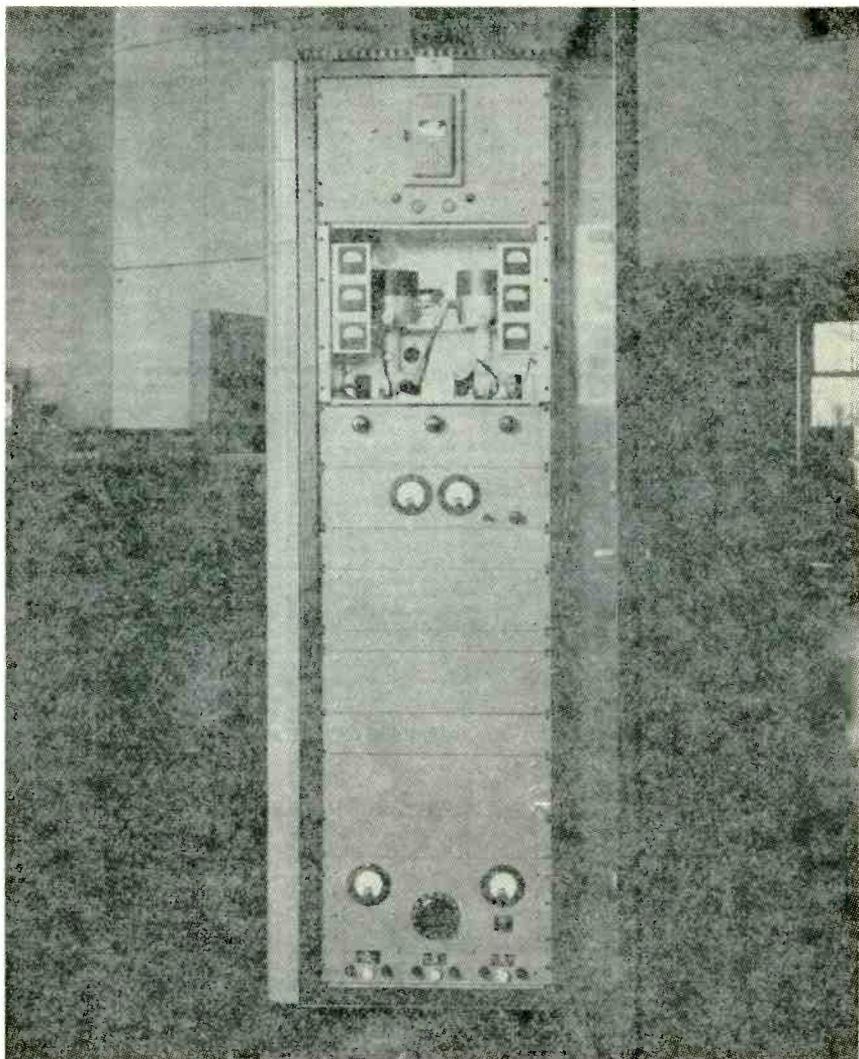


FIGURE 23.—Front view of amplifier.

