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THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA.

AUSTRALIAN BROADCASTING CONTROL BOARD.

REPORT AND RECOMMENDATIONS

TO THE

POSTMASTER-GENERAL

ON APPLICATIONS FOR COMMERCIAL TELEVISION LICENCES
IN PROVINCIAL AND COUNTRY AREAS.

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AUSTRALIAN BROADCASTING CONTROL BOARD

Report and Recommendations to the Postmaster-General on Applications for Commercial Television Licences in Provincial and Country Areas.

PREFACE.

1. The Australian Broadcasting Control Board now submits its report and recommendations to the Postmaster-General on applications for licences for commercial television stations in thirteen country and provincial areas in which television services are to be provided in the course of what has come to be known as "Stage 3" of the development of television in Australia. In Part I. of this report particulars are given of these areas and the formal steps which were taken as required under the *Broadcasting and Television Act 1942-56* for the reference of the applications to the Board and the inquiries which were held pursuant to this reference. The Board thinks it might be useful in the consideration of the whole document if it were to preface the report by some preliminary observations.

2. The duty of the Board under the Act was to hold inquiries into the applications referred to it by the Minister and to make recommendations as to the grant of licences. The proceedings were remarkable for the number of areas involved (covering large areas in New South Wales and Victoria and certain areas in Queensland and Tasmania, in each case defined in general terms and each involving a separate inquiry), the number of individual applications received (45, of which 4 were withdrawn before or in the course of the inquiries), and the length and complexity of the inquiries. The inquiries commenced on 10th November, 1959, and concluded on 3rd June, 1960: with the exception of short vacations at Christmas and Easter the Board sat practically continuously in Melbourne, at first on four days of each week and later on five days. Sitting days numbered 104, 151 witnesses were examined, 389 documents (many very lengthy) received as exhibits, and the transcript of all the proceedings totalled 7,915 pages.

3. Not only was each inquiry a matter of great significance for the important provincial or country area concerned, but the applications were, with few exceptions, well considered proposals by important groups of citizens and of organizations in each area. It was the duty of the Board to conduct a full and impartial inquiry into each application and to make a thorough investigation into all matters relevant to the inquiry. The matters to be considered, as will appear from this report, were extremely difficult and involved, and in almost all areas the numerous applications were very keenly

contested. All applicants were entitled under the Act to be represented by barrister, solicitor or agent, and, in fact, with one exception, every applicant was represented by barrister or solicitor, and most by senior counsel. A special procedure which is explained in paragraph 118 was devised to deal with the consideration of the involved technical and frequency allocation issues which are discussed in Part V.

4. Section 22 of the Act provides that, with the approval of the Board, persons having an interest in the proceedings in inquiries held by the Board may be represented by counsel, and several applications were made for the Board's approval for representation of persons, other than applicants in the proceedings, for the purpose of submitting views to the Board on questions that had arisen in the course of the inquiries or, in the case of several of the commercial television stations operating in Sydney, Melbourne and Brisbane, on matters claimed to affect the interests of those stations. The Board did not agree to the representation before it of any of the persons who made such applications, taking the view, in relation to such applications, that its function in these proceedings under the Act was to inquire into and make recommendations upon the applications actually received, and that to permit persons, other than applicants, to adduce evidence or address the Board on general issues was unnecessary and undesirable and would unduly prolong the proceedings. We do not think that this decision, which was taken very early in the inquiries, prejudiced the interests of any of the persons who had made applications for representation.

5. At one stage suggestions were made that, in view of the length of the proceedings, the Board should, at the end of the inquiries into the applications for the areas in New South Wales, make an interim report to the Postmaster-General containing recommendations as to the grant of licences in the areas in that State. The Board took the view that it would be unwise for it to come to any conclusions on the questions to be considered until it had heard the applications referred to it by the Minister in all the areas involved. There were great differences between the applications, and between applications in areas in different States and, as the inquiries proceeded, it became clear that no recommendations could safely be made in respect of any area before the making by the Board of a full report on the whole of the matters raised by the applicants in all the areas, even including the two areas in which there is only one applicant in each case.

6. In the course of the inquiries into the applications, many matters were discussed at considerable length and some in great detail, and a great many views were expressed, and much information supplied, to the Board. To some extent this was due to the requirements of the form of application (see Appendix A) supplied by the Minister under section 82. We have come to the conclusion, however, that, as Mr. Gowans said to us in the Richmond-Tweed Heads inquiry, the questions to be resolved must be determined on broad considerations, the nature of which is set out in the outline of this report contained in paragraph 15. Having regard to the length of

time occupied by the inquiries, it is clear that the Board's report should, in the public interest, be presented to the Minister as quickly as practicable. These considerations have had an important effect on the nature of this report. It has been impracticable for us, in the time available, to set out in detail in this report the submissions of the applicants or the evidence in support of the applications. We think, however, that we have provided all the information necessary to enable our recommendations to be considered by the Minister.

7. It is perhaps desirable to point out that the Board under the Act is required to make recommendations as to the grant of licences after considering, by way of public inquiry and report, the applications received by the Minister and referred to it. Our report is made on this basis. We had no power, even if we had thought it desirable, to require or suggest alterations in applications or the constitution of applicant companies, or proposed companies, or to reshape applications. Many amendments to applications were in fact made in the course of the proceedings. While nearly all the applications were competently prepared and presented, it could hardly be expected, having regard to the difficult issues to be resolved, that any of them would be free from objection of some kind or another. We find it necessary in our final recommendations to suggest to the Minister that in the case of certain applicants to which we recommend that licences be granted, conditions should be imposed relating to the constitution of the companies concerned. (See paragraph 196).

8. The applications were made to the Minister and referred to the Board under the provisions of the *Broadcasting and Television Act 1942-1956*, as it then stood, and the Board's inquiries were held under that Act. In May of this year and before the conclusion of the inquiries a Bill to amend the Act was introduced in the House of Representatives and was assented to on 8th June, 1960. The amendments made by the *Broadcasting and Television Act 1960* and especially the new Division 3 of Part IV. and section 105A are of great importance to these proceedings, and we find it necessary to refer to them in this report. Sub-sections (2) and (3) of section 30 of the *Broadcasting and Television Act 1960*, provide as follows:—

“(2) Where—

- (a) before the date of commencement of this section, the Minister referred applications for a licence to the Board but the Board had not, before that date, made its recommendations as to the granting of the licence;
- (b) the circumstances in relation to a company that has applied for the licence, or the articles of association of such a company, are such that section ninety-two E or sub-section (3) of section ninety-two G of the Principal Act, as amended by this Act, would prevent the granting of the licence to that company; and
- (c) it appears to the Board that the company is able, within a reasonable time, to cause those circumstances to cease to exist or its articles

of association to be altered to the necessary extent, and is willing, in order to obtain the licence, to do so,

then, notwithstanding the provisions referred to in paragraph (b) of this sub-section, the Board may recommend the grant of the licence to that company, and the Minister may grant the licence to that company.

(3) Where the Minister grants a licence in accordance with the last preceding sub-section—

(a) he shall do so upon such conditions as are, in his opinion, necessary to ensure observance of, and compliance with, Division 3 of Part IV., of the Principal Act, as amended by this Act, and the conditions applicable under that Division, at the commencement of a television service in pursuance of the licence or at the expiration of six months from the commencement of the licence, whichever is the earlier; and

(b) the circumstances referred to in paragraph (b) of the last preceding sub-section, or the failure of the articles of association of the company to contain provisions referred to in section ninety-two G of the Principal Act, as amended by this Act, shall be deemed not to give rise, by reason of the grant of the licence, to a contravention of, or failure to comply with, the Division referred to in the last preceding paragraph, or the conditions applicable under that Division, before the commencement of a television service in pursuance of the licence or the expiration of six months from the commencement of the licence, whichever is the earlier.”

Since the inquiries were completed, the Board has been informed by some of the applicants that they are prepared to alter their proposals so far as they might, in the form submitted to the Board, be contrary to the provisions of the new Division 3 of Part IV. We make some observations as to the effect of these provisions in our discussion of the applications of those companies to which we recommend that licences should be granted.

9. The Board wishes to express its gratitude to Mr. J. McL. Young who appeared to assist the Board in these inquiries and to other counsel representing applicants, to the Commonwealth Reporting Branch which provided the transcript of evidence, and the Mayor and Council of the City of South Melbourne for making available their council chamber over a lengthy period for the sittings of the Board. These proceedings placed a heavy burden on the Board's senior officers, particularly the Secretary (Mr. J. O'Kelly), and the Assistant Secretary (Mr. J. M. Donovan). It will be seen from Part V. that we asked the Director of Technical Services (Mr. D. McDonald) to undertake very heavy and responsible duties in connection with the inquiry into technical matters: we are greatly indebted to all these officers.

PART 1—INTRODUCTORY

10. The *Broadcasting and Television Act 1942-1956* provides as follows:—

“ 81 (1) The Minister may, subject to this Act, grant to a person a licence for a commercial broadcasting station or for a commercial television station upon such conditions, and in accordance with such form, as the Minister determines.

(2)

82 (1) Before granting a licence under the last preceding section, the Minister shall, by notice published in the *Gazette*, invite applications for the grant of the licence.

(2) An application for the grant of a licence shall be in accordance with a form supplied by the Minister and shall be made in such manner, and within such time, as the Minister specifies in the notice.

83 (1) The Minister shall refer applications made in pursuance of the last preceding section to the Board for its recommendation as to the grant of the licence.

(2) Before making a recommendation, the Board shall hold an inquiry in accordance with this Act into the applications.”

The provisions relating to inquiries by the Board are contained in Division 3 of Part II. of the Act.

11. Pursuant to section 82 (1) of the Act, the Minister, by notice published in the *Gazette* on 21st May, 1959, invited applications, to be lodged with the Secretary of the Board not later than 30th September, 1959, for the grant of licences for commercial television stations in the under-mentioned areas:—

Australian Capital Territory

Canberra

New South Wales

Newcastle–Hunter River

Illawarra

Richmond–Tweed Heads

Central Tablelands

Victoria

Ballarat

Bendigo

Latrobe Valley

Goulburn Valley

Queensland

Darling Downs

Rockhampton

Townsville

Tasmania

North Eastern Tasmania

12. A copy of the form of application supplied to applicants, in accordance with section 82 (2) of the Act, is contained in Appendix A. This form required applicants to furnish a great deal of detailed information in support of their applications, and indeed in many respects was the basis of the consideration of the applications. The applications were amplified in evidence given to the Board during the course of the inquiries: many were considerably amended as a result of further consideration and in some cases, alternative proposals were made. A summary of each of the applications is given in Part II. of this report.

13. Forty-five applications were received; three of the applications were subsequently withdrawn and two of the applicants combined their applications, leaving forty-one for inquiry by the Board.

Canberra

Community T.V. (Canberra) Ltd.
 General Television Corporation Pty. Ltd.
 Canberra Television Ltd.
 Australian Capital Television Ltd.
 Television Australia Ltd.

(Before the inquiry into these applications commenced, the application of General Television Corporation Pty. Ltd. was withdrawn.)

Newcastle-Hunter River

Newcastle Broadcasting and Television Corporation Ltd.
 Paul Terry Productions, on behalf of T.P.N. Ltd., a company to be formed. (The company was subsequently formed and presented the application.)
 Shortland Television Corporation Ltd.
 Commercial Television Newcastle Ltd.
 Northumberland Television Ltd.
 Northern Telecasters Ltd.

(Before the inquiry into these applications commenced, the application of Shortland Television Corporation Ltd. was withdrawn.)

Illawarra

I.T.N. Ltd.
 Television Wollongong Transmissions Ltd.
 Television Corporation Ltd. (two applications)
 Wollongong and Illawarra Television Ltd.
 South Coast Telecasters Ltd.

(During the inquiry into these applications the two applications of Television Corporation Ltd. were treated as one application, with alternative proposals—see paragraph 28.)

Richmond-Tweed Heads

Richmond Tweed TV Ltd.
Television Corporation Ltd., on behalf of a company to be formed.
North Coast Television Ltd.
Lismore Telecasters Ltd., a company to be formed. (The company was subsequently formed and presented the application as amended.)

Central Tablelands

Country Television Services Ltd.
P. A. Yeomans
Pan-Australian Television Corporation Ltd.
Television Corporation Ltd., on behalf of a company to be formed.
Central Western Television Ltd.
Orange and District Telecasters Ltd., a company to be formed. (The company was subsequently formed and presented the application.)

Ballarat

Western Victoria Television Pty. Ltd.
General Television Corporation Pty. Ltd.
Ballarat Telecasters Ltd.
R. H. Wilson

(Before the inquiry into the applications commenced, Western Victoria Television Pty. Ltd. and Ballarat Telecasters Ltd. agreed to submit a joint application and asked the Board to consider the application of Western Victoria Television Pty. Ltd., as amended in accordance with the agreement in the name of Ballarat and Western Victoria Television Ltd.)

Bendigo

Bendigo and Central Victoria Telecasters Ltd.
General Television Corporation Pty. Ltd.

Latrobe Valley

General Television Corporation Pty. Ltd.
Eastern Victoria Television Pty. Ltd.

Goulburn Valley

General Television Corporation Pty. Ltd.
Goulburn-Murray Television Pty. Ltd.
A. L. Macgeorge, on behalf of a company to be formed.

(The company, Rural Telecasters Ltd. was subsequently formed and presented the application as amended.)

Darling Downs

Darling Downs TV Ltd.
Toowoomba and Darling Downs Television Ltd.

Rockhampton

Rockhampton Television Ltd.

Townsville

Telecasters North Queensland Ltd.

North Eastern Tasmania

Tasmanian Television Ltd., on behalf of a company to be formed.

Northern Television Ltd.

Television (Northern Tasmania) Ltd.

14. Pursuant to section 83 (1) of the Act, the Minister, by instrument in writing dated 6th October, 1959, a copy of which is set out in Appendix B, referred the applications to the Board for its recommendation as to the exercise by him of the powers conferred by sub-section (1) of section 81 of the Act. The Board, having given notice of the time and place for the commencement of the inquiries to be conducted into the applications, in accordance with the requirements of section 20 of the Act, to each of the applicants, and by public notice published in newspapers circulating in the areas concerned, commenced the first inquiry on 10th November, 1959, in the Council Chamber of the South Melbourne Town Hall. The inquiries in respect of the applications for all areas were held there, in the order in which they are listed in the preceding paragraph. Appendix C contains particulars of the dates of the inquiries into the applications for each area, and counsel appearing for the various applicants. Mr. J. McL. Young appeared to assist the Board at each of the inquiries. An official transcript of the proceedings was made by the Commonwealth Reporting Branch.

15. This report is divided into Parts, namely—

Part I.—Introductory

II.—Particulars of Applications

III.—Development of Television Services in Australia

IV.—The Broad Considerations—

Division 1.—Independence of Licensees

Division 2.—Availability of Programmes

Division 3.—Number of Stations in each Area

V.—Technical Matters: Frequency Channels: Transmitter Sites

VI.—Observations

VII.—Recommendations

PART II.—PARTICULARS OF APPLICATIONS

16. This part of the Report contains a summary of the 41 applications which were the subject of our inquiries, arranged in the order in which they were referred by the Minister to the Board—see paragraph 13.

APPLICATIONS FOR THE CANBERRA AREA COMMUNITY TV (CANBERRA) LTD.

Constitution.

17. Community TV (Canberra) Ltd. was incorporated on 28th September, 1959, with an authorized capital of £500,000 divided into 2,000,000 shares of 5s. each. If a licence were granted to the company, shares would be allotted on a priority basis, first preference being given to members of organizations representative of community interests in any area affected by the company's programmes, second preference to other Canberra citizens and organizations and third preference to persons and organizations, outside the area, which had an interest in pursuing the objectives of the community bodies referred to in the application. Arrangements had been made for a public share issue of 1,400,000 shares of 5s. each to be underwritten by a Melbourne firm of stockbrokers, subject to certain conditions, including the grant of one licence only in the area.

The articles of association provide for the appointment of not less than five nor more than nine directors, the qualifications of a director being the holding of 1,000 shares in the company. The first directors are—

| | | |
|----------------|----|--|
| A. C. Joyce | .. | formerly Deputy-Secretary of the Treasury and Commonwealth Auditor-General. |
| H. F. Whitlam | .. | formerly Commonwealth Crown Solicitor. |
| R. M. Johnson | .. | retired Solicitor and Grazier. |
| D. R. Campbell | .. | Business Proprietor. |
| S. G. Mauger | .. | Engineer and Business Proprietor. |
| B. R. Gallen | .. | Solicitor. |
| W. Glover | .. | Pastoralist. |

The articles also provide that every member shall have one vote for each share held.

Basis Upon Which Application Was Made

The application was made on the basis of a licence being granted for a station which would provide, at least for a five-year period, an exclusive commercial service in the area. If two licences were to be issued, the company still wished to be considered an applicant, but its estimates would need to be revised.

Financial Proposals

It was estimated that the cost of establishment of the station would be approximately £334,292. The estimated revenue and cost of operations for the first three years were as follows:—

| | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|------------|--------------------|---------------------|--------------------|
| Revenue .. | £178,567 | £213,886 | £240,588 |
| Costs .. | 193,349 | 214,594 | 222,094 |
| | | | |
| Profit .. | — | — | £18,494 |
| Loss .. | £14,782 | £708 | — |

The costs involved were to be met from the proposed subscribed capital of £350,000.

Programme Proposals

The company proposed to provide, during the first year of operation, programmes for approximately 50 hours per week, increasing by four to six hours per week in the second year, and by fourteen hours in the third year.

The applicant did not anticipate any difficulties in securing programme material. A high proportion of live programmes was contemplated and the belief was held that, once a licence was granted, the best of metropolitan programmes would become available. The company proposed to enter into an agreement with "The Canberra Community Television and Radio Association" whereby, for certain considerations, the latter association would undertake research on behalf of the company into programme policy.

Technical Proposals

The technical proposals of the company were based on the use of a transmitter of 100 kw e.r.p. located on Black Mountain. The studios would be co-sited with the transmitter.

CANBERRA TELEVISION LTD.

Constitution

18. The company was incorporated on 19th May, 1958, as Canberra Television Pty. Ltd., with an authorized capital of 5,000 shares of £1 each. On 19th December, 1958, the authorized capital was increased to £500,000 in £1 shares, and on 24th April, 1959, the company was converted to a public company and registered as Canberra Television Ltd.

The company had already issued 300,000 shares to over 900 shareholders, only two of which held more than 5 per cent. of those allotted. The two principal shareholders, who were the promoters of the application, are The Federal Capital Press of Australia Pty. Ltd. and Canberra Broadcasters Pty. Ltd., each holding 45,000 shares,

i.e. a 15 per cent. interest in the applicant company. The remainder of the shares were the subject of a public issue, priority being given to local residents or companies whose principal place of business was in the A.C.T.

The articles of association provide for the appointment of not less than three nor more than eight directors, the qualification being the holding of 500 shares. The first directors of Canberra Television Ltd. are as follows:—

- A. T. Shakespeare (Chairman),
Chairman of Directors of the Federal Capital Press of
Australia Pty. Ltd.
- G. K. Barlin,
Manager of Canberra Broadcasters Pty. Ltd.
- O. A. Wright,
Chairman of Directors of Commonwealth Motors Pty. Ltd.
- R. A. McKillop,
Retired Stock and Station Agent.

The articles also provide that there shall be one vote for each share held, but certain restrictions are placed on the voting power exercisable by the twenty largest shareholders if, on any occasion, they vote together.

Details of Principal Shareholders

The Federal Capital Press of Australia Pty. Ltd. which publishes the *Canberra Times*, a daily newspaper, has a paid-up capital of 70,000 ordinary shares of £1 each, 43,028 of which are held by A. T. Shakespeare and family. (10,000 cumulative preference shares which carry no voting rights have also been issued.)

Canberra Broadcasters Pty. Ltd., is the licensee of commercial broadcasting station 2CA Canberra. It has a paid-up capital of 30,000 shares of £1 each, 29,805 of which are held by or on behalf of Broadcasting Station 2GB Pty. Ltd., licensee of Station 2GB Sydney. The major shareholders in Broadcasting Station 2GB Pty. Ltd. are Broadcasting Associates Pty. Ltd. with a 44.7 per cent. interest, and John Fairfax and Sons Pty. Ltd. with a 14.1 per cent. interest. A.T.V. (Australia) Pty. Ltd., which is a wholly owned subsidiary of Associated Television Ltd. of London, owns all the shares in Broadcasting Associates Pty. Ltd. and has interests in television stations or companies which are applicants for licences. (See paragraph 190).

Basis Upon Which Application Was Made

The application was made on the basis that a licence would be granted for a station which will provide an exclusive commercial service in the area. The company did not wish to be considered an applicant in the event of a decision being made to grant licences for two stations in the area.

Financial Proposals

It was estimated that the cost of establishment of the station would be about £300,000 which amount included £10,000 for preliminary expenses, £19,310 for pre-operational costs and £74,925 for contingencies and working capital.

The estimated revenue and operating costs for the first three years of transmissions were as follows:—

| | | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|---------|----|--------------------|---------------------|--------------------|
| Revenue | .. | £83,620 | £120,796 | £200,878 |
| Costs | .. | 117,507 | 135,843 | 162,771 |
| | | ————— | ————— | ————— |
| Profit | .. | — | — | £38,107 |
| Loss | .. | £33,887 | £15,047 | — |

The required funds would be provided from the subscribed capital of £300,000.

Programme Proposals

If was proposed that, at the commencement of service, the station would provide 32 hours of programme material weekly. During the second and third years it was proposed to extend the service to not less than 42 hours weekly.

The applicant stated that a co-operative arrangement had been entered into with a number of other applicants to form a company to be known as Australian Provincial Television Facilities Pty. Ltd. to facilitate the procurement of overseas programmes. (See paragraph 101 for further details of this proposal.)

Technical Proposals

The technical proposals were based on the use of a transmitter of 50 kw e.r.p. situated on Black Mountain, and the studios would be co-sited with the transmitter.

AUSTRALIAN CAPITAL TELEVISION LTD.

Constitution

19. Australian Capital Television Ltd. was incorporated on the 18th August, 1959, with a nominal capital of £200,000 comprising 400,000 shares of 10s. each. It is proposed to issue 300,000 shares.

A total of 50,107 shares were issued to 49 persons by the date of the inquiry. In conformity with the agreement described hereunder, Television Corporation Ltd. would take up 45,000 shares and 204,893 shares would be offered to the public, preference being given to applicants residing or carrying on business in the Australian Capital Territory or within a radius of approximately 60 miles of Canberra. The proposed public issue of shares was to be underwritten by a Melbourne firm of stockbrokers.

The articles of association provide for the appointment of not less than three nor more than nine directors, the qualification being the holding of 2,000 shares. The following directors have been appointed—

| | | |
|-------------------|-------|---|
| K. S. Schapel | .. .. | Journalist (head of the Australian Consolidated Press Bureau in Canberra, Canberra manager for Sydney Newspapers Pty. Ltd.) |
| G. R. Gouge | .. .. | Dairy Farmer. |
| D. A. Williams | .. .. | retired Medical Practitioner. |
| D. G. Hyles | .. .. | Grazier. |
| A. A. Tregear | .. .. | retired Public Servant. |
| N. M. MacPhillamy | .. .. | Solicitor. |
| R. A. Snow | .. .. | Investor. |

The articles also provide for a graduated scale of voting rights; any shares held in excess of one quarter of the total issued capital shall carry no voting rights.

Details of Principal Shareholders

The only shareholder which would hold a substantial proportion of the shares would be Television Corporation Ltd., licensee of station TCN Sydney, which would hold 15 per cent. Details of the constitution of this company are set out in paragraph 59.

Details of Agreement Entered into by the Applicant.

On the 9th November, 1959, the applicant company entered into an agreement with Television Corporation Ltd. (TCN), the principal provisions of which were—

- (i) On the grant of a licence, the applicant company will offer 204,893 shares to the public. In addition, Television Corporation Ltd., or its nominees, will take up 45,000 shares.
- (ii) TCN will endeavour to rent from the Postmaster-General's Department relay facilities between Sydney and Canberra, its liability not to exceed £32,000 per annum, and provide any equipment required for relaying purposes up to a maximum expenditure of £25,000.
- (iii) TCN will provide the applicant company, by relay, with the whole of its programmes, if it so requires, but the company is to transmit, as a minimum, the whole of TCN's programmes and/or advertising daily from 6 p.m. until closing time.
- (iv) The applicant company may originate its own programmes and/or advertising after 6 p.m. only with the consent of TCN (which consent shall not be unreasonably withheld) and following two weeks' notice of such desire.
- (v) TCN will (subject to certain conditions) pay the applicant company a base sum of £30,000 per annum plus 2 per cent. of TCN's annual net revenue from advertising, up to a maximum of £40,000.

- (vi) The applicant company will pay TCN 30 per cent. of its net revenue from advertising.
- (vii) TCN will, if required, provide or procure finance, up to a maximum of £120,000, to enable the applicant company to commence and continue its operations.

The agreement would continue for a period of five years from the grant of the licence unless determined at the expiration of the third or fourth year by the applicant company.

Basis Upon Which Application Was Made

The application was made on the basis that one or more licences might be granted.

Financial Proposals

It was estimated that the capital cost of establishing the station would be £104,250 plus an additional £10,000 for a second camera in the third year of operation.

The estimated revenue and operating costs for the first three years were given as follows (the first year was treated as covering the period between the date of the grant of the licence and commencement of operations)—

| | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|------------|--------------------|---------------------|--------------------|
| Revenue .. | — | £57,000 | £65,500 |
| Costs .. | £22,000 | 37,500 | 44,500 |
| Profit .. | — | £19,500 | £21,000 |
| Loss .. | £22,000 | — | — |

The required funds would be obtained from the proposed subscribed capital plus the loan for which provision was made in the agreement referred to above.

Programme Proposals

Initially it was proposed that programmes would be provided for 49 hours weekly. The bulk of the programmes would be taken on relay from TCN in conformity with the agreement entered into with that company.

Technical Proposals

The technical proposals were based on the use of a 17·5 kw e.r.p. transmitter situated on Red Hill. A small studio would be associated with the transmitter building.

TELEVISION AUSTRALIA LTD.

Constitution

20. Television Australia Ltd. was incorporated on 3rd September, 1959, with a nominal capital of £500,000 comprising 1,000,000 shares of 10s. each.

The company had issued a total of 461,200 shares, to about 100 subscribers. Apart from Amalgamated Television Services Pty. Ltd., licensee of ATN Sydney, which had taken up 179,000 shares, the shares had been subscribed for by local residents, the largest

individual holding being 20,000 shares. If a licence were granted to the company, it was proposed to increase the paid up capital to £400,000 by the issue of a further 338,800 shares to the public, preference being given to local residents. The proposed issue was the subject of an underwriting agreement with a Melbourne firm of stockbrokers. When the final issue was completed, Amalgamated Television Services Pty. Ltd., with its holding of 179,000 shares, would hold 22½ per cent. of the issued capital.

The articles of association provide for the appointment of not less than three nor more than ten directors, the qualification being the holding of 1,000 shares. The first directors of the company are—

| | |
|-------------------------|------------------------|
| R. G. Bailey (Chairman) | Solicitor. |
| W. G. Woodger .. | Company Director. |
| P. H. Watson .. | Grazier. |
| W. T. Walker .. | Grazier. |
| D. W. Elliman .. | Company Director. |
| A. E. Armstrong .. | Grazier. |
| J. H. Oswin .. | General Manager (ATN). |

It is also provided by the articles that every member shall have one vote for each share held but that no member shall be entitled to exercise more than 25 per cent. of the votes cast. In addition, the voting power of the 20 largest shareholders at a meeting is restricted to 66 per cent. of the total voting power exercisable by all members.

Details of Principal Shareholder

Amalgamated Television Services Pty. Ltd. is the licensee of commercial television station ATN Sydney. Details of the constitution of this company are contained in paragraph 59. It also holds 16½ per cent. of the shares in Queensland Television Ltd., the licensee of station QTQ Brisbane and is a shareholder in companies which have applied for licences for the Newcastle-Hunter River, Central Tablelands and Illawarra areas.

Details of Agreement Entered into by the Applicant.

On the 21st September, 1959, the applicant company entered into an agreement with Amalgamated Television Services Pty. Ltd. (ATN), the principal provisions of which are—

- (i) ATN will provide the applicant company with a relay of such of the programmes of ATN as may be required.
- (ii) The applicant company will pay ATN for each programme an amount equal to the local station's casual time rate applicable within the time classification the programme is transmitted.
- (iii) For any programme fully or partly sponsored ATN will pay the applicant company programme revenue being such proportion of the local station's casual time rate, applicable to the time classification concerned, as the proportion of sponsorship bears to the whole of the programme.

- (iv) During the first year of operation, ATN will pay station time revenue equal to the local station's discounted time rate, applicable to the time classification concerned, less standard agency commission for all advertising relayed from ATN which is transmitted by the local station; during the second year 95 per cent. of the discounted time rate less agency commission; and during subsequent years 90 per cent. of the discounted time rate less agency commission for such advertising.
- (v) The local station may transmit advertising of local or other origin during locally produced programmes or advertisements of local origin during programmes relayed from ATN.
- (vi) ATN will not provide any programme or advertising to any other station in the area for a period of two years from the date of the agreement nor thereafter unless the applicant company does not require such programmes or advertising.
- (vii) No restriction is placed on the local station's right to acquire programmes separately or by relay from any other source nor is any obligation imposed on the station to acquire separately or by relay any programme from A.T.N.

The agreement would remain in force until determined by either party, after one year's notice, but could not be determined for a period of three years from the date of commencement of commercial operations.

Basis Upon Which Application Was Made

The application was made on the basis that a licence would be granted for a station which would provide a service in competition with one or more other commercial services. Should only one licence be granted, application was also made for that licence.

Financial Proposals

It was estimated that the costs of establishment of the station would amount to £285,758. The estimated revenue and cost of operations for each of the first three years were given as follows:—

| | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|------------|--------------------|---------------------|--------------------|
| Revenue .. | £110,188 | £148,438 | £193,500 |
| Costs .. | 119,275 | 131,443 | 156,748 |
| | | | |
| Profit .. | — | £16,995 | £36,752 |
| Loss .. | £9,087 | — | — |

The costs of establishment, £285,758 and the loss in the first year, £9,087 would be met from subscribed capital of £400,000. It was stated that the balance of the funds, £105,155, would be used to cover preliminary expenses, costs of application, additional equipment and, where necessary, buildings. The "subsidizing of local production" was also envisaged.

Programme Proposals

The company proposed to provide at least 80 hours of programme weekly during the first year. In conformity with the agreement referred to above, the bulk of the programmes would be relayed from ATN. Provision had been made for a Canberra-Sydney microwave link to provide instantaneous relays of Canberra programmes to ATN and other stations in New South Wales.

Technical Proposals

Technical proposals were based on the use of a 100 kw. e.r.p. transmitter located at Bulls Head, in the Brindabella Ranges, 19 miles south-west of Canberra, at an altitude of 4,500 feet. The studios would be located in the city area.

APPLICATIONS FOR THE NEWCASTLE-HUNTER RIVER AREA

NEWCASTLE BROADCASTING & TELEVISION CORPORATION LTD.

Constitution

21. Newcastle Broadcasting & Television Corporation Ltd. was incorporated on 15th May, 1958, with a nominal capital of £500,000, comprising 1,000,000 shares of 10s. each.

If the company were granted a licence it was proposed to issue all of the shares as follows:—

| | <i>10s. shares.</i> |
|---|---------------------|
| United Broadcasting Co. Pty. Ltd. . . | 400,000 |
| Newcastle Morning Herald & Miners' Advocate Pty. Ltd. | 150,000 |
| Airsales Broadcasting Co. Pty. Ltd. . . | 50,000 |
| Public Issue—Underwritten | 400,000 |
| | <u>1,000,000</u> |

A condition of the underwriting agreement was that the whole of the proposed issue of 400,000 shares was to be offered to residents of Newcastle and the surrounding districts within a radius of 50 miles, and to companies carrying on business in the same area.

The articles of association provide that the number of directors shall not be less than three nor more than seven. The present directors are as follows:—

| | |
|---------------------------|---|
| S. P. Lamb (Chairman) . . | Director of broadcasting stations 2KO Newcastle and 2UE Sydney |
| J. Lamb | Director of broadcasting stations 2KO Newcastle and 2UE Sydney |
| A. B. Tileman | Director of newspaper and other companies. |
| W. T. Johnson | Director of newspaper and other companies. |
| L. Richardson | Accountant. |

If a licence were granted to the applicant, favourable consideration would be given to the appointment of an additional director to represent Airsales Broadcasting Co. Pty. Ltd.

The articles also provide for a graduated scale of voting rights, and shares held in excess of one quarter of the total issued shares of the company shall have no voting rights.

Details of Principal Shareholders

United Broadcasting Co. Pty. Ltd., which is controlled by the Lamb family of Newcastle holds all the shares in Radio 2KO Newcastle Pty. Ltd., licensee of commercial broadcasting station 2KO Newcastle and controls Radio 2UE Sydney Pty. Ltd., licensee of station 2UE Sydney.

Newcastle Morning Herald & Miners' Advocate Pty. Ltd., publisher of the *Newcastle Morning Herald* and the *Newcastle Sun*, is controlled by a company in which a majority of the shares are held jointly by Miss L. E. Nicholson of Newcastle and the Union Trustee Co. of Australia Ltd. It holds one-quarter of the 30,220 shares in Hunter Broadcasters Pty. Ltd., licensee of stations 2NM Muswellbrook and 2NX Bolwarra.

Airsales Broadcasting Co. Pty. Ltd., which is controlled by the Australian Labor Party, is the licensee of commercial broadcasting station 2HD Newcastle.

Basis Upon Which Application Was Made

The application was made on the basis of either an exclusive service or a service in competition with one or more other commercial services.

Financial Proposals

The estimated cost of establishment of the station was £343,344, including preliminary expenses of £10,000.

The estimated revenue and costs for each of the first three years of operation were as follows:—

| | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|------------|--------------------|---------------------|--------------------|
| Revenue .. | £308,828 | £337,740 | £371,956 |
| Costs .. | 321,652 | 275,654 | 270,415 |
| Profit .. | — | £62,086 | £101,541 |
| Loss .. | £12,824 | — | — |

These estimates were based on the grant of one licence only in the area. The applicant did not attempt to prepare estimates based on the operation of two stations. In the event of two licences being granted, the applicant stated that it would have adequate financial resources within the £500,000 subscribed capital to meet competition, as an amount approximating £150,000 would be available for contingencies.

Programme Proposals

It was proposed that, initially, programmes would be provided for 56½ hours weekly.

It was stated that arrangements had been made for the supply of a large range of programmes from a number of overseas companies.

The applicant company is one of a number of applicants who have grouped together and signed an agreement for the formation of a company to be known as Australian Provincial Television Facilities Pty. Ltd. for the supply of programmes to successful applicants. (See paragraph 101.)

Technical Proposals

The company proposed to use a transmitter, situated at Great Sugarloaf, with a power of 100 kw e.r.p. The studios would be situated at Newcomen Street, Newcastle.

T.P.N. LTD.

Constitution

22. T.P.N. Ltd. was incorporated on 29th December, 1959, with an authorized capital of £1,000,000 divided into 240,000 "A" class ordinary shares of 5s. each and 3,760,000 "B" class ordinary shares of 5s. each.

At the time of the inquiry into this application, 240,000 "A" class shares had been issued in relatively small lots to about 100 shareholders, most of whom were residents of the Newcastle-Hunter River area. A public issue of 800,000 "B" class shares was also in progress. Priority of allotment was to be given to residents of the Newcastle and Hunter River areas. If the company's application were successful, an additional 1,200,000 "B" class shares would be issued, to be offered first to the "A" class shareholders on a "five for one" basis. The total issue had been underwritten.

The articles of association provide that there shall be not less than 3 nor more than 10 directors, the qualification being the holding of 2,500 shares. The first directors are:—

| | | |
|--------------------------------------|----|---------------------------------------|
| C. H. May (Chairman of Directors) | .. | Confectioner. |
| W. D. Skelton .. | .. | Chairman Shortland County Council. |
| F. T. Linsley .. | .. | Bus proprietor. |
| E. J. Kirk .. | .. | Auctioneer. |
| K. A. Ball .. | .. | Haulage contractor. |
| K. R. Torpey .. | .. | Solicitor and accountant. |
| J. Morgan .. | .. | Hotelkeeper. |
| C. C. Chapman .. | .. | Theatrical producer. |

The articles also provide for graduated voting rights; any shares held in excess of one quarter of the total issued shares shall not carry any voting rights.

Basis upon which Application was Made

The applicant was prepared to conduct a service in competition with a second commercial station or as the sole licensee.

Financial Proposals

Total capital requirements were estimated at £465,595, of which land and buildings would comprise £63,000 and plant and equipment £345,883.

The estimated revenue and cost of operations for each of the first three years were as follows:—

| | | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|------------|----------|--------------------|---------------------|--------------------|
| Revenue .. | £263,180 | £390,208 | £513,812 | |
| Cost .. | 344,425 | 408,825 | 478,825 | |
| Profit .. | — | — | £34,987 | |
| Loss .. | £81,245 | £18,617 | — | |

The proposed issued capital of £560,000 was considered by the applicant company as being more than adequate to meet commitments.

Programme Proposals

The company proposed to commence with 30 to 40 hours of service weekly rising to 56 within twelve months, 70 in the second year, and 90 in the third year.

Technical Proposals

The technical proposals were based on the use of a transmitter of 100 kw e.r.p. situated on Great Sugarloaf. The proposed studio would be situated at Jesmond (Wallsend).

COMMERCIAL TELEVISION NEWCASTLE LTD.

Constitution

23. Commercial Television Newcastle Ltd. was incorporated on 3rd September, 1959, with a nominal capital of £200,000, divided into 400,000 shares of 10s. each.

It was proposed, initially, to issue 200,000 shares of 10s. each. In accordance with an agreement made on the 29th September, 1959, details of which are given below, the shares were to be allotted as follows:—

| | | |
|----------------------------------|----|---------|
| Hunter Broadcasters Pty. Ltd. | .. | 60,000 |
| Television Corporation Ltd. | .. | 30,000 |
| General Public in the Newcastle- | .. | |
| Hunter River Area | .. | 110,000 |

The articles of association provide for the appointment of not less than three nor more than nine directors. The first directors are:—

| | | |
|---------------------|----|--|
| R. E. Smith | .. | Hotelkeeper. |
| E. W. Robinson | .. | Managing Editor of the <i>Singleton Argus</i> . |
| K. W. D. Humphries | .. | Company director. |
| L. F. Butler | .. | Journalist. |
| Sir D. F. H. Packer | .. | Chairman of Australian Consolidated Press Ltd. and Television Corporation Ltd. |

The articles also provide for graduated voting rights; any shares held in excess of one quarter of the total issued capital of the company shall bear no voting rights.

Details of Principal Shareholders

Hunter Broadcasters Pty. Ltd. is the licensee of commercial broadcasting stations 2NM Muswellbrook and 2NX Bolwarra. The issued capital of the company consists of 30,220 shares of £1 each, of which The Newcastle Morning Herald and Miners' Advocate Pty. Ltd. and Singleton Argus Publishing Company each hold a one-quarter interest.

Television Corporation Ltd. is the licensee of commercial television station TCN Sydney. Details of the constitution of this company are contained in paragraph 59.

Details of Agreement Entered into by the Applicant

On 29th September, 1959, the applicant company, Hunter Broadcasters Pty. Ltd., and Television Corporation Ltd., entered into an agreement (modified slightly on 16th November, 1959) containing provisions along similar lines to those contained in an agreement dated 9th November, 1959, between Australian Capital Television Ltd. and Television Corporation Ltd., described in paragraph 19. The principal differences between the agreements with the two applicants lie in the shareholding and financial provisions. The liability of TCN in respect of relay facilities was to be limited to a total of £38,000. It was agreed that TCN would pay the applicant company a base amount of £60,000 per annum (subject to certain conditions) plus 3 per cent. of TCN's net advertising revenue, total payment not to exceed £105,000 per annum.

Basis Upon Which Application Was Made

The application was made on the basis of the provision of either an exclusive or competitive service.

Financial Proposals

The estimated cost of establishment of the station was £162,526. Revenue and costs of operation for the first three years of operation had been calculated on the basis that the three-year period would include a 15 months' period between the date of the grant of the licence and the commencement of actual transmissions. Estimates were as follows—

| | <i>Pre-Transmission Period (15 months).</i> | <i>Transmission Period (21 months).</i> | <i>Total for First 3 years.</i> |
|------------|---|---|---|
| Revenue .. | — | £210,000 | £210,000 |
| Cost .. | £15,000 | 154,000 | 169,000 |
| Profit .. | — | £56,000 | £41,000 |

Revenue estimates were based on the provisions of the agreement entered into with Television Corporation Ltd.

The applicant company proposed to raise total funds of £200,000, comprising £100,000 from the issue of 200,000 shares of 10s. each, and £100,000, by way of loan. The agreement with Television Corporation Ltd. provides for that company to finance or procure the funds required in excess of the subscribed capital.

Programme Proposals

All programmes would be relayed from TCN Sydney, apart from local news, sporting results, &c. The hours of operation would be approximately the same as those of station TCN which operates for 81 hours weekly.

Technical Proposals

It was proposed that the transmitter would be situated at Great Sugarloaf. Several alternative proposals regarding the power of the transmitter were analysed in a technical appendix to the application, and it was concluded that a power of 50 kw e.r.p. was desirable with provision to increase the power to 100 kw e.r.p. later, if warranted. Only minimum studio facilities were envisaged in the early stages in view of the proposal to relay the programmes of TCN.

NORTHUMBERLAND TELEVISION LTD.

Constitution

24. Northumberland Television Ltd. was incorporated on 2nd September, 1959, with an authorized capital of £500,000, comprising 500,000 shares of £1 each.

The company had issued a total of 340,300 shares, as follows—

| | <i>£1 Shares.</i> |
|---|-------------------|
| Amalgamated Television Services Pty. Ltd. . . | 56,375 |
| National Broadcasting Co. Inc. (U.S.A.) . . | 32,500 |
| Local shareholders (114) (largest share- holding 15,000) | 251,425 |
| | <hr/> |
| | 340,300 |

At the date of application, the issued capital of the company was £215,000 but this was subsequently increased by the issue of 125,300 shares to 25 persons and companies who had previously been members of Shortland Television Corporation Ltd. which withdrew its application for a licence in this area. Prior to the admission of these additional shareholders, it had been intended that the public issue would comprise 100,000 shares.

If a licence is granted to the applicant company, it is intended to issue a further 49,700 shares to the public, the issue to be underwritten by a Newcastle firm of stockbrokers, and also to issue 10,000 shares to the Trustees of Church Property for the Diocese of Newcastle, making a total issue of 400,000 shares.

The articles of association provide for the appointment of not less than four nor more than nine directors. The first directors were—

| | |
|-------------------------------|----------------------|
| B. A. Helmore (Chairman) | Solicitor. |
| A. Forsythe | Accountant. |
| R. H. Davies | Clothing Retailer. |
| B. S. McDermott | Solicitor. |
| E. G. D. Richardson | Farmer and Grazier. |
| M. F. White | Grazier. |
| W. J. Payne | Cinema Proprietor. |
| V. W. Newbold | Manufacturer. |
| J. H. M. Oswin | General Manager ATN. |

The articles also provide that there shall be one vote for each share held but that no member shall be entitled to exercise more than 25 per cent. of the votes cast.

Details of Principal Shareholders

Amalgamated Television Services Pty. Ltd. See paragraph 59.

National Broadcasting Co. Inc. (U.S.A.) controls N.B.C. International Ltd. which holds almost 10 per cent. of the shares in Queensland Television Ltd., licensee of commercial television station QTQ Brisbane.

National Broadcasting Co. Inc. is also a shareholder (10 per cent. interest) in a company which has applied for a licence in the Illawarra area.

Details of Agreement Entered into by the Applicants

On 15th September, 1959, the applicant company entered into an agreement with Amalgamated Television Services Pty. Ltd. which is almost identical with that between Amalgamated Television Services Pty. Ltd. and Television Australia Ltd., details of which are contained in paragraph 20. The agreement of 15th September was subsequently amended to provide that ATN cannot terminate it unless at the time notice of termination is given, the number of commercial television stations operating from the Sydney area exceeds the number of stations operating from the Newcastle area.

Basis Upon Which Application Was Made

The application was made on the basis that a service would be provided in competition with one or more commercial services. However, if it were decided to grant only one commercial licence in the area, the applicant also applied for that licence.

Financial Proposals

It was estimated that the cost of establishment of the station would be £267,294, including £48,920 for a microwave link from ATN Sydney. In addition to the above estimate, an amount of £57,706, being the difference between the cost of establishment and the proposed subscribed capital of £325,000, had been provided for preliminary expenses, costs of application, recovery of losses, additional equipment and buildings where necessary, and for subsidizing local programme production.

The estimates of revenue and costs for the first three years of transmission were as follows—

| | | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|---------|----|--------------------|---------------------|--------------------|
| Revenue | .. | £110,188 | £155,910 | £201,675 |
| Costs | .. | 112,080 | 125,777 | 152,103 |
| | | | | |
| Profit | .. | — | £30,133 | £49,572 |
| Loss | .. | £1,892 | — | — |

Programme Proposals

The applicant planned to provide at least 80 hours of programmes weekly in the first year. These hours would be "increased as demand and support for purely local programmes increase." The bulk of the programmes would be relayed from ATN Sydney in accordance with the agreement mentioned but provision would be made for some programmes of local interest.

Technical Proposals

Provision had been made for a 100 kw e.r.p. transmitter to be sited at Great Sugarloaf. The studios would be erected on a suitable site in the city area of Newcastle.

NORTHERN TELECASTERS LTD.

Constitution

25. Northern Telecasters Ltd. was incorporated on 29th September, 1959, with a nominal capital of £600,000, divided into 2,400,000 shares of 5s. each.

The company had issued a total of 1,200,000 shares, 300,000 to Pye Industries Ltd. and 900,000 to the public, mainly residents of the Newcastle-Hunter River area.

The articles of association provide that the number of directors shall be not less than three nor more than seven. The first directors are—

| | |
|---------------------------|--|
| The Hon. J. P. Abbott .. | Grazier. |
| C. A. K. Cohen | Solicitor. |
| W. E. Sparke | Grazier. |
| H. J. Geddes | Agricultural Scientist. |
| P. M. Threlfall | Managing Director of Pye Industries Ltd. |
| The Hon. L. B. Saddington | Insurance Broker. |

The articles also provide that so long as Pye Industries Ltd. holds not less than 20 per cent. of the issued capital of the applicant company it shall be entitled to appoint two directors. It is also provided that a member shall have one vote for each share held.

Details of Principal Shareholder

Pye Industries Ltd. has an issued capital of 910,500 £1 shares held by approximately 1,450 shareholders, comprising 725,500 ordinary shares, 40,000 first preference shares and 145,000 second preference shares. All shares have equal voting rights but the ordinary shareholders are entitled to elect three of the five directors and the preference shareholders two directors. Pye Ltd. of England hold 355,495 ordinary shares, representing 39 per cent. of the total issued shares and 49 per cent. of the ordinary shareholdings. The total overseas shareholding amounts to about 46 per cent. of the total issued shares and includes about 57 per cent. of the ordinary shares.

Basis Upon Which Application Was Made

The application was made on the basis of the provision of either an exclusive or competitive service.

Financial Proposals

It was estimated that the cost of establishment of the station would be £399,300.

The estimated revenue and costs of operation for the first three years of transmission were as follows —

| | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|--------------|--------------------|---------------------|--------------------|
| Revenue .. | £190,000 | £240,000 | £310,000 |
| Costs | 213,850 | 226,800 | 240,700 |
| Profit | — | £13,200 | £69,300 |
| Loss | £23,850 | — | — |

Apart from the £300,000 available from subscribed capital, additional funds will be obtained by way of bank overdraft (£75,000) or other financing.

Programme Proposals

The applicant proposed, initially, to transmit for approximately 50 hours weekly and to extend to 75 hours weekly as soon as possible. The programme schedule would be "broadly similar to one or other of the operating Sydney stations" and if granted the licence, an equitable programme arrangement with a metropolitan station or stations would be sought.

Technical Proposals

A transmitter of 100 kw e.r.p. was proposed, to be situated at Great Sugarloaf. The studios would be erected in the Newcastle area.

APPLICATIONS FOR THE ILLAWARRA AREA.

I.T.N. LTD.

Constitution

26. I.T.N. Ltd. was incorporated on 29th July, 1959, with a nominal capital of £1,000,000 comprising 4,000,000 shares of 5s. each.

The company had already issued approximately 1,960,000 shares to some 1,100 shareholders, over 90 per cent. of whom are residents of the Illawarra area. No shareholder held more than 5 per cent. of the issued capital.

The articles of association provide for not less than four nor more than nine directors, the qualification being the holding of 1,000 shares.

The first directors of the company are:—

| | | |
|-----------------|----|---|
| C. H. Hoskins | | |
| (Chairman) | .. | Engineer and industrialist. |
| J. A. Bruce .. | .. | Civil Engineer. |
| C. S. Nicholson | .. | President and founder of Illawarra Leagues Club. |
| R. L. Davis .. | .. | Company Director. |
| W. M. Jones | .. | Cinema Proprietor. |
| R. E. Lane .. | .. | Television Consultant. |
| J. M. Sturrock | .. | Advertising Agent. |
| D. Locke .. | .. | Secretary/Manager, Illawarra Leagues Club. |

The articles provide for a sliding scale of voting rights, and any shares held in excess of one-quarter of the total issued shares carry no voting rights.

Basis Upon Which Application Was Made

The application was made primarily on the basis of the grant of only one licence in the area but the applicant still wished to be considered if more than one licence was to be granted.

Financial Proposals

The cost of establishment of the station was estimated as £370,016, including £40,000 for application expenses, company floatation, administration and staff training during pre-transmission period.

The estimated income and cost of operation for the first three years were given as follows:—

| | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|------------|--------------------|---------------------|--------------------|
| Revenue .. | £186,459 | £236,064 | £290,358 |
| Costs .. | 207,128 | 232,852 | 265,110 |
| | | | |
| Profit .. | — | £3,212 | £25,248 |
| Loss .. | £20,669 | — | — |

Funds in the vicinity of £500,000 will be available from the shares which have already been issued.

Programme Proposals

Initially, it was proposed that the weekly hours of transmission would be 32 hours, rising to 41 in the second year and to 47 in the third year. It was intended to increase the hours of service to 60 weekly as soon as practicable.

Programmes would be provided by means of live productions, films, tele-recordings, relays and eventually by video-tape recordings and outside broadcasts. The company envisaged, at a later date, entering into network arrangements with stations in the Goulburn, Wagga and Albury areas, if and when they are licensed.

Technical Proposals

It was proposed that a transmitter with an e.r.p. of 100 kw. will be situated at Knight's Hill (2,550 feet) via Robertson, whilst the studio would be situated at King-street, Port Kembla.

TELEVISION WOLLONGONG TRANSMISSIONS LTD.

Constitution

27. The company was incorporated on the 4th October, 1955, with a nominal capital of £250,000 divided into 500,000 shares of 10s. each. On 31st July, 1959, the nominal capital was increased to £500,000 by the creation of an additional 500,000 shares of 10s. each.

The company had issued 640,000 shares and stock units to about 400 investors, most of whom are resident in the Illawarra area.

The articles of association provide for the appointment of not less than three nor more than ten directors, qualification being the holding of 500 shares. The first directors are:—

| | | |
|------------------------------|----|---|
| H. H. Robinson (Chairman) | .. | Company Director. |
| W. A. Lang | .. | Retired Master Butcher. |
| L. V. Maynes | .. | Farmer. |
| T. A. Maguire | .. | Solicitor. |
| F. J. O'Donnell | .. | Chartered Accountant. |
| C. Ogilvy | .. | Chairman of Wollongong Broad- casting Pty. Ltd. Director of Queensland Television Ltd. |
| W. Simpson | .. | Company Director. |
| K. C. Wiseman | .. | Solicitor. |

The voting rights of shares are on a graduated scale and shares held by any member in excess of one-quarter of the total issued capital carry no voting rights.

Details of Principal Shareholders

Only two shareholders hold more than 5 per cent. of the issued capital, namely:—

| | <i>10s. shares.</i> | <i>Per Cent.</i> |
|---------------------------------------|---------------------|------------------|
| Wollongong Broadcasting Pty. Ltd. . . | 89,500 | 14.06 |
| Wollongong Theatres Pty. Ltd. . . | 40,000 | 6.25 |

Wollongong Broadcasting Pty. Ltd., with a paid-up capital of 12,000 shares of £1 each, is the licensee of commercial broadcasting station 2WL Wollongong. Half of the shares in the licensee company are held by Broadcasting Associates Pty. Ltd., which is controlled by Associated Television Ltd., England.

Wollongong Theatres Pty. Ltd. has an issued capital of 127,500 shares held by 51 persons, most of whom are residents of the Illawarra area. The largest shareholders are Mrs. Alice S. Boland with 35,253 shares, and Estate of Matthew Frost with 11,328 shares.

Basis Upon Which Application Was Made

The applicant company advocated and applied for the grant of a single licence in the area, but wished its application to be considered if it were decided to grant more than one licence.

Financial Proposals

The cost of establishment of the station, including equipment, buildings and formation expenses, was estimated at £288,580.

Revenue and costs for the first three years of operation, on both a single and multiple station basis, had been estimated as follows:—

| <i>Single Station.</i> | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|--------------------------|--------------------|---------------------|--------------------|
| Revenue .. | £165,000 | £208,000 | £236,500 |
| Costs .. | 181,050 | 196,765 | 202,417 |
| Profit .. | — | £11,235 | £34,083 |
| Loss .. | £16,050 | — | — |
| <i>Multiple Station.</i> | | | |
| Revenue .. | £112,000 | £124,800 | £142,000 |
| Costs .. | 153,235 | 163,030 | 167,052 |
| Profit .. | — | — | — |
| Loss .. | £41,235 | £38,230 | £25,052 |

The applicant considered that subscribed capital of £320,000 would be adequate to meet capital expenditure. If, however, additional funds were required, an amount of £50,000 would be obtained by way of bank overdraft.

Programme Proposals

It was planned to operate initially for 35½ hours weekly, extending during the second and third years to 42 hours. The applicant company considered that programme material would be readily available. It was planned to take some programmes on relay from Sydney stations.

Technical Proposals

It was proposed to erect a transmitter on Barren Ground (2,182 feet) with effective radiated powers of 70 kw. north and south, 50 kw. west and 25 kw. east, and to provide studio facilities in the City of Greater Wollongong.

TELEVISION CORPORATION LTD.

Constitution

28. Television Corporation Ltd., licensee of commercial television station TCN Sydney, made application for a relay station in the Illawarra area. The application contemplated that if after a reasonable period of trial, the Minister or the Board considered that the service did not adequately cater for viewers' requirements in the area, then the Minister could direct the formation of a company and the transfer to that company, when formed, of the licence granted to TCN, for the purpose of providing relay programmes and locally originated material. It was proposed that should the Minister eventually direct that the licence be transferred to a company to be formed, it would be constituted in a similar manner to Australian Capital Television Ltd., an applicant for a licence in the Canberra area (see paragraph 19), and TCN would seek a shareholding and programme agreement with it. The new company would have a nominal capital of £500,000 and would issue sufficient shares to raise an amount of capital considered adequate by the company and approved by the Minister.

Details of Principal Shareholders

Details of the constitution of Television Corporation Ltd. are set out in paragraph 59.

Basis Upon Which Application Was Made

The application was made on the basis that the company would be in competition with one or more commercial services in the area. If, however, only one licence were to be granted in the area, the company was an applicant for such licence.

Financial Proposals

Proposals were presented on two bases:—

- (a) That a pure relay proposal would be acceptable.

In this case it was estimated that the costs of establishment of the station would be about £70,000. The operation of the station for the first three years (including 21 months of transmissions) would amount to £106,250, including £13,000 per annum for the rental of relay facilities. Television Corporation Ltd. would finance the station from its own resources.

- (b) That after a trial period of operation of the relay proposal, the licence be transferred to a company to be formed.

In this case it was estimated that the costs of establishment of the station would amount to £170,414, including £50,000 for floatation expenses and contingencies. Costs of operation and revenue for the

first three years (including 21 months of transmissions) were estimated at £152,000 and £128,000 respectively. It was proposed that funds of £300,000 should be made available, comprising £200,000 from subscribed capital and £100,000 to be obtained by way of loan.

Programme Proposals

Under the first proposal all programmes would be taken on relay from TCN Sydney by means of a microwave link hired from the Postmaster-General's Department. Only a minimum of local content, inserted at the Sydney end of the link was envisaged. In the second proposal, local studios would be established and local programme material would be originated from there, but the major portion of the programmes would still be taken on relay from Sydney.

Technical Proposals

It was proposed that a transmitter with an e.r.p. of 10 kw be established on Saddleback Mountain, 19 miles south of Wollongong. Initially, no local studios were planned, and only a minimum of local equipment would be provided.

WOLLONGONG AND ILLAWARRA TELEVISION LTD.

Constitution

29. Wollongong and Illawarra Television Ltd. was incorporated on 2nd September, 1959, with an authorized capital of £500,000, comprising 1,000,000 shares of 10s. each.

The company had already issued 400,000 shares. If a licence were granted to the applicant company, it was proposed to issue a further 200,000 shares to the public, preference being given to residents of the Illawarra area. The proposed issue had been underwritten by a firm of Sydney sharebrokers.

The principal shareholders are as follows:—

| | | |
|--|----|--------|
| Amalgamated Television Services Pty. Ltd. .. | .. | 90,000 |
| National Broadcasting Co. Inc. .. | .. | 60,000 |
| Illawarra Newspapers Pty. Ltd. .. | .. | 30,000 |

The remaining 220,000 shares already issued were taken up by about 100 local persons and companies.

The articles of association provide that the number of directors shall not be less than three nor more than nine, the qualification of a director being the holding of at least 1,000 shares. The first directors were:—

| | |
|---------------------------|--|
| G. T. Hudspeth (Chairman) | Secretary of Lysaghts Ltd. |
| L. F. White .. | .. General Manager of Metal Manufacturers Ltd. |
| S. Waugh .. | .. Managing Director of Waugh Investments. |
| C. H. H. Brown .. | .. Solicitor. |
| P. A. Dwyer .. | .. Managing Director of Dwyers Pty. Ltd. |
| J. H. M. Oswin .. | .. General Manager ATN. |

The articles also provide that each share shall carry one vote but that no member shall be entitled to exercise more than 25 per cent. of the total votes cast.

Details of Principal Shareholders

Amalgamated Television Services Pty. Ltd., licensee of commercial television station ATN Sydney, see paragraph 59.

National Broadcasting Co. Inc., see paragraph 24.

Illawarra Newspapers Pty. Ltd. publishes the *Illawarra Mercury*, the local daily newspaper. This company is controlled by members of the family of Mr. R. A. Henderson, Chairman of Directors of Amalgamated Television Services Pty. Ltd.

Details of Agreement Entered Into by Applicant

On 21st September, 1959, the applicant company entered into an agreement with Amalgamated Television Services Pty. Ltd. (ATN) similar to that between ATN and Television Australia Ltd., an applicant for a licence in the Canberra area. (See paragraph 20.) On the 8th February, 1959, the agreement was amended in the same manner as that between ATN and Northumberland Television Ltd., an applicant for a licence in the Newcastle area (see paragraph 24), i.e., to provide that the agreement could not be terminated by ATN unless at the time notice of determination was given, the number of commercial television stations operating in the Sydney area exceeded the number of such stations operating in the area in which the applicant company's station was situated.

Basis Upon Which Application Was Made.

The application was made on the basis that a licence would be granted for a station in competition with one or more other commercial services. If, however, only one licence were to be granted it would be an applicant.

Financial Proposals

Of the proposed subscribed capital of £300,000, £226,426 would be utilized to meet the cost of establishing the station, and the balance of £73,574 used for preliminary expenses, cost of application, and provision for additional equipment. Estimated revenue and costs for the first three years, on the basis of the grant of two licences in the area, were as follows:—

| | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|------------|--------------------|---------------------|--------------------|
| Revenue .. | £107,188 | £144,438 | £188,500 |
| Costs .. | 104,695 | 120,875 | 146,430 |
| Profit .. | £2,493 | £23,563 | £42,070 |

If only one licence were granted in the area, and that to the applicant, it was the applicant's view that the only significant variation in the above estimates would be an increase in local advertising revenue of the order of £5,000 per annum.