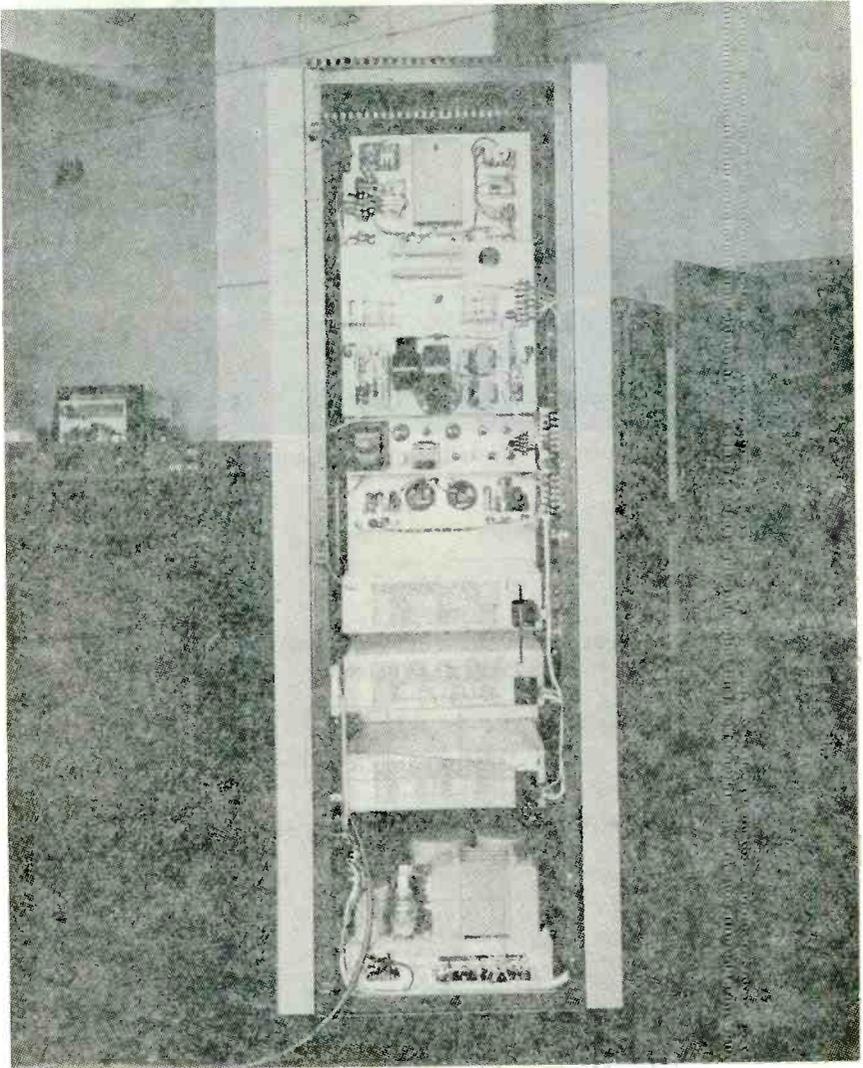


FIGURE 24.—Rear view of amplifier.

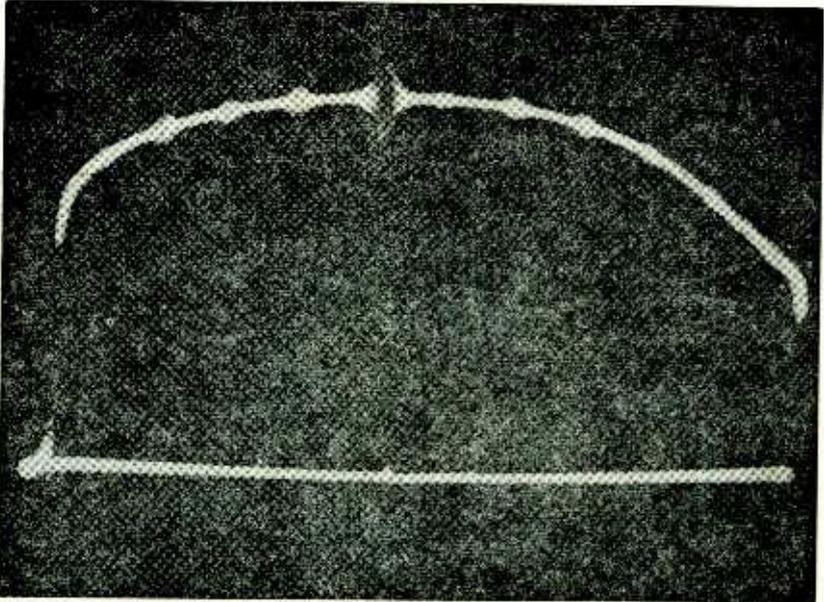


FIGURE 25.—Overall response of amplifier.