Programme Proposals

The applicant planned to provide at least 80 hours of programmes weekly in the first year. These hours would be increased as demand and support for purely local programmes increased. The bulk of programmes would be relayed from ATN Sydney but provision would be made for some programmes of local interest.

Technical Proposals

The technical proposals provided for a transmitter with an e.r.p. of 100 kw., to be situated in the Robertson district at the top of Macquarie Pass, 19 miles from Wollongong, at an elevation of approximately 2,550 feet. The studio would be situated in Wollongong.

SOUTH COAST TELECASTERS LTD.

Constitution

30. South Coast Telecasters Ltd. was incorporated on 29th September, 1959, with an authorized capital of £600,000 divided into 2,400,000 shares of 5s. each. It was planned to issue a total of 1,200,000 shares of which Pye Industries Ltd. would take up 25 per cent. and local residents would be offered 75 per cent. At the time of the hearing of this application, Pye Industries Ltd. had taken up 294,993 shares and applications had been called from local residents for the issue of 900,000 shares in accordance with a prospectus dated 2nd February, 1960. The closing date for applications was 28th March, 1960, and Pye Industries Ltd. had agreed to take up shares not applied for by that date and to hold such shares for issue at par to persons and companies in the area in the event of the applicant company's application being successful.

The articles of association provide for not less than three nor more than seven directors, the qualification being the holding of at least 500 shares. So long as Pye Industries Ltd. holds not less than 20 per cent. of the issued capital of the company, it shall have the right to appoint two directors.

The first directors of the company are:—

| | | |
|-------------------------|----|--|
| W. G. Davies (Chairman) | .. | Pastoralist. |
| R. J. Atkins | .. | Solicitor. |
| H. J. Geddes | .. | Agricultural Scientist. |
| A. N. Hindmarsh | .. | Managing Director of Kiama Motor Works Pty. Ltd. |
| P. M. Threlfall | .. | Managing Director of Pye Industries Ltd. |

The articles also provide that every member shall have one vote for each share held.

Details of Principal Shareholders

Pye Industries Ltd.—See paragraph 25.

Basis Upon Which Application Was Made

The application was made on the basis of the grant of one or more licences in the area.

Financial Proposals

It was estimated that the cost of establishment of the station would amount to £356,759, comprising £332 290 for equipment, land and buildings, and £24,469 for licence application and preliminary expenses.

Revenue and cost estimates for each of the first three years were as follows:—

| | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|------------|--------------------|---------------------|--------------------|
| Revenue .. | £186,077 | £294,759 | £437,510 |
| Costs .. | 269,511 | 287,627 | 310,302 |
| | | | |
| Profits .. | — | £7,132 | £127,208 |
| Loss .. | £83,434 | — | — |

Funds would be available from the subscribed capital of £300,000 and, if required, a bank overdraft of £75,000.

Programme Proposals

Initially, the applicant intended to provide a service of 50 hours weekly to be extended to 75 hours weekly by the end of the third year, or earlier if possible. It was intended to co-operate with other major stations and to arrange for the relay of some programmes from the Sydney stations. It was stated that particular emphasis would be given to matters of local interest and character.

Technical Proposals

The applicant proposed to use a transmitter with an e.r.p. of 50 kw situated at Mt. Kiera, about 6½ miles by road from Wollongong. It was proposed that the studios be co-sited with the transmitter, but provision had been made in the estimates for a studio to be built in Wollongong city.

APPLICATIONS FOR THE RICHMOND-TWEED HEADS AREA.

RICHMOND-TWEED T.V. LTD.

Constitution

31. Richmond-Tweed T.V. Ltd. was incorporated on 27th July, 1959, with an authorized capital of £500,000, comprising 2,000,000 shares of 5s. each.

The company had already allotted 900,000 shares, and 300,000 shares had been reserved for public subscription to permanent residents in the area. The public issue had been underwritten. The total proposed issued capital was therefore 1,200,000 shares, the principal shareholders being as follows—

| | | |
|---|----|---------|
| Richmond River Broadcasters Pty. Ltd. .. | .. | 160,000 |
| Northern Star Limited .. | .. | 140,000 |
| A.T.V. (Australia) Pty. Ltd. .. | .. | 100,000 |
| Tweed Radio and Broadcasting Co. Pty. Ltd. .. | .. | 80,000 |

The articles of association provide that there shall be not less than three nor more than nine directors, qualification being the holding of at least 1,000 shares. The first directors of the company are:—

| | |
|---------------------------|---|
| J. C. McIntosh (Chairman) | Solicitor and Director of Richmond River Broadcasters Pty. Ltd. and Northern Star Ltd. |
| C. M. Robertson | Chairman, Northern Star Ltd. and Richmond River Broadcasters Pty. Ltd. |
| L. T. Warrick | Accountant. General Manager of Northern Star Ltd. and Richmond River Broadcasters Pty. Ltd. |

The following persons have agreed to join the board of directors if a licence is granted to the applicant.

| | |
|-----------------------|---|
| A. A. Budd | Newspaper publisher. Chairman of Tweed Radio and Broadcasting Co. Pty. Ltd. |
| R. W. Manyweathers .. | Furniture retailer. |
| H. C. Junor | Retailer. |
| F. J. Liddy | Solicitor. |
| J. I. Glynn | Retailer. |
| I. G. Bondfield | Solicitor. |

The articles also provide for graduated voting rights; any shares held by a member in excess of 25 per cent. of the total issued capital shall carry no voting power.

Details of Principal Shareholders

Richmond River Broadcasters Pty. Ltd. is the licensee of commercial broadcasting station 2LM Lismore. Northern Star Ltd. holds 4,000 of the 7,125 £1 shares in the licensee company.

Northern Star Ltd. publishes the local daily newspaper *The Northern Star*. The company has an issued capital of 60,000 £1 shares held by about 180 shareholders, the largest shareholding being 4,000 shares.

A.T.V. (Australia) Pty. Ltd. See paragraph 18.

Tweed Radio and Broadcasting Co. Pty. Ltd. is the licensee of commercial broadcasting station 2MW Murwillumbah. The company has an issued capital of 15,750 shares of £1 each, held by about 30 shareholders. The largest shareholder, with 4,567 shares, is Tweed Newspaper Pty. Ltd., publisher of the daily newspaper *The Daily News* which circulates mainly in the Tweed area and the Gold Coast.

Basis Upon Which Application Was Made

The application was made on the basis of the grant of either one or two commercial licences in the area but the applicant was not prepared, in the event of two licences being granted, to accept a licence in competition with a relay station.

Financial Proposals

The anticipated capital requirements of the applicant company for the first three years were estimated at £253,195, including £226,510 for the construction and equipment of the station. In the event of two licences being granted, the anticipated capital requirements for the first three years would be £332,937.

The revenue and cost of operations for the first three years, on the basis of the grant of a single licence, were estimated as follows:—

| | | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|---------|----|--------------------|---------------------|--------------------|
| Revenue | .. | £98,824 | £146,016 | £192,024 |
| Costs | .. | 126,949 | 147,868 | 153,249 |
| Profit | .. | — | — | £38,775 |
| Loss | .. | £28,125 | £1,852 | — |

If two licences were granted it was estimated that the company would not reach a profit position until the fourth year of operation. Funds would be available from subscribed capital of £300,000. However, to finance the extra cash requirements if two licences were issued, the company had arranged for temporary overdraft accommodation of £50,000. Further, the company could defer some of the projected capital expenditure in the second and third years of operation, or issue further capital.

Programme Proposals

The company proposed to transmit for a minimum period of 32 hours in the first year of operation, attaining 39 hours in the second and third years.

The company had joined with a group of independent applicants to form a company to be known as "Australian Provincial Television Facilities Pty. Ltd." to arrange the purchase of programmes. (See paragraph 101.)

Technical Proposals

It was proposed to use a transmitter with an e.r.p. of 70 kw. The transmitter site proposed is adjacent to Nightcap Mountain 18½ miles north of the studio site which will be at Goonellabah, 4 miles east of Lismore.

TELEVISION CORPORATION LTD.

Constitution

32. The application was on behalf of a company to be formed. It was proposed that the company be established with a nominal capital of £500,000, divided into 1,000,000 shares of ten shillings each.

Initially, 200,000 shares would be issued. Television Corporation Ltd. would apply for 15 per cent. of the proposed issued capital and the balance of 85 per cent. would be offered to the public, priority being given to local residents.

The first directors would be appointed from a panel of names which would be submitted to the Board.

Details of Principal Shareholders

Television Corporation Ltd.—See paragraph 59.

Details of Agreement Entered into by Applicant

It was proposed that Television Corporation Ltd. would enter into an agreement with the company to be formed, along similar lines to TCN's agreement with Australian Capital Television Ltd., an applicant for a licence in the Canberra area. Details of the agreement are contained in paragraph 19. It was, however, intended to vary the agreement in this case to relieve TCN of any obligation to supply programmes other than by film or tape until such time as relay facilities from the Postmaster-General's Department were available.

Basis Upon Which Application Was Made

The application was made on the basis that two licences should be granted in the area. If only one licence was to be granted, the company was also an applicant for that licence. In neither case, however, would TCN desire a licence to be granted to it, if the grant of such licence would "mitigate against its prospects of extending its signal in the Illawarra Area and/or the Central Tablelands Area by reason of the provision of the Broadcasting and Television Act as it is at present framed."

Financial Proposals

It was estimated that the establishment of the station would cost £165,284. Operating expenses for the first three years, including 21 months of transmissions, were expected to total £145,000 bringing total expenditure for the first three years to approximately £310,000. Revenue for the first three years was estimated at £105,000 leaving a capital requirement of £205,000. £100,000 would be available from subscribed capital, and the remaining capital requirement could be obtained by raising a loan or issuing additional shares.

Programme Proposals

It was proposed that most of the station's programmes would be the same as those radiated by TCN which transmits for over 80 hours weekly. Local news and events of local interest would be included.

Technical Proposals

A transmitter with an e.r.p. of 20 kw was proposed. The site suggested is between Rosebank and Brunswick Heads. It was proposed to rent studio accommodation somewhere within the service area.

NORTH COAST TELEVISION LTD.

Constitution

33. The company was incorporated on the 22nd September, 1959, with a nominal capital of £500,000 divided into 2,000,000 shares of 5s. each.

At the time of the hearing, some 5,000 shares had been issued to the proposed directors. If the company were granted a licence it was proposed to issue a total of 1,200,000 shares as follows:—

| | 5s. Shares. |
|--|-------------|
| T. J. Dorgan Holdings Ltd. | 240,000 |
| Queensland Television Ltd. | 240,000 |
| Amalgamated Wireless (A/asia) Ltd. | 20,000 |
| General Public | 700,000 |
| | <hr/> |
| | 1,200,000 |

The 700,000 shares, less the shares issued to the proposed directors, would be offered to the residents of Lismore and the surrounding districts. The issue had been underwritten by a Brisbane stock-broker.

The articles of association provide that there will be not less than three nor more than seven directors, the qualification being the holding of at least one thousand ordinary shares in the company.

The first directors of the company are—

| | |
|-----------------------------------|---------------------------------------|
| L. P. Dorgan | Picture Theatre Proprietor. |
| Senator J. I. Armstrong | Member of Parliament. |
| J. S. Easter | Cartage Contractor, Farmer and Agent. |
| E. J. Halliday | Solicitor. |

If the company were granted a licence an additional director nominated by Queensland Television Ltd. would be appointed to the board.

The articles provide for a graduated scale of voting rights; any shares held by a member in excess of one quarter of the total issued shares, shall bear no voting rights.

Details of Principal Shareholders

T. J. Dorgan Holdings Ltd. is a public company with an issued capital of 30,000 preference shares of £1 each and 862,140 ordinary shares of 5s. each. About half the ordinary shares are held by some 290 shareholders resident in the Northern Rivers district, and 294,000 ordinary shares and all the preference shares are held by the Dorgan family. This company owns all the shares in T. J. Dorgan Pty. Ltd. which operates a chain of picture theatres in the Northern Rivers area, Star Court Arcade and Theatre Co. Ltd., which is a real estate company, and North Coast Drive Ins Pty. Ltd., set up to operate drive-in theatres in the area.

Queensland Television Ltd.—see paragraph 59.

Details of Agreement Entered into by the Applicant

The applicant company had entered into an arrangement with Queensland Television Ltd. (QTQ) whereby the company would have the right to take from QTQ such portion of QTQ's programme as the company required. The arrangement was in the form of letters exchanged between the company and QTQ, and in many respects was similar to an agreement entered into between Amalgamated Television Services Pty. Ltd. (ATN) and a number of other applicants for country licences (see paragraph 20). The arrangement provided for the shareholding structure described above.

The arrangement between the applicant company and QTQ had been varied in the same manner as the agreement between ATN and other country applicants, to provide that QTQ shall not exercise the right to determine the agreement unless there is one more commercial television station in Brisbane than there are stations in the Richmond-Tweed Heads area.

Basis Upon Which Application Was Made

The application was made on the basis that two licences would be granted in the area. However, if only one licence were granted the company was an applicant for that licence.

Financial Proposals

It was estimated that the cost of construction of the station would be £223,187. Establishment expenses were estimated at £12,500, and brokerage and promotion expenses at £7,000.

The estimated revenue and cost of operations for each of the first three years were as follows:—

| | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|------------|--------------------|---------------------|--------------------|
| Revenue .. | £69,300 | £93,020 | £119,100 |
| Costs .. | 77,493 | 78,267 | 82,262 |
| Profit .. | — | £14,753 | £36,838 |
| Loss .. | £8,193 | — | — |

Funds would be available from the issued capital of £300,000.

Programme Proposals

Most of the programmes would be taken on relay from QTQ Brisbane, but provision would be made for local news and items of local interest. On the basis of QTQ's hours of transmission the company would operate initially for about 50 hours weekly and about 60 hours in the second and third years.

Technical Proposals

The company proposed to use a transmitter with an e.r.p. of 100 kw, to be situated on Mt. Mathieson. The studios would be situated at Lismore.

LISMORE TELECASTERS LTD.

Constitution

34. Lismore Telecasters Ltd. was incorporated on 9th December, 1959, with a nominal capital of £500,000, divided into 2,000,000 shares of 5s. each.

The company had already issued 6,003 shares, 1,000 shares to each of the six directors, and three subscribers' shares.

If the company were granted a licence, it was proposed to issue a total of 1,000,000 shares. Pye Industries Ltd. would take up 300,000 shares whilst the remaining shares would be offered to residents of the Richmond-Tweed Heads area. Pye Industries Ltd. had agreed to take up shares which were not applied for by the public and to sell at par all such shares to any local residents who, during the period of two years from the date of the grant of the licence, desired to purchase shares in the company.

The articles of association provide that there shall be not less than three nor more than seven directors, the qualification of a director being the holding of at least 1,000 shares in the company. It is also provided that so long as Pye Industries Ltd. holds not less than 20 per cent. of the issued capital of the company, it shall have the right to appoint two directors.

The first directors are—

| | |
|-----------------------------|--|
| Hon. W. A. Walmsley, M.L.C. | (Chairman). |
| A. J. Barlow | Company Director. |
| J. C. Deegan | Real Estate Agent. |
| A. S. Jeffery | Company General Manager. |
| N. S. Laundry | Solicitor. |
| P. M. Threlfall | Managing Director of Pye Industries Ltd. |

The articles also provide that every member shall be entitled to one vote for each share held.

Details of Principal Shareholder

Pye Industries Ltd. See paragraph 25.

Basis Upon Which Application Was Made

The application was made primarily on the basis of the grant of only one licence, but the applicant was prepared to accept one of two licences.

Financial Proposals

The cost of establishment of the station was estimated at £288,540. In addition, it was anticipated that a further amount of £16,290 would be required for pre-operational and licence application costs.

Revenue and operating costs for the first three years of operation on the basis of a single licence were estimated as follows:—

| | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|------------|--------------------|---------------------|--------------------|
| Revenue .. | £153,255 | £196,560 | £246,578 |
| Costs .. | 164,263 | 190,499 | 220,377 |
| | <hr/> | <hr/> | <hr/> |
| Profit .. | — | £6,061 | £26,201 |
| Loss .. | £11,008 | — | — |

Funds available to meet the above commitments would be £250,000 from subscribed capital and £62,500 from bank overdraft, a total of £312,500.

Programme Proposals

It was proposed to operate for approximately 35 hours a week initially, rising to 40 at the end of the first year and 55 to 60 at the end of the third year. The company proposed to co-operate with other major television stations and to obtain some programmes on relay if possible.

Technical Proposals

The company planned to use a transmitter with an e.r.p. of 50 kw, situated near Nightcap Mountain. The studios would be located at Ballina-road, Goonellabah.

APPLICATIONS FOR THE CENTRAL TABLELANDS AREA COUNTRY TELEVISION SERVICES LIMITED.

Constitution

35. Country Television Services Ltd. was incorporated on 22nd July, 1959, with a nominal capital of £750,000, divided into 3,000,000 shares of 5s. each.

The company had already issued 4,004 shares, including 800 shares to each of five directors and shares to the signatories to the memorandum of association.

If the company was granted a licence, it was proposed that additional shares would be issued as follows:—

| | 5s. Shares. |
|--|-------------|
| Country Broadcasting and Television Services Limited | 400,000 |
| Email Limited | 200,000 |
| The Land Newspaper Ltd. | 40,000 |
| Young Broadcasters Pty. Ltd. | 40,000 |
| Western Newspapers Limited | 32,000 |
| Lithgow Broadcasters Pty. Ltd. | 20,000 |
| Western Daily Pty. Ltd. | 16,000 |
| Lithgow Mercury Pty. Ltd. | 12,000 |
| Country Life Newspaper Co. Ltd. | 10,000 |
| General Public | 825,996 |

Total issued capital proposed was therefore £400,000.

The issue of 825,996 shares which had been underwritten would be offered for public subscription with priority to local applicants.

It was proposed that not more than 2,000 shares would be issued to any one applicant.

The articles of association provide that there will be not less than three nor more than six directors, the qualification being the holding of at least 800 shares in the company. The first directors are—

| | | |
|-------------------------------|----|--|
| J. E. Ridley (Chairman) | .. | Managing Director, Country Broadcasting and Television Services Ltd. |
| The Hon. R. C. Wilson, M.L.C. | .. | Company Director. |
| S. S. Ick-Hewins | .. | General Secretary, Graziers Association of N.S.W. |
| A. B. Taylor.. | .. | Managing Director, Email Ltd. |
| The Hon. H. V. Budd | .. | Newspaper Editor. |

It was proposed that Mr. T. E. Hood, grazier, of Orange, should join the board if the company were granted a licence.

It is also provided in the articles that there would be one vote for each share held.

Details of Principal Shareholders

Country Broadcasting and Television Services Ltd. has a paid-up capital of £100,807 in £1 shares. The largest shareholders are Country Life Newspaper Co. Ltd. with 15,000 shares, and the Graziers Association of N.S.W. with 9,000 shares. Country Broadcasting and Television Services Ltd. holds all the shares in Country Broadcasting Services Ltd., which is the licensee of commercial broadcasting station 2GZ Orange, and the latter company holds all the shares in Northern Broadcasters Pty. Ltd., licensee of commercial broadcasting station 2NZ Inverell.

Email Ltd. is a large public company with a paid-up capital of £5,585,831. The company carries on manufacturing activities at Orange. Email Ltd. holds 103,849 £1 shares in Amalgamated Television Services Pty. Ltd. (ATN Sydney), and 50,000 10s. shares in Brisbane T.V. Ltd. (BTQ Brisbane).

Basis Upon Which Application Was Made

The application was presented on the basis that a licence would be granted for a station which would provide an exclusive commercial service in the area.

Financial Proposals

The estimated cost of establishment of the station was £298,207, including £24,500 for pre-operational expenses.

Revenue and cost of operations for the first three years were estimated as follows:—

| | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|------------|--------------------|---------------------|--------------------|
| Revenue .. | £117,936 | £174,772 | £273,780 |
| Costs .. | 164,450 | 219,670 | 242,770 |
| Profit .. | — | — | £31,010 |
| Loss .. | £46,514 | £44,898 | — |

It was expected that ample funds would be available from subscribed capital of £400,000 to meet the above commitments.

Programme Proposals

The company proposed to operate for 31½ hours per week in the first year rising to 45 in the second year, and 54 in the third year. The company proposed to emphasize local coverage and to take the best of all available programmes from all sources, including overseas, independent producers and metropolitan stations, both Sydney and interstate. The company had entered into an agreement with a number of other applicants for country licences for the formation of a company to be known as Australian Provincial Television Facilities Pty. Ltd. for the provision of programme material on an economical basis.

Technical Proposals

The applicant proposed a transmitter with an e.r.p. of 100 kw, situated on Mount Canobolas. The studios, to be situated at Orange, will be in the same building as the studios used by commercial broadcasting station 2GZ Orange.

P. A. YEOMANS.

Constitution.

36. The application is made by Mr. P. A. Yeomans on behalf of a company to be formed, and is being sponsored by the applicant and Sir C. Stanton Hicks. If a licence is granted to the applicant, it is proposed to form a public company with a nominal capital of £250,000 divided into 1,000,000 shares of 5s. each.

Initially, 400,000 5s. shares would be issued, of which Mr. Yeomans proposed to take up 7½ per cent. The issue had been underwritten by a Sydney firm of sharebrokers. It was proposed that the shareholdings would be locally owned, as far as possible, and that no person, apart from Mr. Yeomans, would hold more than 5 per cent. of the shares. Under no circumstances would more than 10 per cent. of the original issue be allotted to persons outside Australia.

The first three proposed directors are—

| | |
|-----------------------------|---------------------------------------|
| P. A. Yeomans | Agricultural Engineer and Grazier. |
| Sir Stanton Hicks | University Professor and Grazier. |
| R. V. Saunders | Television Consultant. |

If the company is granted a licence, it is proposed that two or three additional local directors will be appointed.

Basis Upon Which Application Was Made.

The application was based on the grant of a single commercial licence in the area.

Financial Proposals

It was estimated that the cost of establishment of the station would be in the vicinity of £87,000.

Estimated revenue and costs for the first three years of operation were as follows:—

| | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|------------|--------------------|---------------------|--------------------|
| Revenue .. | £75,000 | £85,000 | £115,000 |
| Costs .. | 57,100 | 61,800 | 75,700 |
| Profit .. | £17,900 | £23,200 | £39,300 |

Funds will be provided from the proposed subscribed capital of £100,000.

Programme Proposals

The applicant proposes to operate for 40 hours weekly in the first year, 48 in the second year and 56½ in the third year.

An essential feature of the application would be the daily rural sessions taken live from a studio situated on Mr. Yeomans' farming property.

It was proposed that special emphasis in programming would be placed on rural and agricultural pursuits and items of local interest. Some programmes would be taken on relay from metropolitan stations, if possible, and overseas film material would also be used.

Technical Proposals

Initially it was proposed to use a transmitter of 20 kw. e.r.p., to be increased at a later stage to 100 kw e.r.p. The transmitter will be situated on Mount Canobolas, whilst the studios will be situated on Mr. Yeomans' property about 7 miles from Orange.

PAN-AUSTRALIAN TELEVISION CORPORATION LTD.

Constitution

37. The company was incorporated on 2nd April, 1959, with a nominal capital of £1,000,000, comprising 4,000,000 shares of 5s. each.

The company has issued 6,000 shares, comprising 1,000 shares to each of the six directors. If a licence is granted to the company a total of 2,000,000 shares will be issued, of which 49 per cent. will be issued to the sponsors of the application (being principally the directors named below) and their friends and associates, whilst the remaining 51 per cent., will be offered to persons residing or carrying on business in the Central Tablelands area. The public issue has been underwritten.

The articles of association provide that there shall not be less than three nor more than nine directors, the qualification being the holding of at least 1,000 shares. The first directors of the company are as follows:—

| | |
|-------------------------|---------------------------------|
| J. N. Kirby | Industrialist. |
| M. J. O'Neill | Solicitor. |
| G. B. S. Falkiner | Grazier. |
| A. L. Morse | Public Accountant. |
| C. W. Camphin | Motion Picture Exhibitor. |
| R. C. Allsop | Radio and Electronics Engineer. |

The articles provide for graduated voting rights and any shares held by a member in excess of one-quarter of the total issued shares in the company shall carry no voting rights.

Basis Upon Which Application Was Made.

The application was made on the basis of either an exclusive service or a service in competition with one or more other commercial services.

It was estimated that the total capital requirements up to the end of the third year will be £500,000, comprising £252,000 for the cost of establishment of the station, £65,000 for preliminary expenses, £83,000 for provision for programmes in advance (of actual transmissions), and £100,000 for working capital. Funds would be provided from subscribed capital of £500,000.

Estimates of revenue and costs for the first three years are as follows:—

| | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|------------|--------------------|---------------------|--------------------|
| Revenue .. | £300,000 | £500,000 | £800,000 |
| Costs .. | 400,260 | 525,190 | 678,840 |
| Profit .. | — | — | £121,160 |
| Loss .. | £100,260 | £25,190 | — |

Programme Proposals

It was proposed that the minimum weekly hours of service would be 70 hours in the first year, 75 in the second year and 80 in the third year. It was stated by the applicant that its programmes would at least be comparable to those being provided by the metropolitan stations. Programmes would be obtained from all available sources.

Technical Proposals

The technical proposals of the applicant were based on the use of a transmitter of 100 kw e.r.p. situated at Mt. Porcupine (4,600 feet), some 12 miles south-east of Oberon, with the intention of providing a service also to a large part of Sydney. The studios would be situated at Katoomba.

TELEVISION CORPORATION LTD.

Constitution

38. The application was on behalf of a company to be formed. It was proposed that the nominal capital be £500,000, divided into 1,000,000 shares of 10s. each.

Initially, 200,000 shares of 10s. each would be issued. Television Corporation Limited would apply for 15 per cent. of the proposed issued capital and the balance of 85 per cent. would be offered to the public, priority being given to local residents. The first directors would be appointed from a panel of names to be submitted to the Board.

Details of Principal Shareholders

Television Corporation Ltd.—See paragraph 59.

Details of Agreement Entered into by Applicant

It was proposed that Television Corporation Ltd. would enter into an agreement with the company to be formed, along similar lines to TCN's agreement with Australian Capital Television Ltd., an applicant for a licence in the Canberra area. Details of the agreement are contained in paragraph 19. It was, however, intended to vary the agreement in this case to relieve TCN of any obligation to supply programmes other than by film or tape until such time as relay facilities from the Postmaster-General's Department were available. It was also stated in evidence that the station in this area could terminate the agreement, if it so desired, at the end of the second year instead of at the end of the third year.

Basis Upon Which Application Was Made

The application was made on the basis that two licences should be granted in the area. If only one licence was to be granted the company was also an applicant for that licence.

Financial Proposals

It was estimated that the establishment of the station would cost £114,450. Operating costs for the first three years, covering 21 months of transmission, were expected to total £134,000, bringing total expenditure for the first three years to approximately £248,450. Revenue for the first three years is estimated at £140,000 leaving a capital requirement of £108,450.

Funds would be provided from subscribed capital of £100,000. Any additional capital requirements would be obtained by raising a loan or issuing further capital.

Programme Proposals

It was proposed that the station's programmes would, in the main, be the same as those of TCN which transmits for over 80 hours weekly. It was envisaged that from time to time deletions would be made from the programmes relayed from TCN, to accommodate items of particular interest to the Central Tablelands area.

Technical Proposals

The technical proposals were based on the use of a transmitter situated at Mt. Canobolas with a minimum e.r.p. of 17.5 kw, to be increased later to 100 kw e.r.p. if necessary. Only the minimum of local equipment was proposed initially but local studios might be added later.

CENTRAL WESTERN TELEVISION LTD.

Constitution

39. The company was incorporated on 10th September, 1959, with a nominal capital of £500,000, comprising 1,000,000 shares of 10s. each.

The company had already issued 380,000 shares and proposed to issue a further 220,000 shares to residents of the Central Tablelands district and companies having their principal place of business or main operations within the area. It was agreed with Amalgamated Television Services Pty. Ltd. (ATN Sydney) that that company would hold 15 per cent. of the issued capital. The public issue had been underwritten.

The principal shareholders are as follows:—

| | 10s. shares. |
|--|--------------|
| Amalgamated Television Services Pty. Ltd. .. | 90,000 |
| Western Cinemas Pty. Ltd. | 40,000 |
| Bathurst Broadcasters Pty Ltd. | 20,000 |
| Parkes Broadcasting Co. Pty. Ltd. | 20,000 |
| Western Broadcasters Pty. Ltd. | 20,000 |

The articles of association provide that there shall be not less than three nor more than ten directors, the qualification being the holding of at least 1,000 shares in the company.

The first directors of the company were as follows:—

| | |
|---------------------------|--|
| L. V. Armati (Chairman) | Newspaper publisher. |
| Hon. F. W. Spicer, M.L.C. | Chairman and Managing Director of broadcasting station 2PK Parkes. |
| Hon. L. S. Snider, M.L.C. | Motion Picture Exhibitor. |
| W. K. Fagan | Grazier. |
| H. V. C. Thorby | Grazier. |
| W. T. Grant | Managing Director of 2DU Dubbo. |
| E. N. Williams | Managing Director of 2BS Bathurst. |
| R. B. Camplin | Managing Director of 2MG Mudgee. |
| J. H. M. Oswin | General Manager ATN. |

The articles also provide that each share shall carry one vote but that no member shall be entitled to exercise more than 25 per cent. of the votes cast.

Details of Principal Shareholders

Amalgamated Television Services Pty Ltd. (ATN Sydney).
See paragraph 59.

Western Cinemas Pty. Ltd., in which Mr. L. S. Snider has a substantial interest, operates a number of picture theatres in the area and also has other business interests there.

Bathurst Broadcasters Pty. Ltd. is the licensee of commercial broadcasting station 2BS Bathurst. The company is controlled by Mr. E. N. Williams.

Parkes Broadcasting Co. Pty. Ltd. is the licensee of commercial broadcasting station 2PK Parkes. Messrs. F. W. Spicer, L. S. Snider, and D. W. Watt (proposed secretary of the applicant company) each hold about one-sixth of the shares in the licensee company.

Western Broadcasters Pty. Ltd., which is controlled by Mr. W. T. Grant and family, is the licensee of commercial broadcasting station 2DU Dubbo.

Details of Agreement Entered into by Applicant

On 21st September, 1959, the applicant company entered into an agreement with Amalgamated Television Services Pty. Ltd. (ATN Sydney) for the supply of programmes. The agreement is similar to that entered into by ATN with other country applicants and full details are contained in paragraph 20. It has been modified to the extent that ATN has not the right to determine the agreement after the initial three-year period unless at the time notice of determination is given there are more television stations operating in the Sydney area than in the Central Tablelands area.

Basis Upon Which Application Was Made

The application was made primarily on the basis of the grant of two licences in the area. If, however, it was decided to grant only one licence, the applicant applied for that licence.

Financial Proposals

The estimated cost of establishing the station was £240,796.

Estimated revenue and costs for the first three years was as follows:—

| | | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|---------|----|--------------------|---------------------|--------------------|
| Revenue | .. | £107,188 | £144,438 | £188,500 |
| Costs | .. | 106,710 | 122,885 | 148,445 |
| Profit | .. | 478 | 21,553 | 40,055 |

If only one licence were granted in the area it was expected that there would be an increase in revenue from local advertising of £5,000 per annum over the three-year period.

£300,000 would be available from subscribed capital. The difference of £59,204 between subscribed capital and establishment costs would be available to meet preliminary expenses, costs of application, additional equipment and buildings, and the subsidising of local production where necessary.

Programme Proposals

It was planned to provide at least 80 hours of programme weekly in the first year. These hours would be increased as demand and support for purely local programmes increased. The majority of programmes would be taken on relay from ATN Sydney.

Technical Proposals

It was proposed that a transmitter of 100 kw e.r.p. would be located at Mt. Canobolas, 9 miles south-west of Orange, at approximately 4,500 feet. A suitable site for studios would be obtained in Orange.

ORANGE AND DISTRICT TELECASTERS LTD.

Constitution

40. The company was incorporated on 24th November, 1959, with a nominal capital of £500,000, divided into 2,000,000 shares of 5s. each.

At the time of the inquiry into the application, 6,004 shares had been issued, comprising 1,000 qualifying shares to each of the six directors and the remaining shares to subscribers to the memorandum of association.

If the company were granted a licence, it was proposed that a total of 1,000,000 shares would be issued. Pye Industries Ltd. had undertaken to take up 30 per cent. or 300,000 shares whilst the balance would be offered to the public, preference being given to residents of the Central Tablelands area. Pye Industries Ltd. had agreed to underwrite the public issue without charge and to sell at par to local residents, during the period of two years from the date of the grant of the licence, any shares taken up by it in consequence of the underwriting agreement.

The articles of association provide that there shall be not less than three nor more than seven directors, the share qualification of a director being 1,000 shares. The first directors of the company are—

| | |
|--------------------------|---|
| J. W. Bennett (Chairman) | Grazier. |
| J. G. Plowman | .. Orchardist. |
| G. R. M. Smith | .. Grazier. |
| H. C. Hagon | .. Grazier. |
| L. D. Sames | .. Company Director. |
| P. M. Threlfall | .. Managing Director, Pye Industries Ltd. |

So long as Pye Industries Ltd. holds not less than 20 per cent. of the issued capital it has the right to appoint two directors. The articles also provide that every member of the company shall have one vote for each share held by him.

Details of Principal Shareholders

Pye Industries Ltd.—See paragraph 25.

Basis Upon Which Application Was Made

The application was made on the basis of the grant of one or more licences in the area.

Financial Proposals

It was estimated that the cost of establishing the station would be £295,540 and that in addition preliminary operating expenses and costs of application would amount to £17, 078.

Estimated revenue and costs for each of the first three years of operations were as follows:—

| | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|---------|--------------------|---------------------|--------------------|
| Revenue | £158,832 | £204,523 | £277,992 |
| Costs | 173,544 | 206,827 | 236,285 |
| Profit | — | — | 41,707 |
| Loss | 14,712 | 2,304 | — |

If funds additional to subscribed capital of £250,000 were required, a bank loan would be obtained.

Programme Proposals

It was proposed to operate at the beginning for 37 hours weekly rising to 40 weekly at the end of the first year. Hours of transmission would then be increased progressively to about 55-60 hours per week by the end of the third year. It was the intention of the applicant to co-operate with other major stations, and, if possible, to take programmes on relay from one of the Sydney stations. If a satisfactory relay arrangement could be made the proposed hours of operation could be extended. Particular attention will be given to the production and the availability of programmes of special local and country interest.

Technical Proposals

The company planned to use a transmitter with an e.r.p. of 50 kw, located on Mt. Canobolas. The studios would be established in Orange.

APPLICATIONS FOR THE BALLARAT AREA

WESTERN VICTORIA TELEVISION PTY. LTD.

(NOW BALLARAT AND WESTERN VICTORIA TELEVISION LTD.)

Constitution

41. Western Victoria Television Pty. Ltd. was incorporated on 6th July, 1959. The company's name was changed to Ballarat and Western Victoria Television Ltd. on 9th December, 1959, following the amalgamation of Western Victoria Television Pty. Ltd. and Ballarat Telecasters Ltd., which had submitted separate applications for a licence in the Ballarat area but which subsequently agreed to submit a joint application and to withdraw the application of the latter company.

The company has an authorized capital of £500,000 divided into 2,000,000 5s. shares which have been allotted as follows:—

| | 5s. Shares. |
|--|-------------|
| Ballarat Broadcasters Pty. Ltd. | 120,000 |
| Ballarat Courier Pty. Ltd. | 120,000 |
| Ballarat Theatres Ltd. | 120,000 |
| Woodrow Corporation Pty. Ltd. | 240,000 |
| ATV (Australia) Pty. Ltd. | 120,000 |
| Central Victoria Broadcasters Pty. Ltd. .. | 30,000 |
| Geelong Broadcasters Pty. Ltd. | 30,000 |
| Western Province Radio Pty. Ltd. | 30,000 |
| Colac Broadcasting Co. Pty. Ltd. | 30,000 |
| Associated Broadcasting Services Ltd. .. | 20,000 |
| Local Shareholders (nearly 900 persons) .. | 1,140,000 |
| | 2,000,000 |

The articles of association provide for the appointment of not less than six nor more than twelve directors, the qualification being the holding of 2,000 shares in the company. The first directors are—

| | |
|--|----------------------------------|
| A. C. Pittard (Chairman) | Shoe Retailer. |
| J. V. Robertson (Deputy Chairman) | Newspaper Managing Director. |
| A. R. Beggs | Grazier. |
| J. H. Davey | Furrier. |
| A. C. W. Fisken | Grazier. |
| K. J. Flecknoe | Newspaper Manager and Secretary. |
| B. E. Hayden | Estate Agent. |
| W. H. Heinz | Solicitor. |
| P. J. McMahon | Tyre Service Proprietor. |
| A. W. Nicholson | Master Builder. |
| M. G. Sloman | Company Director. |
| C. P. A. Taylor | Chemist. |

It is also provided in the articles that every member shall have one vote for each share held.

Details of Principal Shareholders

Ballarat Broadcasters Pty. Ltd. which is a wholly owned subsidiary of Ballarat Courier Pty. Ltd. is the licensee of commercial broadcasting station 3BA Ballarat.

Ballarat Courier Pty. Ltd. has a paid-up capital of £96,000 in £1 shares, held by seventeen shareholders, seven of whom, with 27,200 shares are resident in the Ballarat area most of the remaining shares are held by descendants of the founders of the company.

Ballarat Theatres Pty. Ltd. has a paid-up capital of 94,455 shares of £1 each, held by about 125 shareholders. The largest shareholder, with 47,982 shares, is Hoyts Theatres Ltd. in which all the ordinary share capital is held by Twentieth Century Fox Film Corporation, U.S.A.

Woodrow Corporation Pty. Ltd., which is an investment company controlled by persons resident outside the Ballarat area, has motion picture interests in that area.

ATV (Australia) Pty. Ltd., see paragraph 18.

Details of Agreement Entered into by Applicant

The applicant company is one of four Victorian country applicants which together have formed Victorian Country Telecasters Pty. Ltd. to plan and prepare the submission of applications to the Board and to "facilitate the economic and efficient operation of the individual operating companies" in regard to both programme and technical matters, if granted licences. Details of these arrangements, which include a proposal for the establishment of a radio link between Melbourne and each of the four country stations are given in paragraph 101.

Basis Upon Which Application Was Made

The company's application was made on the basis that only one commercial licence would be granted in the area.

Financial Proposals

It was estimated that the cost of establishment of the station would be £275,031 or £340,351, if a link system, as proposed by Victorian Country Telecasters Pty. Ltd., were used. Both figures include the appropriate share of establishing Victorian Country Telecasters Pty. Ltd. and the preliminary operating and licence application expenses.

The estimated revenue and costs of operation, for the first three years, without the link system, are set out below. The anticipated results, with the link system, are shown in brackets:—

| | <i>First year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|---------------|--------------------|---------------------|--------------------|
| Revenue | £102,668 | £206,388 | £304,668 |
| | (no change) | (no change) | (no change) |
| Costs | 151,184 | 187,688 | 217,155 |
| | (158,942) | (187,027) | (208,872) |
| Profit | — | £18,700 | £87,513 |
| | | (£19,361) | (£95,796) |
| Loss | £48,516 | — | — |
| | (£56,274) | | |

If the company is granted a licence, it is proposed to call up 3s. a share on the 2,000,000 shares issued thereby providing £300,000. Any additional funds required will be financed by bank overdraft or the issue of unsecured notes.

Programme Proposals

It was proposed to operate for 30 hours weekly in the first year, 35 in the second year and 40 in the third year. If the link system were established, hours in the second and third years would be increased. Programme facilities will be available through Victorian Country Telecasters Pty. Ltd.

Technical Proposals

Technical proposals were based on the use of a transmitter of 100 kw e.r.p. located at the summit of Mt. Buninyong (2,442 feet), 9 miles from Ballarat. It is planned to establish the studios at Sebastopol, 3 miles from the centre of Ballarat.

GENERAL TELEVISION CORPORATION PTY. LTD.

Constitution

42. General Television Corporation Pty. Ltd., licensee of Commercial Television Station GTV Melbourne, made application for licences to operate stations in the Ballarat, Bendigo, Latrobe Valley and Goulburn Valley areas. Details of the constitution of the company are contained in paragraph 59.

Application was made for a licence in each of the Ballarat, Bendigo, Latrobe Valley and Goulburn Valley areas, or alternatively, for a licence in one of these areas (the order of preference being as stated) "together with some minority association with three other applicants" in the other areas. The alternative was subsequently expressed as a willingness to accept "a second licence for other areas conditional upon our company holding not less than 15 per cent. in the company holding the licence."

Basis Upon Which Application Was Made

The application was made on the basis of either an exclusive or competitive service.

Financial Proposals

The estimated cost of establishment and the revenue and operating costs of each of the stations were as follows:--

Ballarat Area

The cost of establishing the station was estimated as £303,710.

The revenue and costs of operation on the basis of two commercial stations operating in the area were estimated as follows:—

| | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|------------|--------------------|---------------------|--------------------|
| Revenue .. | £100,000 | £120,000 | £200,000 |
| Costs* | 198,250 | 200,075 | 204,605 |
| Profit .. | — | — | — |
| Loss .. | £98,250 | £80,075 | £4,605 |

* Includes "Share of GTV Programming", £100,000, in each year.

If only one licence were granted in the area, it was estimated that income in the second and third years would be reduced by £10,000 and £20,000 respectively.

Bendigo Area

The cost of establishing the station was estimated as £291,410.

The revenue and costs of operation on the basis of two commercial stations operating in the area were estimated as follows:—

| | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|------------|--------------------|---------------------|--------------------|
| Revenue .. | £100,000 | £120,000 | £200,000 |
| Costs* | 163,250 | 165,075 | 169,605 |
| Profit .. | — | — | £30,395 |
| Loss .. | £63,250 | £45,075 | — |

* Includes "Share of GTV Programming", £65,000, in each year.

If only one licence were granted in the area, it was estimated that income in the second and third years would be reduced by £10,000 and £20,000 respectively.

Latrobe Valley Area

The cost of establishing the station was estimated as £278,710.

The revenue and costs of operation were estimated as being the same as for the Bendigo area.

Goulburn Valley Area

The cost of establishment of the station was estimated as £301,210.

The revenue and costs of operation on the basis of two commercial services operating in the area were estimated as follows:—

| | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|------------|--------------------|---------------------|--------------------|
| Revenue .. | £100,000 | £120,000 | £200,000 |
| Costs* .. | 147,500 | 149,325 | 153,855 |
| Profit .. | — | — | £46,145 |
| Loss .. | £47,500 | £29,325 | — |

* Includes "Share of GTV Programming", £65,000, in each year.

If only one licence were granted in the area, it was estimated that revenue in the second and third years would be reduced by £10,000 and £20,000 respectively.

It was stated that funds would be provided by shareholders of General Television Corporation Pty. Ltd. The principal shareholder in the company, Electronic Industries Ltd., had agreed to provide any capital not forthcoming from other shareholders. (No details were given of alternative financial arrangements which would be required to cover the situations which would arise in connexion with the formation of local companies.)

Programme Proposals

The hours of service of each station from the outset would be approximately equal to the hours of service provided by station GTV which operates for some 75 hours weekly. It is planned to include local news items in all news sessions.

Technical Proposals

In each area it is proposed to use a transmitter with an e.r.p. of 100 kw and that the studios be co-sited with the transmitter. The proposed location of the installation is as follows:—

| | | |
|-----------------|----|---|
| Ballarat .. | .. | Mount Buangor, 45 miles by road from Ballarat. |
| Bendigo .. | .. | Mount Alexander, 28 miles by road from Bendigo. |
| Latrobe Valley | .. | Callignee, about 20 miles from Traralgon. |
| Goulburn Valley | .. | Mount Major, 22 miles by road from Shepparton. |

R. H. WILSON.

Constitution

43. The application was made by Mr. R. H. Wilson, electrical mechanic, of Ballarat. If the application were successful, he intended forming a public company in which no person would hold more than 15 per cent. of the shares. It was proposed to issue 750,000 shares of £1 each, to be paid to 5s. Of this total, 350,000 shares would be issued to people in the Ballarat district, 200,000 shares to people in the Ararat district, and 200,000 shares to the Maryborough district.

Basis Upon Which Application Was Made

The application was made on the basis of either an exclusive or competitive service.

Financial Proposals

It was estimated that technical equipment would cost £300,000 and the radiator £100,000. No estimates were made of revenue and costs of operation. It was anticipated that sufficient funds would be available from subscribed capital.

Programme Proposals

It was proposed to operate from 3 p.m. to 11 p.m. daily with a gradual extension of hours by starting earlier in the afternoon and closing at 12.30 a.m. It was stated by the applicant that programmes would follow the same pattern as those of the present commercial stations.

Technical Proposals

It was proposed to locate the transmitter at Mt. Callender about 16 miles west of Ballarat, whilst the studios would be in Ballarat.

APPLICATIONS FOR THE BENDIGO AREA.

BENDIGO AND CENTRAL VICTORIA TELECASTERS LTD.

Constitution

44. The company was incorporated on 17th August, 1959, with a nominal capital of £500,000, comprising 2,000,000 shares of 5s. each. Only seven subscribers' shares had been issued.

If the company's application was successful, it was proposed to issue 1,200,000 5s. shares, as follows—

| | 5s. shares. |
|---|-------------|
| Amalgamated Wireless (A/asia) Ltd. | 200,000 |
| Central Victoria Broadcasters Pty. Ltd. | 100,000 |
| Golden Drive-in-Theatre Pty. Ltd. | 60,000 |
| Bendigo Amusements Pty. Ltd. | 24,000 |
| Bendigo Advertiser and Independent Pty. Ltd. | 20,000 |
| Elliott Provincial Newspapers Group Pty. Ltd. | 20,000 |

Of the remaining 776,000 shares, 240,000 would be reserved in the first instance for certain persons and companies in the area and for directors and other persons associated with the company. 536,000 shares would be offered to the public, preference being given to residents of Bendigo and district. The issue had been underwritten.

The first directors of the company are:—

| | |
|-----------------------|---|
| L. R. Cohn (Chairman) | Manufacturer. |
| A. L. Beischer .. | Dentist. |
| K. Houlahan .. | Builder and Contractor. |
| N. F. Dixon .. | Director of Victorian Broadcasting Network Ltd. |
| B. S. Andrew .. | Accountant. |
| F. Strahan .. | Director of A.W.A. Ltd. |
| A. E. R. Fox .. | Assistant General Manager, A.W.A. Ltd. |

The articles of association provide that every member shall have one vote for each share held.

Details of Principal Shareholders

Amalgamated Wireless (A/asia) Ltd. is a public company with an issued capital of almost 9,000,000 stock units of 5s. each held by over 6,000 stockholders. Huddart Parker Ltd. and The Adelaide Steamship Co. Ltd. are the largest stockholders with some 551,000 and 312,000 units respectively. A.W.A. Ltd. is the licensee of commercial broadcasting stations 2AY Albury, 3BO Bendigo, 4CA Cairns and 4TO Townsville, has controlling interests in stations 2GF Grafton, 2GN Goulburn and 4WK Warwick, a substantial interest in 7LA Launceston and operates 2CH Sydney. A.W.A. Ltd. also holds 6.9 per cent. of the 1,494,118 £1 shares in commercial television station ATN Sydney and 3.2 per cent. of the 1,550,000 10s. shares in station BTQ Brisbane and a small interest in ADS Adelaide. It has an interest in applications for licences in other areas. (See paragraph 189).

Central Victoria Broadcasters Pty. Ltd., licensee of commercial broadcasting station 3CV Maryborough, is a wholly owned subsidiary of the Victorian Broadcasting Network Ltd. which, apart from station 3CV, operates stations 3HA Hamilton, 3SH Swan Hill and 3TR Sale. The Victorian Broadcasting Network Ltd. has an issued capital of some 400,000 shares of 10s. each held by more than 600 shareholders, the largest shareholders being members of the Syme family.

Golden Drive-In-Theatre Pty. Ltd. operates a "drive-in" theatre at Bendigo. The largest shareholders are members of the Houlahan family.

Bendigo Amusements Pty. Ltd. operates the Plaza Theatre, Bendigo.

Details of Agreements Entered into by Applicant

The applicant is one of four Victorian country applicants which together have formed Victorian Country Telecasters Pty. Ltd.—See paragraph 101.

Basis Upon Which Application Was Made

The application was made on the basis that a single commercial licence would be granted in the area.

Financial Proposals

It was estimated that the cost of establishment of the station would be £334,224 if a link system as proposed by Victorian Country Telecasters Pty. Ltd. was used, or £268,894, without a link system. Both figures include the appropriate share of establishing Victorian Country Telecasters Pty. Ltd. and the preliminary operating and licence application expenses.

The estimated revenue and costs of operation for the first three years, without the link system, are set out below. The anticipated results, with the link system, are shown in brackets:—

| | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|------------|--------------------|---------------------|--------------------|
| Revenue .. | £92,138 | £184,275 | £275,184 |
| | (no change) | (no change) | (no change) |
| Costs .. | 148,214 | 182,186 | 210,668 |
| | (156,532) | (184,835) | (203,195) |
| Profit .. | — | 2,089 | 64,516 |
| | — | — | (71,989) |
| Loss .. | 56,076 | — | — |
| | (64,394) | (560) | — |

The subscribed capital of £300,000 will be augmented by an issue of unsecured notes or a bank overdraft.

Programme Proposals

It was proposed to operate for 30 hours weekly in the first year, 35 in the second year and 40 in the third year. If the link system were established, hours in the second and third years would be increased. Programme facilities would be available through Victorian Country Telecasters Pty. Ltd.

Technical Proposals

It was proposed to use a transmitter of 100 kw e.r.p. located at Mt. Alexander (2,445 feet). The studios would be situated in Bendigo.

GENERAL TELEVISION CORPORATION PTY. LTD.

45. See paragraph 42.

APPLICATIONS FOR THE LATROBE VALLEY.

GENERAL TELEVISION CORPORATION PTY. LTD.

46. See paragraph 42.

EASTERN VICTORIA TELEVISION PTY. LTD.

Constitution

47. Eastern Victoria Television Pty. Ltd. was incorporated on 15th July, 1959, with an authorized capital of £500,000 comprising 2,000,000 shares of 5s. each. If the applicant is granted a licence, the name of the company is to be changed to Gippsland-Latrobe Valley Telecasters Pty. Ltd.

It is proposed to issue 1,200,000 (5s.) shares and the promoters comprising Gippsland broadcasting, newspaper, theatre and other business interests, both corporate and individual, have undertaken to take up 512,000 shares. The remaining 688,000 shares will be issued to the public and business houses in the Latrobe Valley. The largest shareholders will be as follows:—

| | 5s. Shares. |
|---|-------------|
| Latrobe Valley & Gippsland Broadcasters Pty. Ltd. | 200,000 |
| Associated Broadcasting Services Ltd. | 40,000 |
| Gippsland Newspapers Pty. Ltd. | 20,000 |
| Swanlake Drive-In Pty. Ltd. (Sale) | 20,000 |
| James Yeates & Sons Pty. Ltd. (Publishers of <i>Bairnsdale Advertiser</i>) | 12,000 |
| Gippsland Times Pty. Ltd. | 12,000 |

The articles of association provide for the appointment of not less than three nor more than nine directors, the qualification being the holding of not less than 1,000 shares. The first directors are as follows:—

| | |
|--------------------------|---|
| J. R. Bishop (Chairman) | Accountant |
| A. L. Davies | Real Estate Agent |
| N. F. Dixon | General Manager, Victoria Broadcasting Network Ltd |
| L. E. Friend | Solicitor |
| P. S. Isaacson | Newspaper Publisher |
| S. J. A. Kemp | Managing Director, Associated Broadcasting Services Ltd |
| A. B. McArthur | Grazier |
| D. F. Mitchell | Medical Practitioner |
| J. U. Watt | Solicitor. |

The articles also provide that each share shall carry one vote.

Details of Principal Shareholders

Latrobe Valley & Gippsland Broadcasters Pty. Ltd. is the licensee of commercial broadcasting station 3TR Sale. All the shares in this company are held by G.L.V. Ltd., in which all the shares are held by Victorian Broadcasting Network Ltd., details of which are contained in paragraph 44.

Associated Broadcasting Services Ltd. is the licensee of commercial broadcasting stations 3SR Shepparton, 3UL Warragul and 3YB Warrnambool. The company has an issued capital of some 250,000 shares of £1 each held by over 1,000 shareholders who are mainly residents of the areas served by the three stations; no shareholder has more than two per cent. of the total shares.

Details of Agreement Entered into by the Applicant

The applicant company is one of the four Victorian country applicants which joined together to form Victorian Country Telecasters Pty. Ltd., details of which are contained in paragraph 101.

Basis Upon Which Application Was Made

The application was made on the basis that an exclusive commercial licence would be granted in the area.

Financial Proposals

It was estimated that the costs of establishment of the station would be £280,394, without a link system (as proposed by Victorian Country Telecasters Pty. Ltd.), or £345,724 with a link system. Both figures include the appropriate share of establishing Victorian Country Telecasters Pty. Ltd. and the preliminary operating and licence application expenses.

The estimated revenue and cost of operation for the first three years, without the link system, are set out below. The anticipated results, with the link system, are shown in brackets.

| | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|------------|--------------------|---------------------|--------------------|
| Revenue .. | £76,343 | £154,791 | £226,044 |
| | (no change) | (no change) | (no change) |
| Costs .. | £143,907 | £176,297 | £200,189 |
| | (£152,735) | (£180,106) | (£195,866) |
| Profit | — | — | £25,855 |
| | | | (£30,178) |
| Loss .. | £67,564 | £21,506 | — |
| | (£76,392) | (£25,315) | — |

Funds will be obtained from subscribed capital of £300,000. If additional finance is needed, this will be raised by the issue of unsecured notes or by bank overdraft.

Programme Proposals

Proposed hours of transmission are 30 hours weekly in the first year, 35 in the second year and 40 in the third year. If the link system were established, hours in the second and third years would be increased. Programme facilities will be available through Victorian Country Telecasters Pty. Ltd.

Technical Proposals

A transmitter with an e.r.p. of 100 kw will be located at Mt. Tassie, at 2,400 feet, near South Callignee. It is proposed that the studios will be located on the outskirts of Traralgon.

APPLICATIONS FOR THE GOULBURN VALLEY AREA.

GENERAL TELEVISION CORPORATION PTY. LTD.

48. See paragraph 42.

GOULBURN-MURRAY TELEVISION PTY. LTD.

Constitution

49. The company was incorporated on 16th July, 1959, with an authorized capital of £500,000, which is divided into 2,000,000 shares of 5s. each.

If the application is successful, the company proposes to issue 1,200,000 shares as follows:—

| | 5s. Shares. |
|--|-------------|
| Associated Broadcasting Services Ltd. .. | 400,000 |
| Directors and staff of the company, and other persons the directors decide should be invited to take up shares | 100,000 |
| District theatre proprietors | 28,000 |
| District newspaper proprietors | 23,800 |
| Public issue—underwritten—preference to be given to residents of the Goulburn Valley area .. | 648,200 |
| | 1,200,000 |

The articles of association provide for the appointment of not less than three nor more than nine directors, qualification being the holding of 1,000 shares. The first directors are:—

| | |
|---------------------------|--|
| Sir William Bridgeford | Chairman of Directors of Associated Broadcasting Services Ltd. |
| (Chairman) | |
| S. J. A. Kemp | Managing Director of Associated Broadcasting Services Ltd. |
| F. O. Cameron | Solicitor. |
| H. Pacini | Newspaper Proprietor and Director, Associated Broadcasting Services Ltd. |
| Hon. Sir John McDonald .. | Orchardist. |
| L. H. Ledger | Grazier. |
| D. E. B. Wood | Orchardist and Dairy Farmer. |

It is also provided in the articles that every member shall have one vote for each share held.

Details of Principal Shareholder

Associated Broadcasting Services Ltd.—See paragraph 47.

Details of Agreements Entered into by Applicant Company

The applicant company is one of the four Victorian country applicants which have joined together and formed Victorian Country Telecasters Pty. Ltd.—See paragraph 101.

Basis Upon Which Application Was Made

The application was made on the basis that a licence would be granted for an exclusive commercial service in the area.

Financial Proposals

It was estimated that the cost of establishment of the station would be £269,494, or £334,824 with a link system as proposed by Victorian Country Telecasters Ltd. Both figures include the appropriate share of establishing Victorian Country Telecasters Pty. Ltd. and the preliminary operating and licence application expenses.

The estimated revenue and costs of operation for the first three years, without the link system, are set out below. The anticipated results, with the link system, are shown in brackets.

| | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|------------|------------------------|-------------------------|-------------------------|
| Revenue .. | £92,138 (no change) | £187,961 (no change) | £280,098 (no change) |
| Costs .. | £148,256 (£156,624) | £182,819 (£185,368) | £211,615 (£203,992) |
| Profit .. | — — | £5,142 (£2,593) | £68,483 (£76,106) |
| Loss .. | £56,118 (£64,486) | — — | — — |

Funds would be provided from subscribed capital of £300,000. Any additional funds required would be obtained by issuing unsecured notes or by bank overdraft.

Programme Proposals

It was proposed to operate for 30 hours weekly in the first year, 35 in the second year and 40 in the third year. If the link system were established, hours in the second and third years would be increased. Other programme facilities would be available through Victorian Country Telecasters Ltd.

Technical Proposals

It was planned to use a transmitter of 100 kw. e.r.p., located at the summit of Mt. Major (1,250 feet). Studios would be established at Shepparton.

A. L. MACGEORGE, ON BEHALF OF A COMPANY TO BE FORMED.
(NOW RURAL TELECASTERS LTD.)

Constitution

50. The application was made by Mr. A. L. Macgeorge, of Wangaratta, on behalf of a company to be formed. The company, Rural Telecasters Ltd., was incorporated on 9th November, 1959, with an authorized capital of £500,000 divided into 2,000,000 shares of 5s. each.

A total of 1,501,405 shares had been allotted to about 1,000 shareholders, a large proportion of whom reside in the Wangaratta district.

If the company's application is successful, the issued capital will be increased to £400,000 by the issue of an additional 98,595 shares, probably to directors and staff of the company. The articles of association provide that no shareholder shall hold more than 5 per cent. of the shares in the company.

The articles provide also that the number of directors shall be not less than three nor more than eight, the qualification being the holding of at least 2,000 shares in the company. The first directors are:—

| | |
|-------------------------|---|
| G. H. Graham (Chairman) | Grazier. |
| D. C. De La Rue | .. Managing Director of commercial broadcasting station 3NE Wangaratta. |
| C. C. Johnson | Grazier. |
| S. J. Ross | Master Plumber. |
| C. E. Bunton | Accountant. |

The articles provide that there shall be one vote for each share held.

Basis Upon Which Application Was Made

The application was made on the basis that the company would accept either an exclusive licence or a licence in competition with another commercial station.

Financial Proposals

It was estimated that the cost of establishment of the station would be £314,058, including £50,828 for "pre-establishment" costs. (If a 100 kw. transmitter were required rather than the 70 kw. for which provision had been made, costs would be increased by £24,000.)

Estimated revenue and costs for the first three years of operation, on the basis of an exclusive service in the area, are as follows:—

| | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|------------|--------------------|---------------------|--------------------|
| Revenue .. | £143,260 | £227,780 | £315,170 |
| Costs .. | 185,679 | 187,175 | 229,655 |
| Profit .. | — | £40,605 | £85,515 |
| Loss .. | £42,419 | — | — |

If the service were conducted in competition with another commercial station, the applicant anticipated that there would not be any significant variation in the above estimates.

It was proposed to call up 4s. a share on the total of 1,600,000 shares proposed to be issued, thereby providing £320,000. If further funds are required, a loan will be obtained from the company's bankers or a further call of 1s. a share will be made, and as the last resort, further shares could be issued.