TUBE COMPLEMENT FOR CHANNEL 25
BOOSTER AMPLIFIER

1 PA
1-4X150G

PA
1-4X150G

VOLTAGE
AMPLIFIER
2-6AN4 2-2C39A

VOLTAGE
AMPLIFIER
5-6AN4

PRE-AMPLIFIER
(VARIABLE GAIN)
5-6AN4

GAIN CONTROL
1-6C4 2-6U8
3-12AU7 1-12AX7

REGULATED
LOW VOLTAGE
2-5T4 1-0A2
2-6080 4-0B2
2-12AX7

HIGH VOLTAGE
2-866
1-0A2
1-0B2

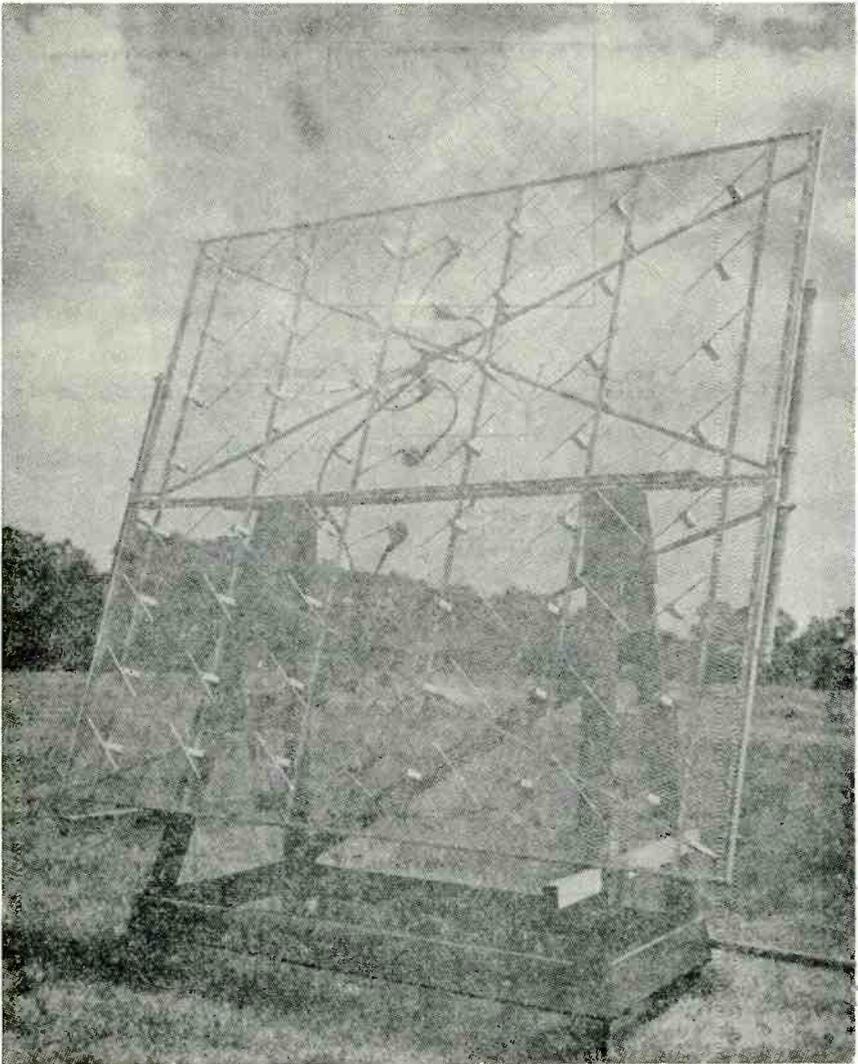
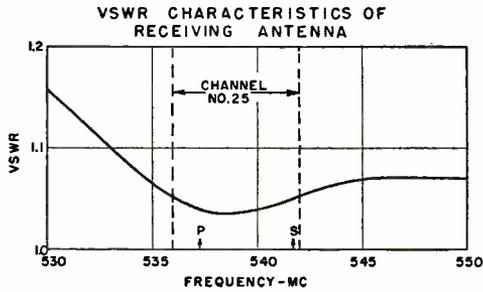
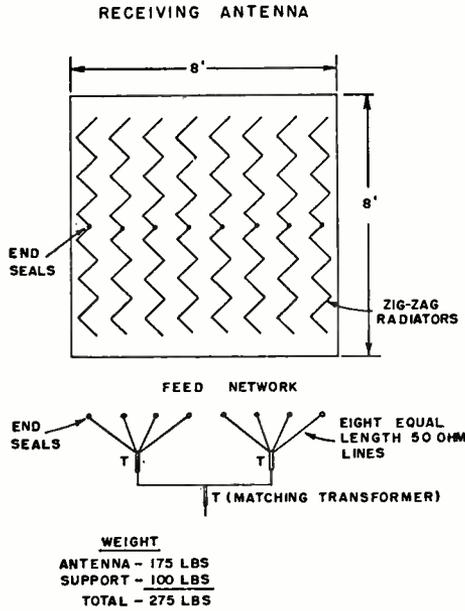
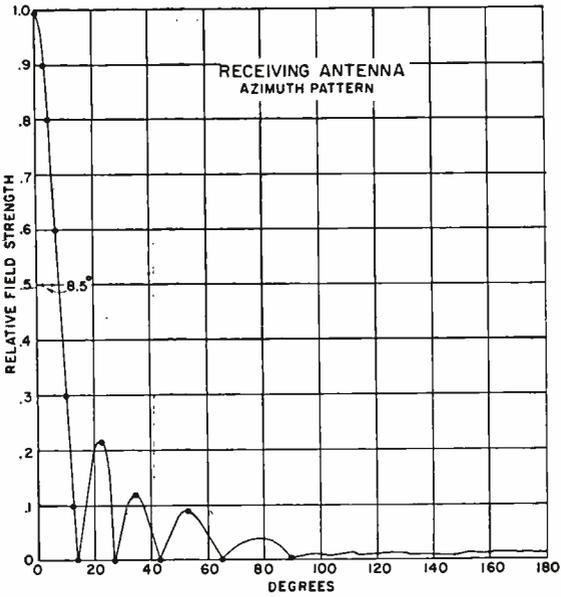
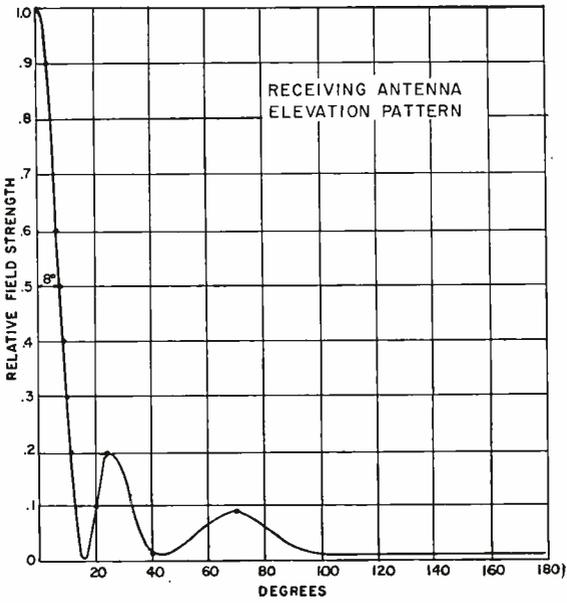