Programme Proposals

It was proposed to operate for 37½ hours weekly, initially, and to extend these hours as soon as possible. The company did not anticipate any difficulties in obtaining programme material.

Consideration would be given to the relay of programmes from metropolitan stations, if this could be achieved without endangering the independence of the company.

Technical Proposals

It was planned to use a transmitter of 70 kw. e.r.p. located at Mount Glenrowan. The studios would be established at Wangaratta.

APPLICATIONS FOR THE DARLING DOWNS AREA.

DARLING DOWNS T.V. LTD.

Constitution

51. The company was incorporated as a proprietary company on 20th May, 1959, and later converted to a public company with a nominal capital of £300,000, comprising 1,200,000 shares of 5s. each.

The company had already issued 800,000 shares of 5s. each, of which 400,000 were allotted to the sponsors of the application and associated persons, and 400,000 were issued to the public. Of the public issue, 338,700 shares were allotted to 1,263 residents of the Darling Downs area and 61,300 were allotted outside the area.

The principal shareholders are as follows:—

| | 5s. Shares. |
|---|-------------|
| Birch, Carroll & Coyle Ltd. | 120,000 |
| Empire Theatre Pty. Ltd. and subsidiary companies | 60,000 |
| Toowoomba Newspaper Co. Pty. Ltd. | 40,000 |
| Gold Radio Service Pty. Ltd. | 40,000 |
| Hoyts Theatres Ltd. | 40,000 |
| Warwick Broadcasting Co. Pty. Ltd. | 10,000 |
| The Warwick Newspaper Pty. Ltd. | 10,000 |
| Amalgamated Wireless (A/asia) Ltd. | 10,000 |

The articles of association provide for the appointment of not less than three nor more than nine directors, the qualification being the holding of 1,000 shares in the company. The first directors are:—

| | |
|---------------------------|---|
| W. Bruce | Newspaper publisher. |
| R. W. P. Dodd | Motion Picture Exhibitor. |
| R. J. Dunn | Newspaper publisher. |
| K. B. Fowler | Accountant. |
| D. E. Gold | Broadcasting station manager. |
| L. C. Hynes | Broadcasting station manager. |
| E. Hollingworth | Newspaper publisher. |
| J. W. Rosbrook | Chairman of Directors of Toowoomba Gas & Coke Co. Ltd. |
| D. F. Thompson | Company director. |

The articles also provide that each share shall carry one vote.

Details of Principal Shareholders

Birch, Carroll & Coyle Ltd. conducts picture theatres in Townsville, Rockhampton, Bundaberg, Maryborough and Ipswich and has a half interest in a theatre in Toowoomba. The company has an issued capital of 194,594 shares of £1 each, of which 104,495 shares are held by Greater Union Theatres Pty. Ltd., in which the Rank Organization of England has a half interest.

Empire Theatre Pty. Ltd. conducts a large theatre in Toowoomba. The company has a paid-up capital of 130,212 shares of 10s. each held by some 34 shareholders. Birch, Carroll & Coyle Ltd. holds 26,511 shares.

Toowoomba Newspaper Co. Pty. Ltd. publishes the *Toowoomba Chronicle and Darling Downs Gazette*, a daily newspaper. All the shares in the company are held by A. Dunn & Co. Pty. Ltd.

Gold Radio Service Pty. Ltd., in which both Commonwealth Broadcasting Corporation (Qld.) Ltd. and Mr. E. E. Gold have approximately 50 per cent. interests, is the licensee of commercial broadcasting station 4GR Toowoomba.

Hoyts Theatres Ltd is controlled by 20th Century Fox Film Corporation, U.S.A.—see paragraph 41.

Basis Upon Which Application Was Made

The application was made on the basis that only one licence would be granted in the area.

Financial Proposals

The cost of establishment of the station is estimated at £174,223, leaving £25,777 of the subscribed capital for establishment contingencies and working capital.

The estimated revenue and costs for the first three years of operation were estimated as follows, revenue being calculated for two different methods of selling station time:—

Spot Announcement Basis

| | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|------------|--------------------|---------------------|--------------------|
| Revenue .. | £109,200 | £114,660 | £152,880 |
| Costs .. | 110,400 | 117,645 | 128,290 |
| | <hr/> | <hr/> | <hr/> |
| Profit .. | — | — | £24,590 |
| Loss .. | £1,200 | £2,985 | — |
| | <hr/> | <hr/> | <hr/> |

Sponsored Advertisement Basis

| | | | |
|------------|---------|----------|----------|
| Revenue .. | £99,231 | £116,277 | £148,175 |
| Costs .. | 110,400 | 117,645 | 128,290 |
| | <hr/> | <hr/> | <hr/> |
| Profit .. | — | — | £19,885 |
| Loss .. | £11,169 | £1,368 | — |
| | <hr/> | <hr/> | <hr/> |

Funds will be available from subscribed capital of £200,000. Although the application is based on the proposal to co-site transmitter and studio in Toowoomba, the company states that it will be able to meet the increased costs if it is decided that separate sites must be used. If additional funds are required, they will be raised by bank overdraft or further share issue.

Programme Proposals

The company plans to operate for 28 hours weekly in the first year, increasing to 31½ for the second year and 35 for the third year.

The company has joined with applicants in other States to form a company to be known as Australian Provincial Television Facilities Pty. Ltd., and proposes also to join with other independent Queensland applicants in the formation of a facilities company to be known as Queensland Provincial Telecasters Pty. Ltd.

No difficulties are anticipated in obtaining adequate programme material.

Technical Proposals

It was proposed to operate with a transmitter of 100 kw. e.r.p. co-sited with the studios at Mt. Lofty, Mt. Kynock or Gabbinbar.

TOOWOOMBA AND DARLING DOWNS TELEVISION LTD.

Constitution

52. The company was incorporated on 11th May, 1959, with an authorized capital of £500,000 divided into 500,000 shares of £1 each.

The company has issued 100 shares to each of 51 business people in the area.

If the applicant company is granted a licence it is proposed to issue a total of 300,000 shares of which Queensland Television Ltd. will take up 45,000 shares and the balance will be offered to the public and the present shareholders, preference being given to "persons resident in Toowoomba and west thereof". The public issue has been underwritten.

The articles of association provide for not less than three nor more than six directors, qualification being the holding of at least 100 shares. The first directors are—

| | |
|-------------------------|--|
| L. H. Corser (Chairman) | Solicitor. |
| P. J. Seymour | Accountant. |
| J. F. McCafferty | Bus Proprietor. |
| C. V. Boyd | Machinery distributor, agent and valuer. |

Queensland Television Ltd. has the right to appoint a director.

The articles also provide for graduated voting rights and shares held by any member in excess of one-quarter of the issued capital carry no voting power.

Details of Principal Shareholder

Queensland Television Ltd.—See paragraph 60.

Details of Agreement Entered into by Applicant

The company has entered into an agreement with Queensland Television Ltd. (QTQ Brisbane) along the same lines as the agreement between QTQ and North Coast Television Ltd. (See paragraph 33.) based on the agreement between Amalgamated Television Services Pty. Ltd. and a number of other country applicants (see paragraph 20).

Basis Upon Which Application Was Made

The application was made on the basis that two commercial licences would be granted in the area.

Financial Proposals

It was estimated that the cost of establishment of the station would be £245,687. This includes £12,500 for establishment expenses including publicity. Brokerage and promotion expenses which are also included are estimated at £10,000.

Estimated revenue and costs for the first three years of operation are as follows—

| | | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|---------|----|--------------------|---------------------|--------------------|
| Revenue | .. | £69,300 | £93,020 | £119,100 |
| Costs | .. | 57,219 | 75,767 | 79,762 |
| Profit | .. | £12,081 | £17,253 | £39,338 |

Funds will be provided from the proposed issued capital of £300,000.

Programme Proposals

It was proposed to operate for at least 49 hours weekly in the first year and 60 in the second and third years. It was proposed to supplement these hours with sporting and special outside broadcasts. The majority of programmes would be relayed from QTQ Brisbane, especially in the early stages of operation. Initially, it was envisaged that the station would operate without local studio facilities; these would be provided at a later stage.

Technical Proposals

It was planned to operate with a transmitter of 100 kw. e.r.p. located either at Mt. Mowbullan in the Bunya mountains or at Mt. Kynoch, Toowoomba. The studios will be situated at Toowoomba.

APPLICATION FOR ROCKHAMPTON AREA

ROCKHAMPTON TELEVISION LTD.

Constitution

53. The company was incorporated on 16th June, 1959, with an authorized capital of £500,000, comprising 1,000,000 shares of 10s. each.

It was proposed to issue a total of 600,000 shares, and about 50 persons and companies carrying on business in the Rockhampton area had indicated a desire to take up 198,000 and that number has been reserved for them. The remaining 402,000 shares would be issued to the public, priority being given to residents of the Rockhampton district, and these have been underwritten.

The largest shareholders will be as follows:—

| | 10s. shares |
|---|-------------|
| Rockhampton Newspaper Co. Pty. Ltd. .. | 40,000 |
| Rockhampton Broadcasting Co. Pty. Ltd. .. | 20,000 |
| Walter Reid & Co. Ltd. .. | 20,000 |
| Hoyts Theatres Ltd. .. | 20,000 |
| Amalgamated Wireless (A/asia) Ltd. .. | 10,000 |
| J.A.E. & J.A.M. Angel (Graziers) .. | 10,000 |

The articles of association provide that there shall be not less than four nor more than nine directors, qualification being the holding of 100 shares in the company. The first directors are:—

| | | |
|-------------------|----|----------------------------------|
| A. G. Dunn .. | .. | Newspaper Publisher |
| L. S. Dunn .. | .. | " " |
| C. J. Edwards .. | .. | Accountant |
| J. H. Harrup .. | .. | Cordial Manufacturer |
| L. C. Hynes .. | .. | Broadcasting Station Manager |
| L. B. Macaulay .. | .. | General Merchant |
| E. J. Rheuben .. | .. | Broadcasting Station Manager |
| M. O. Scott .. | .. | Director, Walter Reid & Co. Ltd. |

The articles provide also for graduated voting rights: shares held by a member in excess of one quarter of the total issued capital of the company carry no voting rights.

Details of Principal Shareholders

Rockhampton Newspaper Co. Pty. Ltd. publishes *The Morning Bulletin*, a daily newspaper circulating in Central Queensland. The company is a subsidiary of A. Dunn & Co. Pty. Ltd. which also owns The Toowoomba Newspaper Co. Pty. Ltd., publishers of *The Toowoomba Chronicle*, and The Maryborough Newspaper Co. Pty. Ltd., which publishes *The Maryborough Chronicle*.

A. Dunn & Co. Pty. Ltd. has a paid-up capital of 469,338 shares of £1 each, all of which are held by the Dunn family which has been associated with Queensland provincial newspapers for many years.

Rockhampton Broadcasting Co. Pty. Ltd. is the licensee of commercial broadcasting station 4RO Rockhampton. All the shares in this company are held by Commonwealth Broadcasting Corporation (Q'ld) Ltd., which is in turn a wholly owned subsidiary of Australian Broadcasting Co. Pty. Ltd., which is owned by the Albert family.

Walter Reid & Co. Ltd. is a public company controlling numerous merchandising outlets throughout Central Queensland, and also has shipping and pastoral interests.

Hoyts Theatres Ltd. See paragraph 41.

Basis Upon Which Application Was Made.

The application was based on the grant of only one commercial licence in the area.

Financial Proposals

The cost of establishment of the station with a 50 kw. e.r.p. transmitter which was considered adequate by the applicant, was estimated at £177,233, including preliminary costs of £25,000. The applicant was prepared, however, if so directed, to install a 100 kw. e.r.p. transmitter, in which case the costs would be increased to £216,223.

Estimated revenue and costs for the first three years of operation are as follows:—

| | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|------------|--------------------|---------------------|--------------------|
| Revenue .. | £53,399 | £87,516 | £124,769 |
| Costs .. | £87,050 | £95,550 | £104,340 |
| Profit .. | — | — | £20,429 |
| Loss .. | £33,651 | £8,034 | — |

Funds will be available from the proposed issued capital of £300,000.

Programme Proposals

The proposed hours of operation are 28 weekly in the first year, 31½ in the second year and 35 in the third year.

The applicant company has joined with other country applicants to form Australian Provincial Television Facilities Pty. Ltd. and Queensland Provincial Telecasters Pty. Ltd., for the supply of programmes. (See paragraph 101).

Technical Proposals

The applicant company proposes to use a 50 kw. e.r.p. transmitter located on Mount Archer (1,980 feet) in the Berserke Mountains, about seven miles from Rockhampton. The studios would be co-sited with the transmitter. The applicant would be prepared to install a 100 kw. e.r.p. transmitter, if so directed.

APPLICATION FOR THE TOWNSVILLE AREA.

TELECASTERS NORTH QUEENSLAND LTD.

Constitution

54. The company was incorporated on 18th September, 1959, with an authorized capital of £300,000, divided into 1,200,000 shares of 5s. each.

It was proposed to issue a total of 560,000 shares, of which 320,000 shares had already been allotted to thirteen companies and persons carrying on business in the Townsville area. The balance of 240,000 shares were to be offered for public subscription, preference being given to residents of Townsville and surrounding districts. The public issue had been underwritten.

The main shareholders in the company are as follows:—

| | 5s. Shares. |
|---|-------------|
| Ayr Broadcasters Pty. Ltd. | 80,000 |
| Amalgamated Wireless (A/asia.) Ltd | 80,000 |
| The North Queensland Newspaper Co. Ltd. | 40,000 |
| Feldts Theatres | 40,000 |
| Samuel Allen and Sons Ltd. | 20,000 |
| C. K. Carmody | 20,000 |
| L. T. Heatley | 12,000 |
| G. V. Roberts (Jr.) | 8,000 |

The articles of association provide for the appointment of not less than three nor more than seven directors, the qualification being the holding of not less than 2,000 shares in the company. The first directors are:—

| | |
|---------------------------|---|
| C. K. Carmody (Chairman) | Accountant. |
| J. F. Gleeson | Broadcasting Station Manager (4AY). |
| W. A. Ellis | Newspaper Publisher. |
| J. Feldt (Jn.) | Motion Picture Theatre Proprietor. |
| J. F. Flitcroft | Chairman of Directors of Samuel Allen and Sons Ltd. |
| A. E. R. Fox | Assistant General Manager of A.W.A. Ltd. |
| L. T. Heatley | Grazier. |

The articles provide that every share shall carry one vote.

Details of Principal Shareholders

Ayr Broadcasters Pty. Ltd. is the licensee of commercial broadcasting station 4AY Ayr. The company has a paid-up capital of 2,300 shares of £1 each held by The Gleeson family.

Amalgamated Wireless (A/asia.) Ltd. See paragraph 44.

The North Queensland Newspaper Co. Ltd. publishes *The Townsville Daily Bulletin*, a daily newspaper, *The North Queensland Register*, a weekly newspaper, both in Townsville, and *The Northern Miner*, published tri-weekly in Charters Towers. The shares in the company are substantially owned by North Queenslanders and all of the directors reside in Townsville.

Feldts Theatres is a business conducted by the Feldt family and operates three picture theatres in the Townsville area.

Basis Upon Which Application Was Made.

The application was made on the basis that the company would provide an exclusive commercial service in the Townsville area.

Financial Proposals

It was estimated that the total cost of establishment of the station would be £150,002 including preliminary costs of £19,950.

The estimated revenue and costs for the first three years of operation are as follows:—

| | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|------------|--------------------|---------------------|--------------------|
| Revenue .. | £62,829 | £96,806 | £132,631 |
| Costs .. | 99,400 | 106,845 | 118,500 |
| Profit .. | — | — | £14,131 |
| Loss .. | £36,571 | £10,039 | — |

Funds to meet the above commitments, some of which could be spread by the use of deferred terms for the purchase of plant and equipment, would be provided from subscribed capital of £140,000 and a proposed issue of £60,000 in debentures or unsecured notes. A bank loan of £50,000 had been arranged in case further funds were required.

Programme Proposals

It was planned to operate for 30 hours weekly in the first year, 35 in the second year and 40 in the third year.

The company does not anticipate any difficulty in obtaining programme material which, initially, would consist mostly of films and has joined with other applicants in the formation of Queensland Provincial Telecasters Pty. Ltd.—(See paragraph 101).

Technical Proposals

It was proposed to use a transmitter of 50 kw e.r.p. located at Castle Hill, Townsville. The studios would be co-sited with the transmitter.

APPLICATIONS FOR NORTH-EASTERN TASMANIA AREA.

TASMANIAN TELEVISION LTD., ON BEHALF OF A COMPANY TO BE FORMED.

Constitution

55. The application was made by Tasmanian Television Ltd., licensee of commercial television station TVT Hobart, on behalf of a company to be formed.

It was proposed that the company would have an authorized capital of £500,000, of which £250,000 would be allotted—15 per cent. to Tasmanian Television Ltd., 15 per cent. would be offered to each of the other applicants for a licence in the area, namely, Northern Television Ltd. and Television (Northern Tasmania) Ltd., and the balance would be offered to the public, with preference to local residents. A Hobart sharebroker has agreed to underwrite the public issue.

The proposed articles of association provide for the appointment of not less than three nor more than nine directors. The application states that Tasmanian Television Ltd. would provide one director, and four prominent citizens from the North-East area would be invited to accept appointment to the Board. The articles also provide that members shall be entitled to one vote for each share held.

Details of Principal Shareholder

Tasmanian Television Ltd., the licensee of commercial television station TVT, Hobart, has an issued capital of 1,200,000 shares of 5s. each, the largest shareholders being Davies Bros. Ltd. (150,000), Robert Nettlefold Pty. Ltd. (50,000), Commercial Broadcasters Pty. Ltd. (7HO) (40,000), Metropolitan Broadcasters Pty. Ltd. (7HT) (40,000) and E. G. McRae (40,000).

Basis Upon Which Application Was Made

The application was made primarily on the basis of the grant of only one licence in the area. However, the applicant would be prepared to accept a licence in competition with another commercial service.

Financial Proposals

It was estimated that the costs of establishment of the station would amount to £241,000, including £19,500 for pre-operational expenses.

Revenue and costs for the first three years of operation were estimated as follows:—

| | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|------------|--------------------|---------------------|--------------------|
| Revenue .. | £109,120 | £153,893 | £193,738 |
| Costs .. | 114,623 | 133,048 | 151,540 |
| | — | £20,845 | £42,198 |
| Profit .. | — | £20,845 | £42,198 |
| Loss .. | £5,503 | — | — |

Funds would be provided from the proposed subscribed capital of £250,000.

(While the applicant considered that the service provided by such a station would not be in the best interests of the people in the area to be served, the cost of establishing a relay station without facilities for generating local programmes was estimated at £126,300. No figures for revenue and costs of operation were given.)

Programme Proposals

It was proposed to operate for 40 hours weekly in the first year, 48 in the second year and 56 in the third year. The bulk of the programmes would originate from TVT Hobart.

Technical Proposals

It was planned to use a transmitter of 50 kw. e.r.p., located at Mount Barrow. The studios would be established at Launceston.

NORTHERN TELEVISION LTD.

Constitution

56. The company was incorporated on 21st September, 1959, with an authorized capital of £500,000, comprising 2,000,000 shares of 5s. each.

The company had allotted 1,200,000 shares, of which 212,500 were the subject of a public issue. It was proposed to issue a further 100,000 shares if the application were successful. These would be offered to a limited group of newspaper, broadcasting and theatre interests on the North-West coast and if declined, to commercial, professional and pastoral interests on the North-West coast. The main shareholders are as follows:—

| | <i>5s. shares.</i> |
|--|--------------------|
| W. R. Rolph & Sons Pty. Ltd. | 180,000 |
| 7EX Pty. Ltd. | 180,000 |
| Findlay & Wills Broadcasters Pty. Ltd. | 180,000 |

The articles of association provide for the appointment of not less than five nor more than ten directors, the qualification being the holding of at least 1,000 shares in the company. The first directors are:—

| | |
|-------------------------------------|---|
| Sir Giles Chippindall (Chairman) | Chairman of Directors of W. R. Rolph & Sons Pty. Ltd. and 7EX Pty. Ltd. |
| E. A. Rouse | Managing Director of W. R. Rolph & Sons Pty. Ltd. |
| E. L. Garrett | Accountant. |
| A. E. Evans | Managing Director of 7EX Pty. Ltd. |
| G. L. Roberts | Company Director. |
| R. A. Ferrall | Company Director. |

The articles also provide for graduated voting rights: any shares held by a member in excess of one-quarter of the total issued capital shall carry no voting rights.

Details of Principal Shareholders

W. R. Rolph & Sons Pty. Ltd. publishes *The Examiner*, a daily newspaper, and the *Saturday Evening Express* in Launceston. The company, which has an issued capital of £56,450, is owned by the Rolph family.

7EX Pty. Ltd. is the licensee of commercial broadcasting station 7EX Launceston. Almost all the shares in the company are held by W. R. Rolph & Sons Pty. Ltd.

Findlay & Wills Broadcasters Pty. Ltd. is the licensee of commercial broadcasting station 7LA Launceston. The company has an issued capital of £20,000 of which Amalgamated Wireless (A/asia) Ltd. and Wills & Co. Pty. Ltd. hold a half interest each. The structure of A.W.A. Ltd. was discussed in paragraph 44. Almost all of the shares in Wills & Co. Pty. Ltd. are held by Mr. N. A. Findlay.

Basis Upon Which Application Was Made

The application was made primarily on the basis of the grant of a licence for an exclusive commercial service. However, if two licences were granted, the applicant would accept one of those licences.

Financial Proposals

It was estimated that the cost of establishment of the station would be £288,539.

Estimated revenue and costs for the first three years of operation are as follows:—

| | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|------------|--------------------|---------------------|--------------------|
| Revenue .. | £102,700 | £173,082 | £249,288 |
| Costs .. | 148,905 | 175,790 | 206,065 |
| Profit .. | — | — | £43,223 |
| Loss .. | 46,205 | 2,708 | — |

Funds would be provided from subscribed capital of £325,000.

Programme Proposals

Initially, it was proposed to operate for 31½ hours weekly, increasing to 38½ in the second year and 45½ in the third year.

The company has entered into an agreement with other country applicants to form Australian Provincial Television Facilities Pty. Ltd., through which company the supply of programme material will be organized.

Technical Proposals

It was planned to use a 50 kw. e.r.p. transmitter located at Mt. Barrow, 17 miles from Launceston. The studios will be established in Launceston.

TELEVISION (NORTHERN TASMANIA) LTD.

Constitution

57. The company was incorporated on 21st September, 1959, with an authorized capital of £500,000 divided into 1,000,000 shares of 10s. each.

A total of 650,000 shares had been allotted, of which Star Theatres (Holdings) Ltd. had taken up 95,564 shares, James Holyman Pty. Ltd. 47,782 shares, and the balance, apart from 12,904 shares retained as a reserve for executives of the company and other adjustments, had been taken up by the public.

The articles of association provide that there shall be not less than three nor more than nine directors, qualification being the holding of 500 shares in the company. The first directors are:—

| | | |
|----------------------|----|--|
| K. C. Holyman | .. | Chairman of Directors of Jas. Holyman Pty. Ltd. |
| D. H. Palfreyman | .. | Chairman of Directors of Star Theatres (Holdings) Ltd. |
| M. L. Wright | .. | Accountant, Managing Director, Star Theatres (Holdings) Ltd. |
| N. L. Campbell | .. | Solicitor. |
| Hon. W. J. T. Davis, | | Company Director. |
| M.L.C. | | |
| E. D. Mills | .. | Pastoralist. |

The articles also provide that a member shall have one vote for each share held.

Details of Principal Shareholders

Star Theatres (Holdings) Ltd., a public company, holds all the shares in Star Theatres Pty. Ltd. which operates some twelve theatres on the North-West coast and also two drive-in theatres. Star Theatres (Holdings) Ltd. has a subscribed capital of 221,104 shares of £1 each, which are widely dispersed among Tasmanian residents.

James Holyman Pty. Ltd. is an investment company wholly owned by the Holyman family of Launceston.

Basis Upon Which Application Was Made

The application was based on the grant of either one or two licences for the area.

Financial Proposals

Total cost of establishment of the station was estimated at £306,269, including preliminary expenses of £46,489.

Estimated revenue and costs for the first three years of operation are as follows:—

| | <i>First Year.</i> | <i>Second Year.</i> | <i>Third Year.</i> |
|------------|--------------------|---------------------|--------------------|
| Revenue .. | £141,738 | £222,867 | £309,343 |
| Costs .. | 195,605 | 203,107 | 225,788 |
| | | | |
| Profit .. | — | £19,760 | £83,555 |
| Loss .. | £53,867 | — | — |

The above figures are based on the grant of a solus licence but the company maintained that there will be no substantial changes in them if a second commercial station were operating in the same area.

Funds will be provided from subscribed capital of £325,000 and a bank overdraft of £50,000.

Programme Proposals

It was proposed to operate for 37½ hours weekly in the first year, 41½ in the second year and 48 in the third year.

The company proposes to co-operate with other stations for the provision of programmes.

No difficulty is anticipated in obtaining adequate programme material.

Technical Proposals

It was proposed to use a transmitter with an e.r.p. of 70 kw on Mt. Barrow. If required to do so, however, it would be prepared to instal a 100 kw e.r.p. transmitter. The studios would be established in Launceston.

PART III.—DEVELOPMENT OF TELEVISION SERVICES IN AUSTRALIA.

THE DEVELOPMENT OF EXISTING SERVICES.

58. In accordance with the decision reached by the Government on 10th September, 1954, following its consideration of the report of the Royal Commission on Television, television has been introduced into the Commonwealth on a gradual basis, the first stage of development having been the establishment of one national and two commercial stations in Sydney and Melbourne, which commenced operations towards the end of 1956.

59. The licences for the Sydney and Melbourne stations were granted on the recommendation of the Board to the under-mentioned companies:—

| | | | | | |
|---|----|----|----|----|-----------------------|
| Amalgamated Television Services Pty. Ltd. | .. | .. | .. | .. | Station ATN Sydney |
| Television Corporation Ltd. | .. | | | | Station TCN Sydney |
| General Television Corporation Pty. Ltd. | .. | .. | .. | .. | Station GTV Melbourne |
| Herald-Sun TV Pty. Ltd. | .. | | | | Station HSV Melbourne |

Since the licences were granted on 1st December, 1955, there have been substantial changes in the constitution of two of these companies, namely, Amalgamated Television Services Pty. Ltd. and General Television Corporation Pty. Ltd. In each case, no single shareholder was at the time of the grant of licence in a position to control the company. Subsequently, however, because of the transfer of shares and the requirements for additional capital at a period when the companies' operations were unprofitable, John Fairfax and Sons Pty. Ltd. acquired more than 50 per cent. of the voting rights in Amalgamated Television Services Pty. Ltd. and Electronic Industries Ltd. acquired more than 50 per cent. of the voting rights in General Television Corporation Pty. Ltd. Australian Consolidated Press Ltd. is the largest shareholder in Television Corporation Ltd. and with its associated companies has 39 per cent. of the shares (30 per cent. at the date of grant of licence) and The Herald and Weekly Times Ltd. controls Herald-Sun T.V. Pty. Ltd. with 85 per cent. of the shares. The following is a list of the shareholders in these companies:—

| | | | |
|---|----|---------|-----------|
| <i>Amalgamated Television Services Pty. Ltd.</i> | | | £1 Shares |
| <i>The Herald-Sun Group.</i> | | | |
| Associated Newspapers Ltd., Sydney | .. | 125,000 | |
| John Fairfax and Sons Pty. Ltd. | .. | 175,000 | |
| | | | 300,000 |
| <i>The 2UW Group.</i> | | | |
| The Australian Broadcasting Co. Pty. Ltd. | | 75,000 | |
| | | | 75,000 |

| | £1 Shares | |
|---|-----------|------------------------------|
| <i>The A.W.A. Group.</i> | | |
| Amalgamated Wireless (A/asia) Ltd. .. | 75,000 | |
| Email Ltd. | 89,000 | |
| N.L. Nock (Sir) | 5,000 | |
| Gearin O'Riordan Ltd. | 10,000 | |
| Washington H. Soul Pattinson and Co. Ltd. | 25,000 | |
| Beale and Co. Ltd. | 10,000 | |
| G.B.S. Falkiner | 10,000 | |
| T. G. Murray | 5,000 | |
| Mrs. C. Murray | 5,000 | |
| W. H. Paling and Co. Ltd. | 10,000 | |
| Mrs. H. M. Stevenson | 7,000 | |
| C. N. McKay | 7,000 | |
| H. V. McKay | 7,000 | |
| Australian Record Co. Ltd. | 5,000 | |
| The Anglo-Australian Corporation Pty. Ltd. | 7,500 | |
| Cranbrook Holdings Pty. Ltd. | 10,000 | |
| Australian United Investment Co. Ltd. .. | 12,500 | |
| | <hr/> | 300,000 |
| <i>The 2GB-Macquarie-Artransa Group.</i> | | |
| Broadcasting Station 2GB Pty. Ltd. .. | 59,706 | |
| Macquarie Broadcasting Service Pty. Ltd. .. | 19,706 | |
| Artransa Pty. Ltd. | 39,706 | |
| | <hr/> | 119,118 |
| <i>The John Fairfax-Macquarie Group.</i> | | |
| John Fairfax and Sons Pty. Ltd. .. | 340,000 | |
| 2GB-Macquarie-Artransa | 60,000 | |
| | <hr/> | 400,000 |
| <i>Combined Group.</i> | | |
| John Fairfax and Sons Pty. Ltd. | 82,582 | |
| Broadcasting Station 2GB Pty. Ltd. .. | 11,250 | |
| Artransa Pty. Ltd. | 11,250 | |
| The Australian Broadcasting Co. Pty. Ltd. | 8,370 | |
| Email Ltd. | 6,504 | |
| Amalgamated Wireless (A/asia) Ltd. .. | 20,504 | |
| Washington H. Soul Pattinson and Co. Ltd. | 3,140 | |
| The Anglo-Australian Corporation Pty. Ltd. | 940 | |
| Mrs. H. M. Stevenson | 880 | |
| C. N. McKay | 880 | |
| H. V. McKay | 880 | |
| W. H. Paling and Co. Ltd. | 1,250 | |
| Australian United Investment Co. Ltd. .. | 1,570 | |
| | <hr/> | 150,000 |
| <i>The Fairfax-2GB-Artransa-A.W.A.-Email Group.</i> | | |
| John Fairfax and Sons Pty. Ltd. | 100,000 | |
| Broadcasting Station 2GB Pty. Ltd. .. | 11,250 | |
| Artransa Pty. Ltd. | 11,250 | |
| Amalgamated Wireless (A/asia) Ltd. .. | 8,345 | |
| Email Ltd. | 8,345 | |
| Washington H. Soul Pattinson and Co. Ltd. | 2,260 | |
| Australian United Investment Co. Ltd. .. | 1,130 | |
| Others (12) with under 1,000 shares each .. | 7,420 | |
| | <hr/> | 150,000 |
| Total issued capital | | <hr/> <hr/> <u>1,494,118</u> |

| <i>Television Corporation Ltd.</i> | | 10s. Shares |
|---|-------|------------------|
| Australian Consolidated Press Ltd. | .. .. | 474,000 |
| *Colourtone Pty. Ltd. | .. .. | 32,000 |
| *Compress Printing Ltd. | .. .. | 32,000 |
| *Shakespeare Head Press Pty. Ltd. | .. .. | 32,000 |
| *Wilsons Laundry Pty. Ltd. | .. .. | 35,300 |
| Consolidated Press Holdings Ltd. | .. .. | 140,300 |
| Associated Newspapers Ltd. (Eng). | .. .. | 232,000 |
| Philips Electrical Industries Pty. Ltd. | .. .. | 115,500 |
| Broadcasting Station 2SM Pty. Ltd. | .. .. | 49,500 |
| Church of England Property Trust Diocese of Sydney | .. .. | 40,000 |
| Brisbane TV Ltd. | .. .. | 32,000 |
| Paramount Film Service Pty. Ltd. | .. .. | 30,500 |
| Tivoli Circuit Australia Pty. Ltd. | .. .. | 20,000 |
| James N. Kirby Manufacturing Pty. Ltd. | .. .. | 20,000 |
| P. Hampson, R. H. Erskine (A.L.P.) | .. .. | 19,500 |
| General Public | .. .. | 627,400 |
| | | <u>1,932,000</u> |

| <i>General Television Corporation Pty. Ltd.</i> | | £1 Shares |
|---|-------|------------------|
| Electronic Industries Ltd. | .. .. | 625,581 |
| David Syme and Co. Ltd. | .. .. | 188,169 |
| Hoyts Theatres Ltd. | .. .. | 58,847 |
| Greater Union Theatres Pty. Ltd. | .. .. | 58,848 |
| Nilsen's Broadcasting Service Pty. Ltd. | .. .. | 35,290 |
| Val Morgan and Sons Pty. Ltd. | .. .. | 17,646 |
| Efftee Broadcasters Pty. Ltd. | .. .. | 13,759 |
| Subsidiaries of Electronic Industries Ltd. | .. .. | 1,860 |
| | | <u>1,000,000</u> |

| <i>Herald-Sun T.V. Pty. Ltd.</i> | | £1 Shares |
|-------------------------------------|-------|----------------|
| The Herald and Weekly Times Ltd. | .. .. | 637,500 |
| Associated Newspapers Ltd. (London) | .. .. | 112,500 |
| | | <u>750,000</u> |

60. In the second stage of development, national television stations were established in Brisbane, Adelaide, Perth and Hobart, two commercial stations were established in Brisbane and Adelaide, and one commercial station was established in Perth and Hobart respectively. All these stations commenced service between August, 1959, and June, 1960. The licences for the commercial stations were granted on 1st December, 1958, to the under-mentioned companies:—

| <i>Brisbane T.V. Ltd.</i> | | 10s. Shares |
|-------------------------------------|-------|-------------|
| Queensland Newspapers Pty. Ltd. | .. .. | 240,000 |
| Telegraph Newspaper Co. Ltd. | .. .. | 156,000 |
| Associated Newspapers Ltd. (London) | .. .. | 100,000 |

*These companies are subsidiaries of Australian Consolidated Press Ltd.

| | | |
|---|-------------|---------|
| Commonwealth Broadcasting Corporation (Qld.) Ltd. | 10s. Shares | 50,000 |
| Amalgamated Wireless (A/asia) Ltd. | .. .. | 50,000 |
| Email Ltd. | .. .. | 50,000 |
| Television Corporation Ltd. (TCN) | .. .. | 50,000 |
| Consolidated Press Holdings Ltd. | .. .. | 40,000 |
| Southern Electric Authority of Queensland | .. .. | 20,000 |
| Toowoomba Newspaper Co. Ltd. | .. .. | 10,000 |
| Northern Star Ltd. (Lismore) | .. .. | 10,000 |
| Evans Deakin and Co. Ltd. | .. .. | 10,000 |
| Tweed Newspaper Co. Ltd. (Murwillumbah) | .. .. | 2,000 |
| J. H. Hoare | .. .. | 2,000 |
| General Public (held in small lots) | .. .. | 660,000 |

1,450,000

Queensland Television Ltd.

| | | |
|--|-----------|---------|
| Mirror Newspapers Ltd. | £1 Shares | 125,000 |
| Amalgamated Television Services Pty. Ltd. (ATN) | .. .. | 125,000 |
| N.B.C. International Ltd. (Canada) | .. .. | 75,000 |
| A.T.V. (Australia) Pty. Ltd. | .. .. | 75,000 |
| Queensland public (held in small lots by approximately 2,250 shareholders) | .. .. | 350,000 |
| Foundation Members (68) | .. .. | 6,800 |

756,800

Television Broadcasters Ltd.

| | | |
|---|------------|---------|
| Advertiser Newspapers Ltd. | 5s. Shares | 900,000 |
| Associated Newspapers Ltd. (London) | .. .. | 375,000 |
| Midlands Broadcasting Services Ltd. | .. .. | 300,000 |
| 5KA Broadcasting Co. Ltd. | .. .. | 300,000 |
| Philips Electrical Industries Pty. Ltd. | .. .. | 225,000 |
| Public Issue (all small holdings) | .. .. | 900,000 |

3,000,000

Southern Television Corporation Ltd.

| | | |
|--|------------|---------|
| News Ltd. | 5s. Shares | 598,000 |
| ATV (Australia) Pty. Ltd. | .. .. | 50,000 |
| Broadcasting Station 2GB Pty. Ltd. | .. .. | 50,000 |
| Public issue, with priorities to employees and shareholders of News Ltd. | .. .. | 300,000 |

998,000

TVW Ltd.

| | | |
|--|-------------|---------|
| Western Australian Newspapers Ltd. | 10s. Shares | 600,000 |
| Others (approximately 450 shareholders with holdings under 5,000 shares) | .. .. | 149,968 |

749,968

£300,000 of registered unsecured notes, which carry an option to convert to shares, have also been allotted.

Tasmanian Television Ltd.—Shareholders.

| | 5s. Shares |
|---|------------|
| Davies Bros. Ltd. | 150,000 |
| Robt. Nettlefold Pty. Ltd. | 50,000 |
| Commercial Broadcaster Pty. Ltd. (7HO) | 40,000 |
| McRae, E. G. | 40,000 |
| Metropolitan Broadcasters Pty. Ltd. (7HT) | 40,000 |
| Nettlefold, Mrs. Beryl O. | 20,000 |
| Davies, K. B. | 10,000 |
| Nettlefold, Miss Lydia O. | 8,000 |
| Nettlefold, Miss Gillian M. | 8,000 |
| Green, E. H., Estate | 6,000 |
| Brown, Alan B. | 6,000 |
| Davies, Geo. F. | 4,000 |
| Walch, Sir Geoffrey | 4,000 |
| Murdoch, Laurie G. | 3,000 |
| Others (in small lots) | 811,000 |
| | 1,200,000 |

PLANS FOR THE THIRD STAGE OF DEVELOPMENT.

61. With plans well advanced for the introduction of services in Brisbane, Adelaide, Perth and Hobart, the Board, on 16th February, 1959, submitted a report to the Minister in which it recommended approval for the third stage in the development of the television services, in the course of which—

(a) national television stations would be established in the undermentioned areas—

| | |
|--|---|
| Australian Capital Territory | Canberra. |
| New South Wales | Newcastle-Hunter River, Illawarra, Richmond-Tweed Heads and Central Tablelands. |
| Victoria | Ballarat, Bendigo, Latrobe Valley and Goulburn Valley. |
| Queensland | Darling Downs, Rockhampton and Townsville. |
| Tasmania | North Eastern Tasmania. |

(b) applications would be invited for commercial television stations in the same areas, and licences would be granted by the Minister for stations in those areas, after considering a report by the Board on an inquiry into the applications, held pursuant to section 83 (2.) of the Act.

62. In its report of 16th February, 1959, the Board pointed out that the television services had so far been planned on the basis of the use of ten channels which were available in the very high frequency (VHF) band, a course which was recommended by the Royal Commission and was provisionally adopted in 1955 after independent

examination by the Board and consideration of the views of Australian manufacturers and overseas practices. The provisional VHF frequency assignment plan, which was published in Appendix "C" of the Board's Seventh Annual Report, provided for the allocation of channels for four television stations in each of the State capital cities and for two stations in other areas, and in the report of 16th February, 1959, the Board explained that if additional stations were to be authorized in the same areas by the Government, it would be necessary to re-examine the whole question of the allocation of frequencies for television stations. The Board expressed the opinion that the plan formulated in 1955 still appeared to be adequate, but pointed out that it had been based on assumptions as to the number of stations to be established, which in the case of areas outside the capital cities of the States were assumed to be one national and one commercial station. The Board also pointed out in that report that, since the allocation of frequency channels is inseparable from the formulation of the overall policy as to the establishment of new stations, it was important that a decision as to the number of licences to be granted for commercial stations in any area should be made at the same time as the decision to invite applications for further licences.

THE GOVERNMENT'S DECISION AS TO THE THIRD STAGE.

63. The decision taken by the Government on the Board's recommendation was announced by the Postmaster-General in the House of Representatives on 30th April, 1959, in the following terms:—

"Honorable Members will recall that, in recent months, many questions have been directed to me in the House concerning the provision of television services for areas outside the State capital cities, where television stations are either already in operation, or are to commence service later this year or early in 1960. In addition many personal representations have been made to me on the matter.

In reply I have indicated that the question of the extension of television services was being considered by the Government and that when decisions had been made I would make a statement in the House on the matter. I am now in a position to inform Members of the steps the Government proposes to take in respect of major provincial and country areas of the Commonwealth following a decision last week.

It has been our policy, right from the outset, to proceed with the establishment of television services in the Commonwealth on a gradual basis, and I am satisfied that this policy has been amply justified by experience. We are now approaching the completion of what I have described as the first and second stages of development—that is the provision of services in all the State capital cities, and we are faced with the problem of initiating the third stage—that is the extension of the service to major country and provincial areas.

Broadly the areas to be considered in this third phase of television development will be—

| | | |
|------------------------------|----|---|
| Australian Capital Territory | .. | .. Canberra |
| New South Wales | .. | .. Newcastle-Hunter River, Illawarra Area, Richmond-Tweed Heads Area, Central Table lands Area. |
| Victoria | .. | .. Ballarat, Bendigo, Latrobe Valley, Goulburn Valley. |
| Queensland | .. | .. Darling Downs, Rockhampton Area, Townsville Area. |
| Tasmania | .. | .. North Eastern Tasmania. |

The centres which I have named are those broadly described in the Provisional Frequency Allocation Plan of the Australian Broadcasting Control Board, which is based on population density in accepted regional divisions. It will be understood that they cover wide areas including large rural areas as well as the towns named. The location of the transmitters in these areas, as well as areas to be covered, has not yet been determined. No doubt suggestions in this connection will be made during the inquiry into applications for licences to which I refer later.

This further extension of television now planned will mean that 75 per cent. of the Australian people will be able to receive a television service. Consideration of the remaining provincial and rural areas not included in this phase will be given when this phase is well under way.

For some time this matter of extension has been under consideration by the Government. We have been particularly concerned with the commercial television service, the extension of which involves many important and difficult questions, both economic and technical, which are not capable of being resolved easily, and as to which there are acute divisions of opinion among those who wish to be permitted to provide services in the areas. On many of these issues it has become clear that more information is required to enable sound decisions to be made, and that that information is likely to be forthcoming on examination of applications for licences when those seeking them have the opportunity of presenting their cases in public.

The Government has, however, decided that the number of commercial licences in any area should not necessarily be limited to one and that, subject to technical considerations and to the quality of the applicants, more than one commercial service in each area might be licensed.

It has decided that, as far as practicable, priority in the grant of such licences would be given to applicants which are local independent companies not associated with metropolitan stations, provided such applicants demonstrate their capacity to provide, in the circumstances prevailing in the area, a service comparable to that available to city viewers and to conform to the technical and programme standards laid down by the Australian Broadcasting Control Board.

It has further decided that the actual number of commercial television stations to be established in any of those areas should not be determined until a report on applications for licences has been received from the Australian Broadcasting Control Board as required by the Broadcasting and Television Act.

The Government has therefore authorized me to invite applications for licences for commercial stations to serve the areas specified, on the understanding that the Australian Broadcasting Control Board should be required, when inquiring into the grant of such licences, to inquire into and specifically report upon the ability and financial capacity of each applicant to provide an adequate and comprehensive programme in the event of other licences being granted which would permit the transmission of programmes in or into the area.

The procedure to be followed with respect to the public inquiries which are to be made and to the grant of licences is prescribed in the Broadcasting and Television Act. Before inviting applications for licences for the various areas, it will be necessary for me to discuss with the Board the arrangements it is able to make concerning the holding of the public inquiries. I propose to do this as early as possible and will endeavour to ensure that the matter is proceeded with as quickly as circumstances permit. I should say, however, that a heavy burden will be imposed on the Board and the whole matter will take some time, mainly because prospective applicants will have to be given a reasonable opportunity to prepare their applications.

Regarding the national service, the Government has decided to maintain its policy of providing dual national and commercial services to viewers. Because of the frequency problems involved, however, no final decision regarding the actual details of the extension of the national service would be made until the Control Board has completed its inquiries into applications for commercial licences, and submitted its recommendations to the Government. In the meantime, such preliminary work as is possible in the planning of the stations can proceed."

64. In accordance with this decision, the Postmaster-General, as mentioned in paragraph 11, by notice published in the *Gazette* on 21st May, 1959, invited applications for licences for commercial television stations in the areas mentioned in his statement.

PART IV.—THE BROAD CONSIDERATIONS.

THE NATURE OF THE BOARD'S INQUIRIES.

65. It will be apparent from the Minister's statement that the inquiry which the Board was required to undertake into the applications which were received had, of necessity, to be much more than an inquiry into the merits of the various applicants. Several important issues of great public importance were raised by the Minister's statement which, as Mr. Young said, "largely caused these inquiries to be treated as a kind of general inquiry into the third stage". The Minister's statement undoubtedly influenced the attitude of almost every applicant in the preparation of its application, especially in so far as it related to the constitution of applicant companies, which seemed in almost every case to be designed so as to convince the Minister that they would be acceptable as licensees on the ground that they were "local independent companies". This had an important result on the nature of the applications which have to be considered and in a number of cases decisions were made by applicants that they would not agree to proposals made to them for association of any kind with metropolitan stations, in reliance on the express terms of the Minister's statement.

66. The divisions of this Part indicate the general nature of the main questions which have to be considered. These cover a wide field and are all interrelated and in particular the basic questions of the independence of licensees and the number of stations in any area must be considered together. In addition the technical questions and the availability of frequencies for the establishment of new stations, which are considered in Part V., must also be taken into account in arriving at conclusions on the matters discussed in this Part.

DIVISION I.—INDEPENDENCE OF LICENSEES.

67. The Board's inquiries into the applications for licences for many of the areas tended to become, in effect, a contest between companies "associated with metropolitan stations", and companies without any such "association". This resulted largely from the paragraph in the Minister's statement of 30th April, 1959, in which he said that:—

"It has been decided that as far as practicable priority in the grant of such licences would be given to applicants which are local independent applicants not associated with metropolitan stations, provided such applicants demonstrate their capacity to provide, in the circumstances prevailing in the area, a service comparable to that available to city viewers and to conform to the technical and programme standards laid down by the Australian Broadcasting Control Board."

In the course of a discussion on the matter in the House of Representatives on 12th August, 1959, the Minister explained that by the words "not associated with metropolitan stations" he had meant "not associated financially with" those stations.

68. A very great deal of evidence was given to the Board as to the extent to which applicants claimed to be regarded as being entitled to "priority in the grant of licences" on the basis suggested by the Minister's statement, and this issue was clearly regarded as the "crux of the statement" of 30th April, 1959, as the Minister had indeed said in the later statement of 12th August, 1959. This was particularly the case in the inquiries into the New South Wales areas. In that State, the applicants consisted mainly, on the one hand, of companies which claimed that they were not associated with metropolitan stations and claimed to be capable of providing, "in the circumstances prevailing in the area", a service comparable to that available to city viewers and, on the other hand, of companies already in existence or to be formed, which had, or would have, an association with metropolitan stations as shareholders and in other ways, and on behalf of which it was claimed that without such an association, it was not practicable for country stations in the areas concerned to provide a service comparable with that available to city viewers. For convenience, in this report we have used the expression "non-associated" to refer to the companies described in the first class of applicants mentioned in this paragraph.

69. A summary of the forty-one applications which are the subject of the Board's report is contained in Part II. For the purposes of this part of the report, it will be convenient to consider them in four groups because of the similarity of the proposals of the applicants in each of those groups. The fundamental issues which arose in this connexion during the inquiries really became evident, not only from the applications themselves, but also from the similarity of the proposals of different groups of applicants, the main features of whose proposals are indicated in the following paragraphs. The groups of applicants are:—

(a) *Applications of companies in which licensees of existing metropolitan stations are shareholders, 8 in number. (The names of the licensees concerned are shown in brackets.)*

Australian Capital Television Ltd. (Canberra area)
(Television Corporation Ltd.—TCN).

Television Australia Ltd. (Canberra area) (Amalgamated Television Services Pty. Ltd.—ATN).

Commercial Television Newcastle Ltd. (Newcastle-Hunter River area) (Television Corporation Ltd.—TCN).

Northumberland Television Ltd. (Newcastle-Hunter River area) (Amalgamated Television Services Pty. Ltd.—ATN).

Wollongong and Illawarra Television Ltd. (Illawarra area) (Amalgamated Television Services Pty. Ltd.—ATN).

North Coast Television Ltd. (Richmond-Tweed Heads area) (Queensland Television Ltd.—QTQ).

Central Western Television Ltd. (Central Tablelands area) (Amalgamated Television Services Pty. Ltd.—ATN).

Toowoomba & Darling Downs Television Ltd. (Darling Downs area) (Queensland Television Ltd.—QTQ).

(b) *Applications of licensees of existing stations in Sydney and Melbourne, 8 in number.*

Television Corporation Ltd. (TCN)
on behalf of a company to be formed—

(Illawarra area).
(Richmond-Tweed Heads area).
(Central Tablelands area).

General Television Corporation (GTV)—

(Ballarat area).
(Bendigo area).
(Latrobe Valley area).
(Goulburn Valley area).

Tasmanian Television Ltd. (TVT)
on behalf of a company to be formed—

(North-Eastern Tasmania area).

(c) *Applications of companies in which Pye Industries Ltd. is a shareholder, 4 in number.*

Northern Telecasters Ltd.—(Newcastle-Hunter River area).

South Coast Telecasters Ltd.—(Illawarra area).

Lismore Telecasters Ltd.—(Richmond-Tweed Heads area).

Orange & District Telecasters Ltd.—(Central Tablelands area).

(d) *Applications of companies or persons not associated with the licensees of existing television stations, 21 in number.*

Community T.V. (Canberra) Ltd. (Canberra area)

Canberra Television Ltd. (Canberra area)

Newcastle Broadcasting and Television Corporation Ltd. (Newcastle-Hunter River area)

T.P.N. Ltd. (Newcastle-Hunter River area)

I.T.N. Ltd. (Illawarra area)

Television Wollongong Transmissions Ltd. (Illawarra area)

Richmond Tweed TV Ltd. (Richmond-Tweed Heads area)

Country Television Services Ltd. (Central Tablelands area)

P. A. Yeomans (Central Tablelands area)

Pan-Australian Television Corporation Ltd. (Central Tablelands area)

R. H. Wilson (Ballarat area)

Rural Telecasters Ltd. (Goulburn Valley area)
 Darling Downs TV Ltd. (Darling Downs area)
 Rockhampton Television Ltd. (Rockhampton area)
 Telecasters North Queensland Ltd. (Townsville area)
 Northern Television Ltd. (North Eastern Tasmania
 area)
 Television (Northern Tasmania) Ltd. (North Eastern
 Tasmania area)

In addition to the above applicants, the following applications were received from companies not associated with the licensees of existing stations, but all of which are associated with a company known as Victorian Country Telecasters Ltd.—

Ballarat and Western Victoria Television Pty. Ltd.
 (Ballarat area)
 Bendigo and Central Victoria Telecasters Ltd.
 (Bendigo area)
 Eastern Victoria Television Pty. Ltd. (Latrobe Valley
 area)
 Goulburn–Murray Television Pty. Ltd. (Goulburn
 Valley area)

70. The applications in group (a) were those submitted by—

- (a) four companies with which Amalgamated Television Services Pty. Ltd. (ATN Sydney) is associated in applications for licences for stations in four of the five areas under consideration in New South Wales, namely, the Canberra, Newcastle–Hunter River, Illawarra and Central Tablelands areas;
- (b) two companies with which Queensland Television Ltd. (QTQ Brisbane) is associated in applications for licences for a station in the fifth area in New South Wales (Richmond–Tweed Heads) and for a station in the Darling Downs area; and
- (c) two companies with which Television Corporation Ltd. (TCN Sydney) is associated in applications for licences for stations in two of the five areas in New South Wales, namely the Canberra and Newcastle–Hunter River areas.

71. *Companies associated with Amalgamated Television Services Pty. Ltd. (ATN):*—ATN has shareholdings varying from 14·2 per cent. to 22½ per cent. of the total issued capital, and one representative on the board of directors, of each of the four companies. ATN has entered into an agreement in almost identical terms with each of these four companies, in accordance with which ATN undertakes to make available on relay to each of the companies such of ATN's programmes as it may request. The arrangement between the parties, as explained in evidence, contemplates that ATN will endeavour to secure that advertisers on that station will also sponsor the same

programmes on each of the four country stations. For this service, ATN will receive no payment during the first year of the country stations' operations but in the second and third years it will retain 5 per cent. and 10 per cent. respectively of the station's discounted time rate less agency commission.

For the programmes taken on relay, the country stations will pay ATN an amount equal to the stations' casual time rate appropriate to the time the programmes are televised, but this amount will be refunded to the stations in respect of any programme which is fully sponsored by an advertiser and a proportionate amount will be refunded in respect of any programme which is partially sponsored.

The country stations have the right to acquire programmes from other sources and, if they so desire to televise local advertising in the programmes taken on relay from ATN. ATN's programmes would be available for relay to the country stations at any time during the hours of service of ATN but provision has been made for limited local programming by the country stations.

72. The applications of the four companies were conducted on substantially the same basis by the same counsel and the General Manager of ATN gave evidence on each application which was of considerable assistance to the Board. It was contended on behalf of each of the applicant companies:

- (a) that the cheapest and most effective way of extending television into the country is by way of a relay link from a station in a capital city, except in the case of areas so far distant from a capital city that the use of a relay link would not be a sound economic proposition;
- (b) that the alternatives—films or video tapes—involve unnecessary capital and operating costs and expensive double handling of programme material;
- (c) that an applicant who proposed to take television to the country otherwise than by relay from a capital city could "not live with one that" will do so by relay, because of the duplication of costs involved in the non-relay type of operation;
- (d) that a company operating other than on relay must, because of its higher capital and operating costs, be the only company licensed in a country area;
- (e) that the question of the number of licences should be determined primarily on what is best for the people, who should have a choice of programmes, and, secondly, on what is best for the development of the Australian television industry;
- (f) that two licences should be recommended by the Board for each area unless it can be shown that a particular area cannot support two stations;
- (g) that if the National Service is conducted on the relay system, its competitor, the Commercial Service, should likewise be conducted on relay;

- (h) that the relay system is the only system which will allow the country stations to secure the most expensive programmes;
- (i) that, without the relay system, there will be two sets of standards, with much lower standards in the country than in the city;
- (j) that the relay system would assist the development of Australian programmes;
- (k) that the Royal Commission on Television (1953) favoured the relay system;
- (l) that the services contemplated by the applicants not proposing a relay system are not to be compared with those available to metropolitan viewers;
- (m) that the service contemplated by each of the companies includes adequate provision for local events;
- (n) that stations operating on the relay system will prove more attractive to national advertisers;
- (o) that one of the things that stimulates advertising is competition between stations.

73. Each of the four applicants claimed that they would be "local independent companies" in the sense contemplated by the Minister because, on the one hand, the proposed shareholding and board of directors were such as to ensure the control of the companies by the local shareholders and directors and, on the other, they would have, under their agreement with ATN, the absolute right to reject any programme offered by ATN for relay to their respective areas and to terminate the agreement after three years' operation by twelve months' notice. They were also of the opinion that the shareholding of ATN in their companies would inspire public confidence and investment of capital; it would ensure that ATN had a stake in the success of the company and an interest in the development of television in the area.

74. *Companies with which Queensland Television Ltd. (QTQ) is associated.*—Queensland Television Ltd. (QTQ) is closely associated with Amalgamated Television Services Pty. Ltd. (ATN), which holds 16½ per cent. of the shares in QTQ, and the proposals contained in the applications of the two companies with which QTQ is associated are similar, in principle, to those of the applicants with which ATN is associated. Similar, but not identical, arrangements have been made as to the provision of programmes on relay. Substantially similar arguments were advanced in favour of these applications as are summarized in paragraph 72.

75. *Companies with which Television Corporation Ltd. (TCN) is associated.*—TCN is a shareholder in companies which made applications for licences in the Canberra and Newcastle-Hunter River areas. According to the evidence, TCN was invited to become a shareholder in these companies in which it is to hold 15 per cent. of the shares, and has one representative on the Boards of Directors.

TCN has entered into agreements with each of the two companies which provide that—

- (a) TCN will make available to the applicant companies on relay the whole of its programmes if required to do so by the companies;
- (b) the applicant companies are required to transmit from their stations, at least, the whole of TCN's programmes and/or advertising between the hours of 6 p.m. and closing time daily;
- (c) the applicant companies may, however, transmit programmes and advertising originating in their own studios during those hours, if they give not less than two weeks' notice of their intention to do so and TCN consents, such consent not to be unreasonably withheld;
- (d) TCN will pay the applicant companies annually a specified amount plus a percentage of TCN's net revenue from advertising;
- (e) the applicant companies will pay to TCN 30 per cent. of their net revenue from advertising originating locally;
- (f) if required by the applicant companies to do so, TCN will provide substantial financial assistance to the applicants.

It was contended, in support of the two applicants with which TCN is associated—

- (a) that two licences should be granted in each area if there were two suitable applicants because this would result in better service to the public, the standards of programmes would be maintained, and the economic success of the two stations and the avoidance of monopoly would be ensured;
- (b) that the applicants would have available the whole of TCN's programmes transmitted by relay at no cost to the applicant companies;
- (c) that their viewers would, in the main viewing hours, have the choice of the same service as is available to Sydney viewers;
- (d) that with this service and the availability of programmes from the national station, and a second commercial station, their viewers would have a service of world standard;
- (e) that there would be substantial benefits for the holders of shares, 85 per cent. of which would be held by residents of the areas concerned;
- (f) that there can be no service comparable with that enjoyed by Sydney viewers without a choice of programmes from two commercial stations;
- (g) that there can be no comparable programmes without a relay link from a metropolitan station;

- (h) that the proposed arrangements will ensure the early provision to viewers in the areas concerned of a service comparable with that now available to Sydney viewers;
- (i) that, whilst the applicant companies are entitled to take on relay the whole of TCN's programmes and are required to transmit them between 6 p.m. and closing time, they may, by two weeks' notice, seek TCN's consent to transmit their own programmes within that period and TCN cannot unreasonably withhold such consent;
- (j) that local advertisers will be adequately provided for;
- (k) that the relaying of live programmes from the metropolitan studios to the country stations would create additional employment for Australian artists.

It was claimed on behalf of the applicants that the local control of their companies would be retained because of the facts that local shareholders would have 85 per cent. of the shares, that there would be only one representative of TCN on their boards of directors, and that their agreements with TCN could be cancelled at the end of the third or fourth year.

76. TCN also submitted applications for licences for stations in the Illawarra, Richmond-Tweed Heads, and Central Tablelands areas, on behalf of companies to be formed. The evidence adduced in support of these applications indicated that in the event of licences being granted, the companies to be formed would have an agreement with TCN of a substantially similar character to that described above in the case of the companies associated with TCN in the Canberra and Newcastle-Hunter River areas.

77. The applications in group (b) were those submitted by:—

- (a) General Television Corporation (GTV) for licences in the Ballarat, Bendigo, Latrobe Valley and Goulburn Valley areas, or alternatively for a licence in one of these areas "together with some minority association with three other applicants" in the other areas, (the alternative was subsequently expressed as a willingness to accept "a second licence for other areas conditional upon our company holding not less than 15 per cent" in the company holding the licence);
- (b) Television Corporation Ltd. (TCN) on behalf of companies to be formed in the Illawarra, Richmond-Tweed Heads and Central Tablelands areas (these applications are referred to in paragraph 76);
- (c) Tasmanian Television Ltd. (TVT) on behalf of a company to be formed in respect of the North-Eastern Tasmania area.