FIGURE 27.—Receiving antenna.





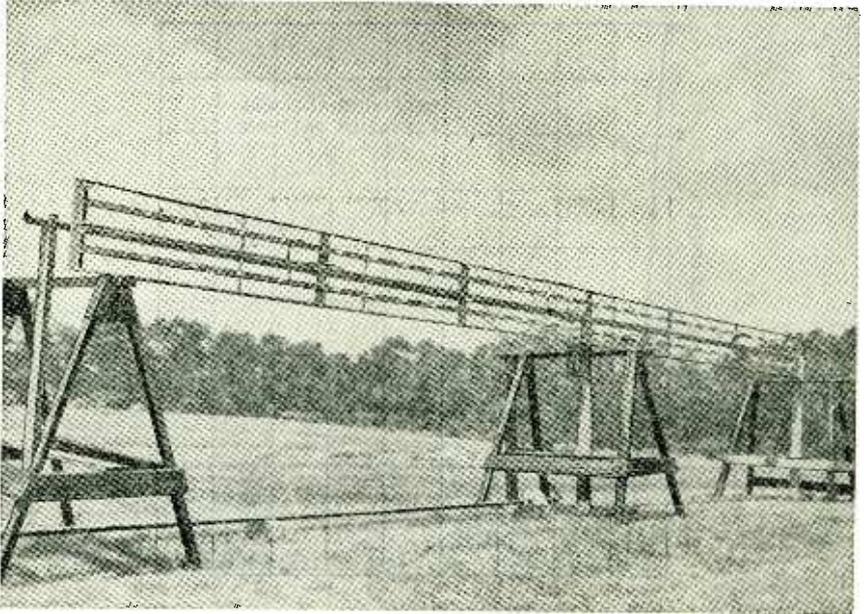
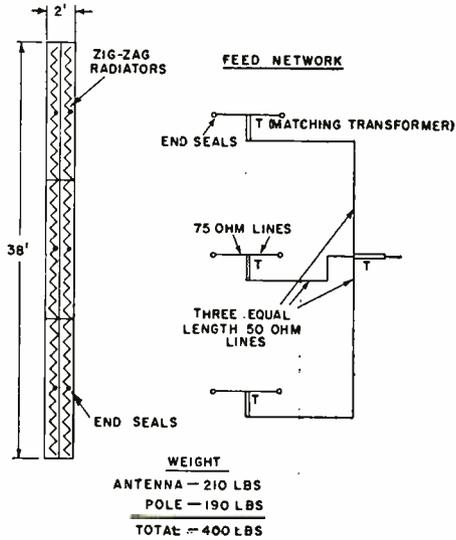
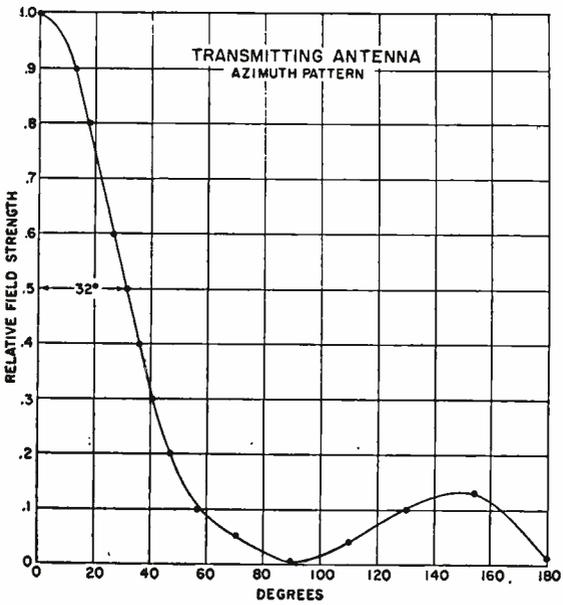
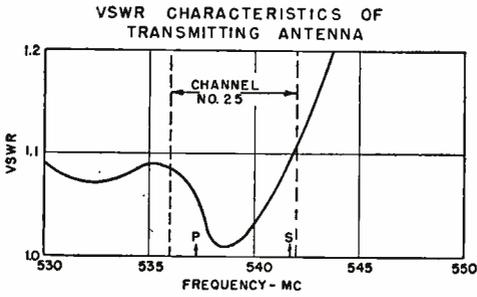
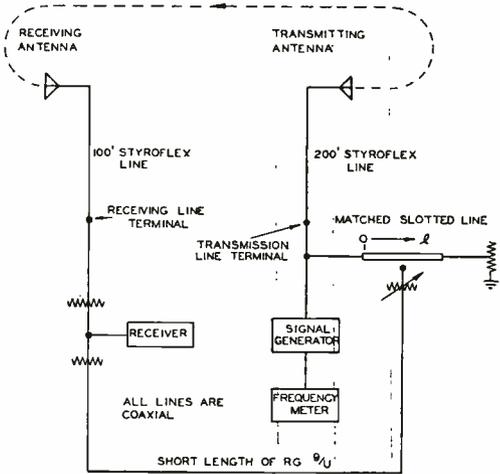
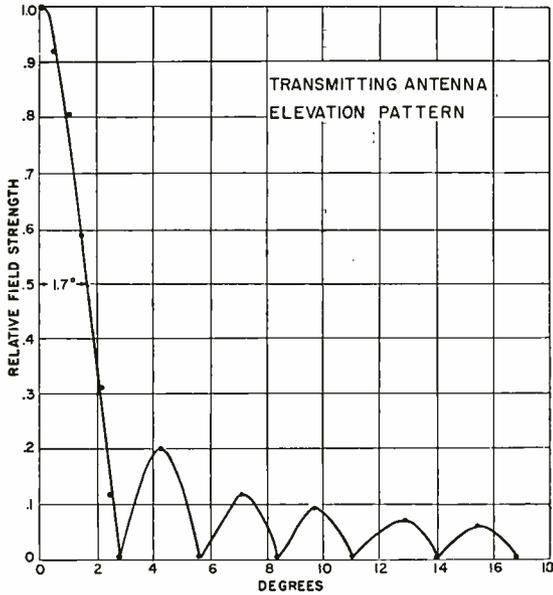


FIGURE 32.—Transmitting antenna.