78. *General Television Corporation Ltd. (GTV)*.—This company proposes to relay programmes to the country stations referred to in sub-paragraph (a) of paragraph 77 from GTV. It was contended on behalf of GTV that:—

- (a) Country viewers must be given "equal selection, equal programmes and equal hours of viewing to those given to city dwellers": competition alone ensures a wide variety of high quality programmes: the only way to get real interest and give real service to the public is to have two licences;
- (b) surveys suggest that only one person in ten would be satisfied by a national station as the only alternative source of information and entertainment to "a monopoly commercial operation";
- (c) in the interests of free discussion and the presentation of competing views, it is desirable that there should be two stations;
- (d) the greater density of licences and advertising in two station cities compared with Perth where there is only one station, is proof that the licensing of two stations is in the interests of both viewers and advertisers;
- (e) without the spread of programme costs over many stations, it will be economically impossible for country viewers or country advertisers to secure a television service comparable to that available to city viewers: the spreading of costs is necessary also in relation to selling costs and service to advertisers;
- (f) the greater field covered by more than one station would provide greater opportunities for the employment of Australians;
- (g) the more successful one station is the greater the guarantee of success for the second station—rival businesses must use the second station: there would be less revenue for one station than if there are two stations in competition;
- (h) there is no guarantee that licences granted to a local company will remain in the hands of the local company;
- (i) GTV would be keen to give local programmes "every conceivable coverage";
- (j) GTV would put one station on the air within nine months, and three other stations on the air within twelve months, of the Postmaster-General's approval of its micro-wave link requirements; at the outset there would be a minimum of 70 hours per week;
- (k) if only one licence is granted, people on the fringe of Melbourne reception will seek to retain their contact with the three stations in Melbourne.

79. *Tasmanian Television Ltd., on behalf of a company to be formed.*—Tasmanian Television Ltd., the licensee of station TVT Hobart, proposed to hold 15 per cent. of the shares in the company to be formed, if it were granted a licence. A working agreement would also be made with the company. It was contended on behalf of the applicant that the proposed arrangement would:—

- (a) make it possible for both stations to transmit programmes for longer hours than if they were operating independently of one another;
- (b) afford greater opportunity for the respective companies to earn revenue by reason of the fact that more time could be offered to advertisers and set sales would be stimulated;
- (c) provide greater opportunity for the development of Tasmanian talent;
- (d) permit economies to be effected through the joint use of programmes and the avoidance of duplication of staff;
- (e) enable advertising to be offered at a combined rate for the two stations which would prove attractive to advertisers;
- (f) permit the acquisition of outside broadcast and video tape facilities to be used on a joint basis.

80. The applications in group (c) were submitted by Pye Industries Ltd. which holds 25 per cent. of the shares in Northern Telecasters Ltd. and South Coast Telecasters Ltd. and has undertaken to take up 30 per cent. of the shares in Lismore Telecasters Ltd. and Orange and District Telecasters Ltd. The Board was informed that, if required, Pye Industries Ltd. was prepared to reduce its shareholding to 15 per cent. in any or all of these companies. It was contended on behalf of one or other of the applicants that:—

- (a) as a principle, two licences should be granted in any area which can economically support two stations if that can be achieved without extending the influence of metropolitan newspaper television interests;
- (b) an independent station would be at a disadvantage if required to operate in competition with a station associated with a metropolitan station;
- (c) interests which control the local press and radio should not be permitted to control television if there be a strong alternative independent applicant;
- (d) if, in any area, a licence is granted to a company representing a combination of local radio and press interests, then it is essential that a second licence be granted, if economically possible, to prevent monopoly control;
- (e) the ownership of commercial television stations should be held widely;

- (f) the programme most suitable for a country area is one which combines events local in character and content but which also includes the best features of the metropolitan programmes;
- (g) it would be wrong, in the public interest, to increase the power of those persons who already dominate the Sydney press and television services;
- (h) an independent local station could only compete economically, in the Illawarra and Richmond-Tweed Heads areas, with a station associated with one of the metropolitan stations by making a programme arrangement with the other metropolitan station;
- (i) in the Newcastle and Illawarra area, licences should be granted to two independent companies and those stations should be permitted to take on relay programmes from a metropolitan station;
- (j) in the Central Tablelands and Richmond-Tweed Heads areas, only one licence should be granted if operation independent of the metropolitan stations is to be ensured;
- (k) if one metropolitan station were to enter into an agreement with a country station in an area where there were two stations, it is inevitable that the other metropolitan station would follow suit, if it could;
- (l) in the Central Tablelands and Richmond-Tweed Heads areas two licences should be granted under conditions which would ensure that they are able to take a defined and limited portion of programme on relay from the Sydney and Brisbane stations;
- (m) availability of power over the media of mass communication on the national and local scale is undesirable in the public interest: wherever possible, ownership and control of press, radio and television should be independent of each other.

81. It was contended that as 70 per cent. or more of the shares in each of the companies would be held by local shareholders who would also have the right to appoint five of the seven directors the companies were controlled locally and were "independent". It was stated that any financial association which may be said to exist with metropolitan stations through the shareholding by Pye Limited (England) was "remote, diminutive and unimportant".

82. *Group (d).*—It will be seen from the details set out in Part II. that the applications in group (d) (except those associated with Victorian Country Telecasters Ltd.) were prepared independently. In this paragraph and succeeding paragraphs we attempt to summarize the main arguments presented, which, though differing in detail, are based substantially on the same general principles. The first consideration of the 21 applicants in this group appears to have been to avoid any association with the metropolitan stations in order

to qualify for the priority in the grant of licences which, according to the Minister's statement of 30th April, 1959, "would be given to applicants which are local independent companies not associated with metropolitan stations". Generally speaking, it may be said that all these applications were prepared and presented with a real sense of local responsibility by or on behalf of important groups of citizens and organizations with close associations with the civic, rural and business life of the areas concerned, and by companies with the shareholding widely spread in those areas, although in some cases, as will be seen from Part II., substantial parcels of shares are held by persons outside the areas for which licences are sought, some of whom have an indirect association with the metropolitan stations. It appeared from the evidence that all of these applicants had at their disposal, or could acquire, adequate finance for the services they proposed.

83. It was evident that the question of availability of programmes had been carefully examined by these applicants, which were, however, handicapped in their efforts to secure any firm offers from programme distributors, who, as the evidence indicated, were disinclined to commit themselves until the general situation in relation to the extension of the television services in Australia was clarified. The fact that these applicants were not associated with any existing station also proved to be a handicap in their discussions with the distributors and a considerable disadvantage in the preparation of their applications. This matter is discussed in paragraphs 95 to 97. Applicants generally contemplated the provision of programmes mainly on film and the development of local programmes. Although none of these applicants had made any arrangements to take programmes on relay, it was apparent that most of them had in mind obtaining programmes in this manner as soon as relay facilities were available and programmes could be obtained on suitable terms.

84. Whilst the great majority of these applicants expressed the opinion that only one licence should be granted for the areas for which they sought licences, many of them would be prepared to accept one of two licences. However, they maintained that if two licences were granted, the financial prospects of their companies would not be as favourable and they would accordingly have difficulty in developing their services along the lines they thought desirable, especially if they had to compete with a station taking its programmes on relay from a metropolitan station.

85. The programme proposals of these applicants, generally speaking, contemplate provision of a service in the early stages of much shorter duration each week than that intended by applicants associated with the metropolitan stations, but the general view was that the service which was contemplated should be regarded as, "in the circumstances prevailing in the area", a service comparable to that available to city viewers from the metropolitan stations, who, the applicants pointed out, commenced with a service much less extensive than now available after some years of operation.

86. Several of these applicants have arranged to form organizations for the "group buying" of programmes, and one of these organizations contemplates the provision of a radio link for the relaying of programmes from Melbourne to country stations in Victoria. See paragraph 101.

87. Although the application of Pan-Australian Television Limited is included in this group because the company is not associated with the licensees of existing television stations, this application has special features which are discussed in paragraph 191.

88. Some of the general views advanced in support of the idea of the independence of country stations may be summarized as follows:—

- (a) The Minister's statement of 30th April, 1959, indicates a desire on the part of the Government to secure the decentralization of the operation and control of television stations during the period of the establishment of television services in areas outside the capital cities of the States. Moreover, it recognizes that the areas now being considered differ in many respects, and that they should not have imposed upon them by outside bodies programmes that pay no real regard to the distinctive characteristics of the areas.
- (b) Decisions in this stage of development will determine the pattern of television in the Commonwealth in the future. The issues should therefore be considered, not only with regard to the circumstances now prevailing, but as far as possible with proper regard to the future. The main issue to be determined is whether television in country areas is to be free to develop its own character and to select, without inhibitions or external influence, its own programmes and genuinely to interpret and express the needs and wants of its own people.
- (c) The grant at this stage of licences to companies associated with metropolitan stations would result in the "shackling" of all country television stations to metropolitan stations. It would deny local independent companies the opportunity of demonstrating their ability to provide adequate services for the country people in the way country organizations have over the years been able to provide satisfactorily other services for the people of their respective areas.
- (d) The applicants associated with the metropolitan stations are not truly independent local stations. They have accepted the relay system and put aside all other considerations to operate in this way. Their legal right of rejection of programmes is so subject to economic considerations (i.e., its effect on the financial results of the station's operations) that it is most unlikely that it will ever be exercised. The inflexibility of the relay arrangements prevents the insertion of local items of importance at proper times.

- (e) A local station's independence should not be qualified to any extent as a result of any association with the metropolitan stations involving a long term contract, shareholding of any significance in relation to the capital involved, the loan of moneys or directorial or managerial interference or the possibility of such interference.
- (f) The suggestion that the metropolitan stations must obtain "outlets" (i.e., stations to which programmes would be relayed as a long-term arrangement) in order to comply with their obligation to provide Australian programmes has not been supported by any evidence.
- (g) None of the advocates of the two licence system directed any evidence to the economic consequences of two licences other than to say in general terms that if there were more than one licence, there would be an increase in the amount of advertising and in opportunities to the advertiser.
- (h) The applicants associated with metropolitan stations in Sydney and Melbourne seemed to proceed on the basis that when the Minister referred to the capacity of applicants to provide a service comparable to that available to city viewers, he meant a service comparable with the service available to Sydney and Melbourne viewers at the present time, i.e., more than three years after those stations commenced operations. They overlook the satisfactory services of a less extensive character which are being provided in Perth and Hobart on a one station basis.
- (i) Those applicants also overlook the Minister's qualification that the service was to be comparable "in the circumstances prevailing in the area" for which the licence is being sought. The new licensees' capacity to provide a comparable service should be based on their potential to develop the service after they were granted a licence. The expression "in the circumstances prevailing in the area" involves many considerations. The independent local companies must be given time to "get on their feet" as had all the existing metropolitan stations.
- (j) The financial strength and "know-how" of the television business built up through the possession of a metropolitan licence should not be employed in such a way that country people will be prevented from owning their own television stations. It was never intended by any authority that, because metropolitan stations were licensed first, they should be put in a position by reason of their accumulated profits and by reason of the financial strength they now enjoy, whereby they could present totally unfair competition to country licensees in the developmental stages of their operation.
- (k) The benefits to be derived by country viewers from programme arrangements with the metropolitan stations should flow from agreements negotiated by the parties "at arms length" which contain safeguards appropriate

to the particular circumstances of each case. The provisions of such agreements should not be settled before it is known who the licensees are and there is precise knowledge concerning the programmes which will be actually available at the time the new stations are ready to commence operations.

- (l) The local control of a television station is a benefit not only to local shareholders, but also, and perhaps even more importantly, to local residents. Just as there is a good reason for a local newspaper to deal with local affairs so there is an excellent reason why country television should always be at hand to publicise country affairs.
- (m) The service of a television station means more than the provision of programmes. "Service" comprehends more than a mere repetition of city programmes. It comprehends the provision of an outlet for matter of interest in the district which is to be served; an outlet for information about, and stimulation of, the activities of the sporting organizations, the cultural bodies, the civic bodies, etc., which exist in the district, and generally to express the spirit and the needs, the tastes and the interests, of the local communities.
- (n) "Comparability" in programmes is not a matter of hours of operation. It is evident that the sources of programmes are rapidly increasing and there will be no difficulty in obtaining good programmes at reasonable cost. One of the essential features of "independence" in a local station is its right to choose its own programmes.

89. All the applicants adopted, in varying forms, the general argument that it is undesirable in the public interest that the channels of communication should fall into too few hands and, in particular, should fall into the hands of persons already holding substantial interests in metropolitan newspapers and television stations.

90. *Conclusions.*—The conclusions which we have arrived at from the applications and the evidence given to us during the inquiries in support of the four groups of applicants which are summarized above are:—

- (a) An applicant cannot be considered to be a "local independent applicant" in the sense intended by the Minister unless it is not only controlled financially by residents of the area concerned but also has complete discretion in, and responsibility for, the selection and presentation of programmes and the conduct of the operations of the station;
- (b) "Association with a metropolitan station", whether by means of financial or managerial interest or through the supply of programmes on what is in effect an exclusive basis, greatly reduces the likelihood that the "associated" station would be truly "independent";

- (c) there are "local independent applicants not associated with metropolitan stations" in each of the areas with adequate financial strength to permit of the establishment of a television service in accordance with the technical and programme standards laid down by the Board but some modifications to the constitution of certain of these companies seems desirable (see paragraph 187); and
- (d) the grant of licences to one of these applicants in any area in priority to an applicant associated with a metropolitan station depends on the capacity of the applicant "to provide, in the circumstances prevailing in the area, a service comparable to that available to city viewers." This question involves the consideration of the availability of programmes to such an applicant, and the number of licences to be granted in the area. These questions are discussed in Divisions 2 and 3 of this Part of our report.

DIVISION 2.—AVAILABILITY OF PROGRAMMES.

91. In his statement of 30th April, 1959 (see paragraph 63), the Minister said that, as far as practicable, priority in the grant of the licences now under consideration would be given to applicants which are local independent companies not associated with metropolitan stations "provided such applicants demonstrate their capacity to provide, in the circumstances prevailing in the area, a service comparable to that available to city viewers and to conform to the technical and programme standards laid down by the Australian Broadcasting Control Board." The Board has made a careful examination of the programme proposals of each of the applicants, and the general question of the availability of programmes to the new stations. It is the type, standard and scope of programmes with which the public as a whole are most concerned and the capacity of a licensee to provide an adequate service is largely dependent on his ability to secure satisfactory programmes. For these reasons the form of application for the grant of a licence required each applicant to submit particulars and information relating to:—

- (a) the proposed hours of service in the first three years after the commencement of operation;
- (b) the proposed composition of programmes for the first three years after the commencement of operation including:—
 - (i) likely programme schedules; and
 - (ii) the manner in which programmes would be provided, i.e., whether by means of films, tele-recordings, video tape recordings, live programmes, programmes received on relay, or otherwise;
- (c) the extent to which it was likely that programmes produced in Australia would be used;
- (d) the sources from which programmes would be obtained; and
- (e) any proposed network operation contemplated.

92. Nearly all the applicants not associated with metropolitan stations (which for convenience we shall refer to as "non-associated" stations), had made extensive inquiries into the question of the availability of programmes, their costs and other relevant aspects, and submitted such information as they had been able to obtain to the Board. In some cases the inquiries had been made on behalf of groups of applicants. Some of the applicants had sent representatives overseas in order to secure firsthand knowledge relating to the procurement of programmes on film. The Board was also provided with much useful information by the representatives of the existing commercial television stations, who appeared as witnesses on behalf of some of the applicants. The information so obtained was supplemented by comprehensive confidential reports on the operations of stations TVW, Perth, and TVT, Hobart, which were prepared at the request of the Board. The information in these reports was of particular value as it enabled the Board to obtain factual information on the experiences of stations which have not yet entered into arrangements with other stations for the group buying of programmes, and are, by a condition of their licences, precluded from entering into any "exclusive arrangement with the licensee of any other commercial television station for the provision of programmes or the sale of station time or advertising." In the following paragraphs we summarize, under appropriate headings, the information which has been obtained on the question of the availability of programmes to country and provincial stations and related matters.

93. *Composition of Programmes of Metropolitan Stations.*—The proportions of Australian produced and imported programme material used, in a sample week in July, 1960, by the existing commercial television stations in the State capital cities, are approximately as follows:—

| <i>Station.</i> | <i>Produced in Australia.</i> <i>Per cent.</i> | <i>Imported.</i> <i>Per cent.</i> |
|---------------------|---|--------------------------------------|
| ATN Sydney | 39 | 61 |
| TCN Sydney | 43 | 57 |
| GTV Melbourne | 38 | 62 |
| HSV Melbourne | 40 | 60 |
| ADS Adelaide | 24 | 76 |
| NWS Adelaide | 27 | 73 |
| BTQ Brisbane | 23 | 77 |
| QTQ Brisbane | 30 | 70 |
| TVW Perth | 25 | 75 |
| TVT Hobart | 15 | 85 |

Although there has been a progressive increase in the amount of Australian produced material (as opposed to the percentage) used since the stations commenced operation, it is apparent that the stations rely substantially on the use of imported programmes. The reasons for this were discussed in paragraphs 102 to 104 of the Board's Eleventh Annual Report for the year ended 30th June, 1959, and it is not necessary to repeat them here. While it is expected, and is likely, that, as the number of stations in the Commonwealth

increases, a progressively greater proportion of Australian produced programmes will be used, the stations will, of necessity, still continue to draw on overseas programmes resources for a substantial part of their programmes.

94. *Proposals of Applicants.*—The proposals of each of the applicants with respect to the provision of programmes are set out briefly in Part II. of this report. In general, the applicants which are associated with metropolitan stations proposed to secure the great bulk of their programmes from the metropolitan stations and would be dependent on their own resources only for the limited amount of live programmes which they propose to provide. The remaining applicants, numbering 25, most of which, as explained in paragraph 82, have taken particular care to avoid any association with metropolitan stations in order to ensure that they remain "independent local companies" in the terms of the Minister's statement of 30th April, 1959, have, of necessity, been compelled to submit proposals more modest in character than those contemplated by the applicants which are associated, in one way or another, with the metropolitan stations. This applies particularly to the number of the hours of transmission and to the scope of the live productions which they would be in a position to present. Although most of the "non-associated" applicants stated that they would be anxious to transmit the live productions and other programmes of the metropolitan stations, and indeed some had taken steps to ascertain whether such programmes would be available on film or video tape or by relay, their proposals were based generally on the assumption that they would have to rely on their own resources. In the main, therefore, their proposals contemplated a service consisting of programmes on film except during relatively short periods daily which would be devoted to locally produced programmes. The availability of film programmes at a reasonable cost therefore became a matter of great importance to those applicants who did not have any association with metropolitan stations. Consequently, they investigated very thoroughly the sources from which they could secure such programmes, the methods of procurement, and the conditions under which the programmes would be available.

95. *Source and Availability of Programme Material.*—Apart from the material which the licensees of country and provincial stations may themselves originate, the types of programmes available to them are:—

- (a) those originated by the metropolitan stations; and
- (b) imported film material.

The former programmes would, of course, be available to stations associated with the metropolitan stations. The representatives of stations ATN, Sydney, TCN, Sydney, GTV, Melbourne, and QTQ, Brisbane, who gave evidence to the Board on behalf of applicants in which their companies had or proposed to have a shareholding, indicated that the live programmes would be available to "non-associated" stations, subject to some restrictions where overlapping of service areas was involved

and, in one case, depending upon the volume of programme material required. Other metropolitan stations were not concerned in the inquiries but there was some evidence that stations HSV, Melbourne, and BTQ, Brisbane, would also be prepared to make their live programmes available to the new stations. The availability of imported film material would similarly present no problem to those applicants associated with metropolitan stations. It is unlikely that they would need to procure any film programmes on their own behalf. The practice would generally be for the metropolitan station concerned to negotiate the extension of any programme rights which might be necessary in respect of the area concerned, and to make such programmes available on relay to the associated stations. The "non-associated" stations, on the other hand, would necessarily have to negotiate for the supply of film programmes, either individually, or, more probably, in conjunction with other licensees, a matter which is referred to in paragraphs 99 to 101. Such negotiations would need to be undertaken with the licensees of existing metropolitan stations in those cases where programme rights in respect of the particular area concerned are held by the metropolitan stations, and in other cases, directly with the overseas suppliers of films or their Australian representatives.

96. The extent to which programme rights are held, or may be acquired, by the metropolitan stations was carefully investigated during the inquiries, because it was important for the Board to know the extent to which "non-associated" stations might be compelled to negotiate with the licensees of metropolitan stations for rights to the use of overseas film material. Evidence was given that, in the main, the programme rights in respect of films produced for television already acquired by the metropolitan stations were secured jointly on the basis of the use of the programmes in four capital cities. This procedure, by arrangement between the stations concerned, permitted the programmes to be shown in Sydney, Melbourne, Brisbane and Adelaide, the costs involved being divided between the stations using the programme on a fixed basis. In some, but relatively few, cases such programme rights have been bought by metropolitan stations on a six-capital city basis. Others have been bought on an Australian rights basis. Evidence was given that some 20 per cent. of the metropolitan stations' film programmes of this type are held on an Australian rights basis, and that the trend to purchasing on this basis was gradually extending. It was estimated that during the course of the next twelve months about 60 per cent. of these programmes would be bought on this basis. It was stated that this trend resulted from the practice of the Australian Broadcasting Commission of buying Australian rights for the programmes to be transmitted by the national television stations. As it is necessary for the commercial stations to compete with the Commission for programmes, the metropolitan commercial stations have had to be prepared to buy on an Australian rights basis—a course which they stated many distributors seemed to prefer. The representatives of stations ATN, Sydney, TCN, Sydney, and GTV, Melbourne who gave evidence to the Board during the inquiries were most helpful on this matter and furnished, on a confidential basis, complete details of

the overseas programme rights which they had purchased, together with details of the conditions in accordance with which such purchases had been made. The representatives of these stations also informed the Board that in the event of the applicants with which they were associated not being granted a licence, their companies would be prepared to sell film programmes for which they held rights to "non-associated" country stations, subject to certain restrictions as to "overlapping" service areas—a matter discussed in paragraph 102. The Board was also informed that feature films, i.e., full length motion pictures produced for exhibition in cinemas which have been released for television purposes have, except in the case of one supplier, been sold to the metropolitan stations on an Australian rights basis. This type of film constitutes an important part of television programming, representing some 10 per cent. of the programme time. On present indications it would be necessary for "non-associated" stations wishing to use this type of programme material to negotiate for its supply with the metropolitan stations holding the rights.

97. With respect to the availability of programmes direct from overseas suppliers, most of the non-associated applicants indicated that they had communicated with film distributors, principally in the United States. Correspondence submitted to the Board by a number of applicants indicated that programmes from such sources would be freely available. In most cases the evidence could not, however, be regarded as conclusive as, in the absence of details of the costs of the programme rights, it was difficult to determine whether the programmes would be within the financial capacity of any particular station. The applicants themselves seemed, however, quite satisfied that programmes from overseas would be readily available at a cost they could afford. In general, their view was based on the principle that large numbers of programmes are available and that distributors will naturally want to obtain as much income as possible from them. Although the evidence was inconclusive on the question of the cost of programme rights, it was quite clear that, apart from this aspect altogether, the costs involved in customs duty payments, freight, and handling of the imported film (usually called a "print"), and, in some cases at least, the cost of the prints, would compel country stations to develop some form of group buying organization which would permit expenses of this nature to be distributed among a number of users. This important matter is discussed in paragraph 101. Certain applicants indicated that they had reason to believe that some of these difficulties might be overcome, in the future, by the establishment of overseas film distributing agencies in Australia. Such agencies would themselves import programmes and make them available to stations at a cost which would include an equitable proportion of these charges to each station. The evidence on this aspect was also inconclusive. All the information available to the Board indicates that the procurement of television programme material is a complex and difficult matter. The practices of the suppliers of overseas film programmes follow no consistent pattern and the acquisition of programmes from them involves painstaking and relatively involved

negotiation. The evidence indicated, however, that, at least, the more prominent of the overseas suppliers were well informed of developments in Australia and, while they might be expected to ensure that they received an adequate return for the programmes they distribute, they will, on the other hand, be anxious to make their programmes available to any station.

98. *Cost of Programmes.*—Much evidence was presented on the probable cost of the rights to use overseas film programmes in the various areas under consideration. Most of the “non-associated” applicants had attempted to obtain estimates of these costs from overseas film distributors and several had sought advice on this point from the licensees of existing stations. Neither the distributors nor the licensees, however, provided any firm estimates of costs, and all took the view that this could not be determined until licenses had been granted and the matter could be negotiated on a normal business basis. The prices which were mentioned in letters from some distributors, which were tendered, could not in any way be taken as firm quotations and conclusions could not therefore be drawn from them. This is understandable, because the Board was informed by representatives of the metropolitan stations, who had had extensive experience in the purchasing of film programmes, that the practice of distributors in fixing prices varies considerably. In some cases it appears that prices are based on the station’s rate card, in others on population or licence figures, and in some cases simply “on what the market will stand.” Some applicants stated in evidence that they felt they could secure programme rights to some films for as low as ten dollars per half hour; others quoted twenty-five dollars per half hour. One representative of a metropolitan station stated that it was his understanding that American film producers would not sell programme rights to films anywhere for less than fifty dollars per half hour. Under some circumstances the costs of prints may also have to be met. The normal procedure up to the present, so far as the metropolitan stations are concerned, has been for the cost of prints to be included in the programme rights charges. In the case of some contracts entered into with distributors, however, the cost of prints has been a separate charge to be met by the station or stations concerned. Prints are retained by such stations until the expiry of the rights purchased, when they are disposed of in accordance with the directions of the supplier. It was stated in evidence that it was believed that the cost of a print might be about £13 for a half hour film but this information was not given with any certainty as normally this charge is not shown as a separate item. There was some evidence that the requirements with respect to the disposal of prints were being reviewed by at least one American distributor in order to enable a proportion of the costs of prints, customs charges, and handling expenses which had been incurred by metropolitan stations to be recovered by them upon the transfer of the print, at the expiry of their contract, at the direction of the distributor, to some other station. Although the information made available to the Board does not permit any conclusions to be reached as to the prices which will be charged by distributors for programme rights for films, there

are a number of charges which must be met by stations in connexion with the importation of films, namely, customs duty, freight, and handling charges. According to the evidence of several witnesses, these charges amount to about £40 on every imported half hour film. It is apparent that these costs are on a scale which would prevent a "non-associated" country station operating economically unless it had some way open to it of sharing the costs with a number of other stations. The alternative would be for it to make arrangements with the metropolitan stations for the use of the films which they had already imported and for payment of a proportion of the landed costs.

99. *The Group Buying of Programmes.*—As stated above, the heavy costs involved in the importation of film programmes, as distinct from the cost of programme rights, which each individual station would have to meet in relation to each particular area concerned, clearly render it necessary for some special arrangements to be made between stations for the sharing of such costs. The licensees of metropolitan stations in Sydney, Melbourne, Brisbane and Adelaide have themselves found it necessary to adopt such a procedure. The licensees of these eight stations have formed two groups (one station in each city in each group) for the joint purchase of programmes. The arrangement in respect of one group, comprising stations TCN, HSV, ADS and BTQ, was described as a "loose arrangement" and is not covered by a formal agreement. In the case of stations ATN, GTV, QTQ and NWS, a formal agreement covering the purchase of programmes has been entered into and a copy of this agreement was provided to the Board on a confidential basis. A partnership agreement has also been entered into between the licensees of stations ATN and GTV for the establishment of an organization to undertake the joint importing, handling, storing and distributing of film programmes within Australia.

100. An applicant company which is associated with a metropolitan station would experience no difficulties in connexion with the importation of programmes, which would be a matter of arrangement between it and its associated metropolitan station. A different situation would exist with respect to "non-associated" stations. Unless they obtained their programmes from the metropolitan stations on a basis which provided for the payment of a proportion only of the landing costs, they would otherwise be compelled, if economic operation was to be ensured, to form some group buying organization. The only alternative to this procedure would seem to be some arrangement similar to that being followed by stations TVW Perth and TTV Hobart, whereby although programme rights are in many cases purchased directly from the overseas supplier, the prints of such programmes which are held by the metropolitan stations are made available to them by those licensees in return for payment of a proportion of the landing costs. The Board has been informed that, in the case of these two stations, unless such an arrangement could have been made, they would not have been in a position to secure programmes at prices they were able to pay.

101. A number of the "non-associated" applicants have already taken steps to establish group buying organizations and details of these organizations were given to the Board to support their submissions that they could import programmes on a basis which would permit economic operation. Three such groups called Australian Provincial Television Facilities Pty. Ltd., Queensland Provincial Telecasters Pty. Ltd., and Victorian Country Telecasters Pty. Ltd. respectively have been formed. The Australian Provincial Television Facilities Pty. Ltd., comprising eight applicant companies, was formed specifically for the purpose of purchasing or hiring programmes, on a co-operative basis, at the most reasonable cost. Queensland Provincial Telecasters Pty. Ltd., comprising three Queensland applicant companies, was formed primarily for the same purpose. Victorian Country Telecasters Pty. Ltd., formed by four applicant companies in Victoria, although having as its primary object the procurement of programmes for the use of the co-operating members at a reasonable cost by spreading the charges between them, proposes also that the four member companies, if granted licences, would be connected by micro-wave links to a common programme distribution centre located near Melbourne from which programmes would be made available on relay to each of the four co-operating stations. The proposal envisaged that each station would "establish a common format of transmissions from the Melbourne centre with agreed periods for local programmes and insertions." It was also contemplated that by this means immediate access could be secured to live programmes being shown by the metropolitan stations, provided suitable arrangements could be made with the licensees of those stations.

102. *The "Overlapping" Problem.*—Although, as pointed out in paragraph 96, the representatives of metropolitan stations, who gave evidence on behalf of some applicant companies in which they had interests, indicated that if those companies did not secure licences, they would be prepared to make programmes available to the successful applicants, all of them referred to difficulties in those cases where there was some overlapping of service areas. The General Manager of ATN said that he would not recommend the sale of a programme to a station whose signal area overlapped with the ATN signal area until the programme "had finished its run" on ATN. The Chairman of Directors of TCN said, in respect of the Illawarra area, that TCN would not be prepared to provide programmes on relay to a "non-associated" station so long as the TCN signal was being adequately received in that area. The Chairman of Directors of station GTV said that although his company would be prepared to make programmes available to stations whose service areas overlapped that of GTV, it might have to be on the basis of requiring such programmes to be shown at the same time as they were shown by GTV. The Chairman of Directors of QTQ said that the QTQ programmes would not be available to a country station, where there was any substantiated overlapping of the QTQ signal. HSV Melbourne was not associated with any of the applicants but counsel who sought leave to intervene on its behalf informed the Board that HSV was prepared to provide programmes to successful applicants

on condition that "this does not interfere with their obligations to their own viewers and advertisers", and this would require consideration particularly in overlapping areas. There was some evidence that the "overlapping" problem had been considered by overseas programme suppliers, but only one of them had made it clear that the sale of programmes would be affected by the overlapping of service areas, and then only in respect of "overlapping" of primary service areas.