TRANSMITTING ANTENNA

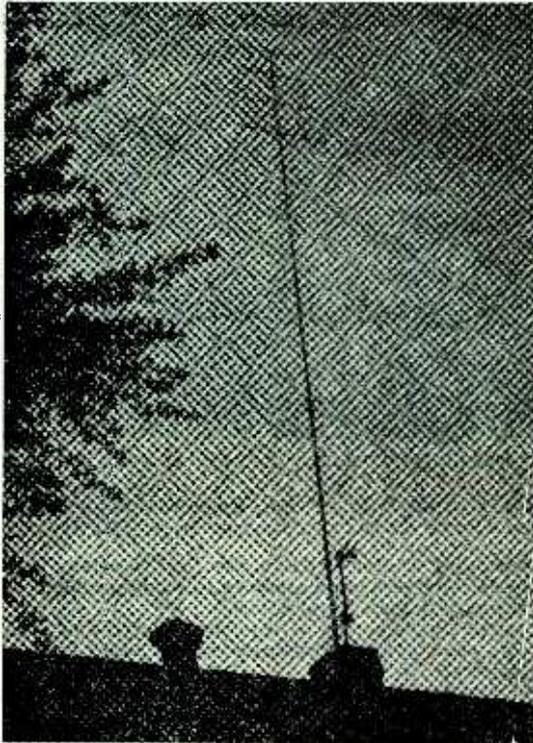
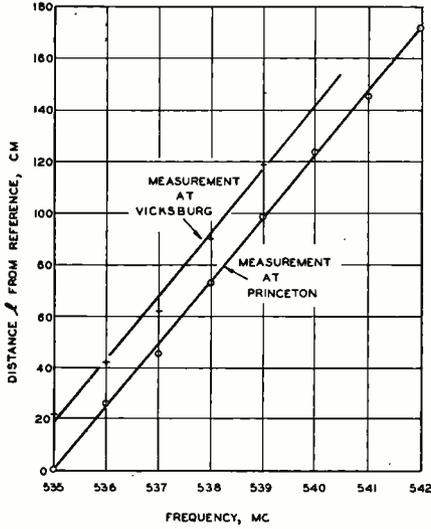




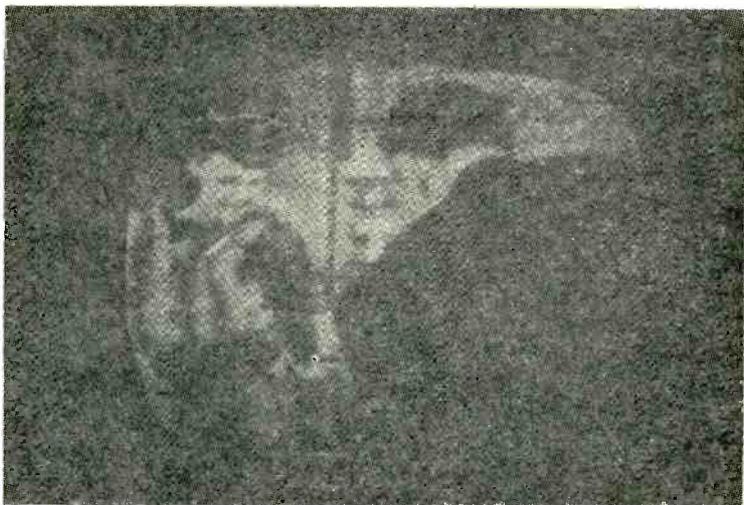


CIRCUIT FOR MEASURING TIME DELAY AROUND RADIATION FEEDBACK PATH BETWEEN BOOSTER ANTENNA TERMINALS

MEASUREMENT OF TIME DELAY ALONG RADIATION
 FEEDBACK PATH BETWEEN BOOSTER ANTENNA
 TERMINALS



Typical antenna installation in Vicksburg. Bow tie at 10-foot height was installed to receive booster signal.



Picture from WJTV received on two stacked 10-element YAGI antennas 40 feet above roof.



Picture from booster received on a "bow tie" antenna 10 feet above roof.

GENERAL OBSERVATIONS SUBMITTED BY HON. ANDREW F. SCHOEPEL, UNITED STATES SENATOR FROM KANSAS, IN REFERENCE TO UHF HEARINGS

Television broadcasting in general and the UHF stations in particular need some broad and sound new economic answers to basic problems, not just a stop-gap shuffling of old answers and old mistakes.

I believe it is worth remembering at this time that the original goal of these hearings was to find some practical answers to the acute economic problems of UHF television stations.

That is still our objective, even though in the meantime we have had a liberal education in the whole subject of television broadcasting.