103. *The Relaying of Programmes.*—Considerable evidence was given to us on the advantages and economies of the relaying of programmes to country areas from the metropolitan stations. This evidence was presented mainly by those applicants who were associated with metropolitan stations, as the very basis of their applications was that they would take the great bulk of their programmes on relay from the capital city stations. It was maintained, on their behalf, that the relaying of programmes enabled costs of programming to be spread in the most effective way and reduced the capital outlay required to establish the station and the number of people to operate it. This would achieve the result of extending the hours of operation of country television stations and enabling the production of live Australian programmes to be developed. The view was also expressed that if, as was believed, the extension of the national television service to country and provincial areas was to be on the basis of the relaying of programmes, this was a strong argument in favour of a similar procedure being followed in the commercial service.

104. The evidence given to us by the "non-associated" applicants made it clear that most of them appreciated the advantages of securing programmes by relay operations and were, subject to the Board's approval, prepared to take, at least, some part of their programmes by this means from the metropolitan stations if a relay link were available. Indeed most of them stated that, if granted a licence, they would endeavour to make such an arrangement with the metropolitan stations. Some opposition to the relay system was advanced by "non-associated" applicants on the ground that this method of operation, particularly if it were an exclusive arrangement between a country station and one metropolitan station, would have the effect of giving the metropolitan station, indirectly, control over the country station, and would prevent the exercise of judgment by the licensee of the country station on the choice of programmes to be transmitted. It is understood that by the time stations in the areas now under consideration are established, the Postmaster-General's Department will be in a position to provide television relay circuits to stations in some of these areas either by micro-wave link or coaxial cable. The provision of these facilities to other areas is, however, dependent upon a number of factors such as the requirements of communication services and the availability of funds. In cases where the Department could not provide the required relay facilities for some time, it is understood that no objections would be raised in principle

to the installation by individual stations of privately operated microwave relay systems as an interim measure. The basis on which the charges for the use of Departmental relay links by commercial stations will be made has been indicated to a number of the stations.

105. *Network Operation.*—It was put to us, during the inquiry, that the development of associations or networks of stations will become an integral part of television services in Australia and that the Board should, at this stage, for the purpose of preventing the development of undesirable practices in respect of network operation, exercise its powers under section 16 (3.) of the Broadcasting and Television Act to regulate the establishment and operation of networks.

106. *Provisions of Broadcasting and Television Act 1960.*—During the course of the Board's inquiries, a Bill (now the *Broadcasting and Television Act 1960*) was introduced into the Parliament which contained, among other things, provisions concerning the "monopolising of television programmes." The Postmaster-General in his second reading speech on the Bill indicated the objectives of the particular provisions concerning television programmes in the following way:—

"It (the clause) provides that when a person who has a right to sell or hire a television film refuses to make it available to a licensee of a television station or to do so except on unreasonable terms and conditions, the television station seeking to obtain the use of a television film has the right to apply to the Broadcasting Control Board for an order that the film be made available and the Board may after due inquiry order it to be made available on just and reasonable terms."

The relevant provisions of the Act are set out in Appendix D.

107. *Conclusions.*—The conclusions which the Board has arrived at from the evidence given relating to programmes during the inquiries may be summarized as follows:—

- (i) No difficulties would be experienced by those applicants associated with metropolitan stations in securing adequate supplies of programme material;
- (ii) adequate supplies of programme material would, in general, be available to licensees of "non-associated" stations either directly from overseas suppliers or by arrangement with the licensees of metropolitan stations;
- (iii) some difficulties might be experienced by the licensees of "non-associated" stations in areas where there is an overlapping of signals with metropolitan stations, but these difficulties are not such as would prevent "non-associated" stations in those areas from securing adequate supplies of programme material;
- (iv) in those cases where the licensees of "non-associated" stations find it necessary to purchase programmes directly from overseas suppliers, some form of group buying arrangement, in order to distribute the costs involved, would be necessary;

- (v) no detailed evidence is available as to the costs of programme rights to "non-associated" stations, but it seems probable that programmes would be available to them at prices which the stations could afford to pay;
- (vi) although the operations of organizations such as the "Facilities Company", for the purpose of purchasing and distributing film material, may present some difficulties in practical working at the outset, there is no reason why an efficient and workable organization should not be developed;
- (vii) there is no objection to the arrangement proposed by four Victorian "non-associated" applicants to obtain programmes through a company known as Victorian Country Telecasters Ltd., whether by means of the link system proposed, or otherwise, provided proper steps are taken to ensure that the individual members of such organizations retain the right to withdraw, on reasonable notice, and to reject programmes unsuitable for their requirements;
- (viii) rules to regulate the establishment and operation of networks are not necessary at present; for this purpose more information would be required as to actual proposals for the operation of country and provincial stations on a network basis, and this cannot be obtained until the licences are granted; however, each network arrangement should be subject to the approval of the Board and contain the essential conditions necessary to secure the independence of the member stations;
- (ix) in principle there is no objection to "non-associated" stations securing programmes by relay or otherwise from metropolitan stations, subject to conditions necessary to secure the independence of the country stations;
- (x) in areas where only one licence is granted, the licence should be subject to the condition that no exclusive arrangement should be entered into with the licensee of any metropolitan station for the provision of programmes or the sale of station time or advertising;
- (xi) because of the spread of costs among several stations relaying the same programme from a metropolitan station, it is possible for such stations to provide a service in a country area for a longer period each week at the commencement of service than a local station dependent on its own resources;
- (xii) whatever doubts there may be as to the "comparability" of the service provided by a country station dependent on its own resources with the service "available to city viewers", the service provided on relay from the metropolitan stations would in fact be that "available to viewers" in the capital city of the State from which the programmes are relayed, except during brief periods devoted to local items.

DIVISION 3.—NUMBER OF STATIONS IN EACH AREA.

108. In his statement of 30th April, the Minister said on this subject:—

“ For some time this matter of extension has been under consideration by the Government. We have been particularly concerned with the commercial television service, the extension of which involves many important and difficult questions, both economic and technical, which are not capable of being resolved easily, and as to which there are acute divisions of opinion among those who wish to be permitted to provide services in the areas. On many of these issues it has become clear that more information is required to enable sound decisions to be made, and that that information is likely to be forthcoming on examination of applications for licences when those seeking them have the opportunity of presenting their cases in public.

The Government has, however, decided that the number of commercial licences in any area should not necessarily be limited to one and that, subject to technical considerations and to the quality of the applicants, more than one commercial service in each area might be licensed.”

Each applicant was accordingly required by the form of application to:—

“ State the basis upon which the application is made, that is, whether it is on the basis that:—

- (a) a licence will be granted for a station which will provide an exclusive commercial service in the area; or
- (b) a licence will be granted for a station which will provide a service in competition with one or more other commercial services or transmissions in or into the area,

or both.”

Although in the applications received and in the evidence given to the Board considerable attention was devoted to this matter, the views expressed, generally speaking, were based not so much on any reliable evidence as to the economic capacity of any area to support one or more stations, as might have been expected, but rather on general issues. These issues were discussed at length during the inquiries into the applications in respect of eleven of the thirteen areas under consideration, as in each of those eleven areas there were “ acute divisions of opinion ” among the applicants on the question. (In the Rockhampton and Townsville areas there is only one applicant.) The basis upon which each application was made is shown in Part II. of this report, which contains a summary of the applications. In general, the applicants associated with metropolitan stations strongly supported the grant of two licences in each area while the “ non-associated ” applicants took the view that only one licence should be granted. There were some exceptions to this general attitude and they are referred to in the following paragraphs.

109. The proposals of the applicants associated with metropolitan stations—numbering ten in New South Wales, four in Victoria and one in Queensland—which are based substantially on the idea that there should be two stations in each of the areas concerned to which programmes would be relayed by the metropolitan stations, are summarized in paragraphs 71 to 78. The arguments advanced by these applicants in favour of the granting of licences for two stations may be set out briefly as follows:—

- (a) the question should be determined primarily on what is best for the people, who should have a choice of programmes from commercial stations;
- (b) there can be no service for viewers in the areas now under consideration comparable with that enjoyed by viewers in Sydney, Melbourne, Brisbane and Adelaide which does not give them that choice;
- (c) no licensee should be given a monopoly of commercial television in an area which is capable of supporting more than one station;
- (d) competition between two stations ensures greater variety and better quality in programmes, thereby accelerating the growth of the audience, which in turn attracts the interest of advertisers with the result that additional money becomes available for the development of the services of both stations;
- (e) two stations would provide outlets for the programmes of each of the metropolitan stations and the resultant spreading of the costs incurred by them on the production of local programmes would encourage the production of an increasing amount of Australian material and generally promote the development of a distinctive Australian television industry;
- (f) if there are two applicants ready, able and willing to operate stations in competition in the one area, then two licences should be granted.

These applicants claimed that it was impracticable to secure these very considerable benefits except by the licensing of two commercial stations, but maintained that two stations could operate successfully only on the relay system. As Mr. Larkins said in the Canberra inquiry, the applicant for which he appeared, namely, Australian Capital Television Ltd. (associated with TCN) and Television Australia Ltd. (associated with ATN) were "equally realistic that it is only by the use of a micro-wave link to relay programmes that two stations can operate economically in competition". The alternative methods of providing programmes, by way of film or video tape, they claimed, would, on the one hand, involve the country stations in all sorts of costs additional to those which would have to be incurred by relay stations and, on the other hand, reduce their earning capacity because the increased costs of presentation, which would have to be borne by the advertiser, would reduce the amount of money available for sponsorship. The applicants associated with

the metropolitan stations produced estimates of income and expenditure prepared on the basis of the operation of two stations in competition in each area concerned. These disclosed that, on the basis of the relaying of programmes which they proposed, profitable operation would be ensured within a reasonable time.

110. In addition to the applicants associated with metropolitan stations, the four applicants associated with Pye Industries Ltd. also advocated the principle of the grant of two licences in any area "where it is economically possible and where it does not involve handing the licences to the metropolitan licensees". In the Newcastle-Hunter River area and the Illawarra area, the applicants concerned were prepared to accept one of two licences and produced estimates to suggest that by the third year of operation, they would be operating profitably. Although prepared to accept one of two licences also in the Richmond-Tweed Heads and Central Tablelands areas, the applicants in this group in those areas seemed to have some doubts about the financial results of the operations of their stations unless some satisfactory arrangements could be made for the relaying of programmes. In the Central Tablelands area inquiry, counsel for the applicant associated with Pye Industries Ltd. said: "We do not consider we can conscientiously recommend to the Board the granting of two licences in this area to licensees both originating their own programmes and not taking programmes on relay". Pan Australian Television Corporation Ltd., which was an applicant in the Central Tablelands area did not advocate any restrictions on the number of licences which should be granted. TPN Ltd., a "non-associated" applicant in the Newcastle-Hunter River area, was prepared to accept one of two licences but stipulated that if the other station operated on a relay basis, it would have to do likewise. Two of the "non-associated" applicants in Victoria did not oppose the grant of two licences in the Ballarat and Goulburn Valley areas respectively.

111. The proposals of the remaining applicants, numbering eighteen, which were not associated with metropolitan stations in Sydney, Melbourne and Brisbane, were made on the basis that only one licence should be granted in each area concerned. On behalf of one or other of these applicants it was contended that:—

- (a) the advertising which was likely to be available in the areas for which they are applicants would not be sufficient, at the present time, to enable more than one station which was not associated with a metropolitan station to provide a service of the desired standard;
- (b) if only one licence were granted, viewers would have a choice of programmes from a national and a commercial station;
- (c) it was difficult to justify the licensing of two commercial stations in any of the areas under consideration in view of the fact that only one licence had been granted in Perth, an area with a much greater population than that of any of the areas for which licences are now being sought;

- (d) if only one licence were granted, viewers would be assured of a high standard of service because the licensee, like the licensees of TVW Perth and TVT Hobart, would be in a strong position to negotiate with the metropolitan stations and programme distributors for the best available programmes;
- (e) competition between two stations in country areas might tend to increase the cost of programme rights for those areas;
- (f) the licensing of two stations would inevitably result in a reduction in the nature and scope of local programmes;
- (g) the licensing of two stations would produce the result of forcing each of them into an agreement with a metropolitan station, the terms of which would be such as to destroy their independence;
- (h) it would not be possible for an independent station to compete with a station operating on relay from a metropolitan station: it would be compelled to enter into a relay agreement with the other metropolitan station;
- (i) the licensing of one station at this stage would not prevent the establishment of an additional station later on, when the economics of country station operation could be better assessed.

Of these eighteen applicants, eight did not desire to be considered if more than one licence were to be granted in the area for which they were applicants. The remaining twelve indicated that they would be reluctantly prepared to accept one of two licences although this might mean a considerable period of unprofitable operation and an unavoidable reduction in the extent of the local programmes they proposed to provide.

112. The applicants who are not associated with metropolitan stations and who were reluctant to operate as one of two licensees in the country areas, also relied on the fact that only one licence had been granted in Perth and Hobart.

113. As stated in paragraph 108, not very much reliable evidence was tendered to the Board on the economic capacity of any area to support one or more stations. There are considerable statistical and other difficulties in arriving at satisfactory estimates. We think, however, it would be useful to set down some comparative figures as to the populations in the various areas. The population within 50 miles of the principal city or town in the various areas provides a uniform basis of comparison not only between the areas themselves, but with Perth and Hobart, in which areas only one commercial

station has been authorized. The table hereunder gives these figures (as at 30th June, 1958) in respect of Perth and Hobart and the thirteen areas which are the subject of this report:—

| | | | | |
|------------------------|----|----|----|---------|
| Perth | .. | .. | .. | 448,949 |
| Hobart | .. | .. | .. | 150,361 |
| Canberra | .. | .. | .. | 91,364 |
| Newcastle-Hunter River | .. | .. | .. | 360,943 |
| Richmond-Tweed Heads | .. | .. | .. | 115,396 |
| Central Tablelands | .. | .. | .. | 86,783 |
| Ballarat | .. | .. | .. | 224,168 |
| Bendigo | .. | .. | .. | 136,864 |
| Latrobe Valley | .. | .. | .. | 142,500 |
| Goulburn Valley | .. | .. | .. | 113,780 |
| Darling Downs | .. | .. | .. | 140,018 |
| Rockhampton | .. | .. | .. | 61,656 |
| Townsville | .. | .. | .. | 61,032 |
| North East Tasmania | .. | .. | .. | 117,269 |

114. In general, the evidence disclosed that the operation of two stations in each area (except Rockhampton and Townsville) was advocated by those applicants associated with the metropolitan stations which proposed to provide programmes by relaying them from the metropolitan stations. The "non-associated" stations just as strongly advocated the grant of one licence, although most of them, with reluctance, were prepared to accept one of two licences. (There were some exceptions which have been referred to above.) They also contended that in any area the prospects of two "non-associated" stations operating profitably would be dependent upon their entering into some programme arrangement with the metropolitan stations, a development which it was feared would affect their independence.

115. *Conclusions*:—After examining the evidence presented, we have reached the following general conclusions on this matter:—

- (a) that in the areas under consideration two independent local companies not associated with a metropolitan station presenting their own programmes could not, at the present time, operate profitably;
- (b) that two stations operating on the relay system as advocated by the applicants associated with metropolitan stations could operate successfully in competition with one another in several areas;
- (c) that a local independent company not associated with a metropolitan station presenting its own programmes could not operate successfully if operating in competition with a station operating on the relay system; and
- (d) that one local independent company not associated with a metropolitan station could operate profitably in the areas under consideration.

These general conclusions are discussed in relation to the various areas for which licences are to be granted in Part VI. The question of availability of frequency channels for more than one station in the various areas, which is interrelated with this question, is dealt with in Part V.

PART V.**TECHNICAL MATTERS: FREQUENCY CHANNELS:
TRANSMITTER SITES.**

116. The Minister, in his statement of 30th April, 1959, (see paragraph 63) stated that the Government had decided "that the number of commercial licences in any area should not necessarily be limited to one and that, subject to technical considerations and to the quality of the applicants, more than one commercial service in each area might be licensed". We have already pointed out in paragraph 62 that the Board, in its report to the Minister of 16th February, 1959, had drawn attention to the technical problems in relation to the establishment of the new provincial and country stations which would be involved if more stations were to be established than were provided for in the provisional frequency assignment plan published in the Board's Seventh Annual Report, since it would be necessary, in that event, to re-examine the whole question of the allocation of frequencies for television stations. It has therefore been necessary, in these inquiries, to consider the technical questions which would arise if additional stations were to be established, and all applicants were invited to submit evidence on this subject.

117. The Board also decided that it was desirable, in considering this matter, to obtain the views of the Postmaster-General's Department and the Australian Broadcasting Commission, who are concerned in the establishment of national stations, and of manufacturers of electronic equipment. In order that the matters to be considered might be further elucidated the Board requested its Director of Technical Services to prepare an objective statement of the facts and the problems which appeared to arise, and this statement was supplied to all applicants and others whose views were sought. Statements were received from, or on behalf of, fifteen applicants for licences, from the Postmaster-General's Department and from seven manufacturers of electronic equipment. The Board, after considering the statements submitted to it decided that, owing to the nature of the technical problems involved, it was necessary to adopt a special procedure for dealing with the technical part of the inquiries. It was apparent that the matters to be considered were not matters, for the most part, which could be usefully discussed at public sittings of the Board by the ordinary process of examination of witnesses by counsel, and the Board took the view that it was clearly preferable that any opinions which it was desired to advance should be submitted in writing. The Board arranged for copies of the technical statements submitted to it to be available for examination by interested parties in Sydney and Melbourne between 21st March and 8th April, 1960, and considered that this arrangement gave anyone interested ample opportunity to study the material submitted and to prepare any comments on it.

118. The proceedings at the public inquiry into the technical matters arising from the applications were therefore limited to a special sitting for the purpose of enabling the statements which had been received to be submitted in evidence and made part of the

records of the inquiry, and the Board arranged that the technical questions should be discussed at a technical conference presided over by the Director of Technical Services. A list of the applicants and organizations who submitted technical statements is set out in Appendix I to the Report of the Director of Technical Services, contained in Appendix E to this Report, and the Board's statement as to the procedure followed is contained in Appendix 2 of the Director's Report. The public inquiry into these matters was held on 26th April, 1960, and the conference referred to above was held between 26th April and 29th April, 1960. This conference was attended by a total of 40 representatives of applicants for licences, the Postmaster-General's Department, Australian Broadcasting Commission, manufacturers of electronic equipment and also by a representative of the Commonwealth Scientific and Industrial Research Organization. The latter organization was invited to send a representative on account of the importance of radio propagation in the technical problems involved. A summary of the technical evidence and the proceedings at the technical conference is contained in the report by the Director of Technical Services. The Board desires to express its appreciation to those who submitted statements on the technical questions and also to those who attended the technical conference, for their valuable assistance in its consideration of these difficult and controversial technical matters. It is satisfied that in this way it was able to obtain the advantage of the considered opinions not only of applicants, but also of those best qualified to assist it in its consideration of these matters. The Director's report summarizes the main views expressed on all relevant matters. The statements submitted to the Board and the minutes of the technical conference have not been made part of the transcript of the proceedings at the inquiries. The volume and nature of the statements make it impracticable to publish them in this report, and the minutes of the technical conference, which were not a verbatim record of proceedings but a summary of discussions, are useful mainly when considered in conjunction with the statements. The various statements and minutes of the conference are, however, available for public inspection in the Board's office.

119. On 19th May, 1960, after the conclusion of the technical conference and before the end of the inquiries into applications, the Postmaster-General announced the Government's decision to establish a Special Committee to review frequency allocations in Australia, with special reference to the conclusions of the Administrative Radio Conference of the International Telecommunications Union held in Geneva in 1959. The Minister stated that one of the functions of the Committee, which is to be known as the Radio Frequency Allocation Review Committee, would be to examine any aspects of the radio frequency position that may arise from reports to him by the Board in relation to television. We make reference to this Committee's proposed activities in this Part of this report.

120. It is well known that the question of the availability of frequency channels for the establishment of television stations has led to considerable difficulties in every country where television has been

established or proposed. The difficulties arise partly from the fact that television is a relative newcomer in the large and rapidly growing field of users of radio frequencies, and requires a wide band of frequencies for the operation of each station, and partly from the very marked differences in the propagation characteristics of different portions of the frequency spectrum (especially as between the Very High Frequencies (VHF) and the Ultra High Frequencies (UHF) which in turn have important effects on the extent of the service provided by the use of the different bands of frequencies and in the problems which arise from the fact that a VHF receiver cannot, without modification, receive UHF signals. The question is, for example, still a matter on which there are acute differences of opinion in the U.S.A., after 15 years of the television service in that country.

121. Section 16 of the *Broadcasting and Television Act, 1942-1960* provides that one of the responsibilities of the Board is, subject to any directions of the Minister, to determine the frequency of a television station, "within bands of frequencies notified to the Board by the Postmaster-General as being available." (In this part we use the expression "available" as meaning notified by the Postmaster-General as available.)

122. As might be expected, and as will be seen from the report of the Director of Technical Services, the main technical questions which arise in these proceedings, and which are basic in the grant of licences, are questions relating to the availability of frequency channels for the establishment of the new stations, including in particular—

- (a) whether the available VHF channels are sufficient for the development of the Australian television service in that band: a subsidiary question relates to the technical standards to be adopted in the allocation of those channels;
- (b) whether additional VHF channels can be made available for television;
- (c) whether the UHF channels should be used.

At the time when the Royal Commission on Television made its report (November, 1953), there were seven channels available in the VHF band for television. In addition, there were then 47 UHF channels available. The Royal Commission recommended that television services of the Commonwealth should be planned on the basis of the use of VHF channels and urged that every effort should be made by the authorities concerned to secure that additional VHF channels should be made available for this purpose. In accordance with the Royal Commission's recommendations, discussions were commenced in June, 1954, between the Postmaster-General's Department, other Government users of the frequency spectrum, and the Board with a view to having three or more additional VHF channels

made available for television purposes. As a result of these negotiations and with the co-operation of the authorities concerned, three additional channels were made available, with the result that the following ten VHF channels were reserved for television:—

| | | |
|------------|---------|---|
| Channel 1 | 49–56 | megacycles per second (Mc/s) |
| Channel 2 | 63–70 | megacycles per second (Mc/s) |
| Channel 3 | 85–92 | megacycles per second (Mc/s) (for use in inland country areas only) |
| Channel 4 | 132–139 | megacycles per second (Mc/s) (available from 1st July, 1963) |
| Channel 5 | 139–146 | megacycles per second (Mc/s) (available from 1st July, 1963) |
| Channel 6 | 174–181 | megacycles per second (Mc/s) |
| Channel 7 | 181–188 | megacycles per second (Mc/s) |
| Channel 8 | 188–195 | megacycles per second (Mc/s) |
| Channel 9 | 195–202 | megacycles per second (Mc/s) |
| Channel 10 | 209–216 | megacycles per second (Mc/s) |

With regard to channel 4, the frequency band concerned is used by the Department of Air, and in 1958 the Board was advised that the Department desired to retain use of the band until 1970. This matter has not yet been resolved and further doubts have arisen concerning the availability of channel 4, as a result of the consideration of international allocations by the International Radio Administrative Conference in 1959. At this conference, allocations were made in the frequency band comprising channel 4 which may make it necessary to reconsider the desirability of using the band for television. Thus at the present time it appears that only nine of the ten channels can be regarded as certainly available for television, and one of these, channel 5, will not be available until 1963. A further restriction on use of the above channels is the condition imposed on the use of channel 3 which at present is available for use only in inland country areas, as portion of the channel is used in coastal areas by the Royal Australian Navy.

123. In addition to the above VHF channels, 45 UHF channels are now available for television. Following on the notification to the Board of the availability of the VHF channels specified above, the Board prepared a Provisional Plan for the Assignment of Channels for Australian television services. This plan is set out in Appendix "C" of the Board's Seventh Annual Report, and the basis on which the plan was drawn up, including the use of the VHF channels only, is explained in paragraphs 132–147 of that report. We do not repeat here what we said in that report. The plan provided for the allocation of VHF channels for stations in such a way as to permit the establishment of four services in each State capital city and two services to every town with a population in excess of 5,000 (as shown in the 1954 census). The plan was based on the use of transmitter sites tentatively chosen to give the widest practicable coverage. The provisional decision as to the use of the available VHF channels for the development of the Australian television service was made, as we pointed out in paragraph 62, on assumptions as to the number of stations which might be required

for the service, in the light of the information then available and particularly as to the economic aspects of television. Since that date the public interest in television, the rapid development of services, and the demands for the extension of services have demonstrated that the provisions for stations made in the original provisional plan, within the bands of frequencies then available, may be inadequate.

Number of VHF channels required.

124. The number of VHF channels required for development of the television service is primarily dependent upon the number of stations for which provision is to be made and upon the technical standards of allocation adopted. The problems of allocation of television channels in Australia are most difficult in the area embracing Sydney and the coastal areas north and south of Sydney because of the density of the population and the necessity for establishing separate stations to serve the populations in the Sydney, Newcastle and Illawarra areas. If the requirements in respect of the number of stations to be established in these areas can be met, there is little doubt that adequate provisions can be made for the remainder of the Commonwealth. If it were practicable to operate stations in the Newcastle and Illawarra areas on common channels, fewer channels would be required for those areas. As mentioned in the Director's report, the sharing of channels between these two areas was favoured by some representatives at the technical conference, but was opposed by other representatives. The considerations in this matter are mainly related to the technical standards of allocation of channels adopted for planning purposes, and the technical conference considered this. It is not proposed to set out in detail the various aspects of the technical standards which were considered: these are discussed in paragraph 4 of the Director's report. The view is there expressed that the standards used in the preparation of the provisional frequency assignment plan should be regarded as the minimum allocation standards, and that, in order to secure the least interference to reception in populated areas between stations operating on common channels or adjacent channels, it is necessary to consider each channel assignment individually, having regard to the population to be covered by each station and the alternative services available. In our opinion, after consideration of the Director's report and the varying views there set out, and having in mind the desirability of providing an adequate service to all viewers in the coastal area between Illawarra and Newcastle, it would be undesirable to share channels between stations in these two areas.

125. Accordingly, if only nine VHF channels are available for television (assuming channel 4 not to be available) and the restrictions referred to in paragraph 122 continue to apply on channel 3 and channel 5, only two stations can be established immediately in each of the Newcastle and Illawarra areas (channels 2, 7 and 9 being used in Sydney and channels 1, 6, 8 and 10 being available for use between Newcastle and Illawarra stations). On this basis channel 5 would be used in Sydney, but, at present, this channel is not available until 1963. A tentative plan showing the allocations of

nine channels for various parts of the Commonwealth, providing for two stations in country areas and four in State capital cities, is given in Appendix 3 of the Director's report. Such a plan would, however, make only the minimum provision for current requirements, including provision for national stations, and would make no provision for future development in the thickly populated areas. It must be contemplated, as appears from the Minister's statement of 30th April, 1959, that in these areas, where the channel allocation problem is most acute, two commercial stations, in addition to a national station, may be required immediately, and it is desirable that provision should be made for the establishment of a fourth station in those areas. In addition, the recent developments in Australian television appear to demonstrate that a fifth station may be required in the future in the major State capital cities. It would seem therefore that any planning for the future should be based on the provision of at least five stations in Sydney, four in the Newcastle area and four in the Illawarra area. This would need a total of thirteen VHF channels. It has been explained that if the requirements of Sydney and of the coastal area north and south of Sydney can be met, there is relatively little difficulty in providing for the requirements of the rest of the Commonwealth. If thirteen VHF channels are available, five stations could be established in all the State capital cities and four stations could be established in all major country areas. We regard this as the minimum provision which should be made. The foregoing observations are made on the assumption that the proposed additional VHF channels are suitably located in the frequency spectrum so as to enable them to be used in the areas where they are required. We think that this should be referred to the Radio Frequency Allocation Review Committee (see paragraph 119).

126. Reference is made in the Director's report to the desirability of making provision in the allocation of frequencies for the establishment of educational television stations. The Board received no satisfactory evidence as to the need for such stations or the methods by which they might be provided or, indeed, as to what would be the nature of the programmes. It was suggested to the University of Melbourne, which had made proposals to the Postmaster-General that channels should be reserved for such stations, that it might submit a statement to the Board on the matter in the course of the inquiry into frequency allocation questions, but no such statement was received. A preliminary question arises here as to whether educational television programmes should be transmitted by national or commercial stations or both, or by stations especially established for the purpose. The *Broadcasting and Television Act 1942-1960* makes no provision for the establishment of educational stations. The Australian Broadcasting Commission has already provided special television programmes for schools, as well as other educational programmes, and Station TCN Sydney has recently commenced a regular series of educational programmes. There are clearly formidable problems of policy and finance to be solved in this field, if separate educational stations are to be established. It is clearly desirable that provision should be made in television programming to allow for a suitable number and variety of educational

programmes at various levels to be televised regularly and at appropriate periods, and that, in the preparation and presentation of these programmes, full use should be made of the advice and assistance of universities, technical colleges, education departments, adult education authorities and others with experience in this field. Whether, on the other hand, the time and attention and financial resources of educational authorities should be applied in the complex operations of financing and maintaining television stations in view of their other pressing commitments, is a serious question which requires much further examination. From the foregoing discussion of the future requirements of the Australian television services as a whole, it is clear that separate educational stations could only be established with channels in the VHF band at the expense of the future development of the national or the commercial services, which might be expected themselves to make substantial contributions to educational television. On the other hand, there would be no difficulty in providing channels for such stations in the UHF band, which is discussed later. On the very limited information available to us we would think that, having regard to the limited periods of operation during which purely educational stations would be likely to operate, if established, and the very specialized nature of the audience, it would be appropriate for such stations to be established in the UHF band. We think we should say that it is not, in our view, necessary at this stage to "reserve" any channels for this purpose, but clearly the matter requires much further consideration.

Availability of VHF Channels

127. We think therefore that it is desirable to consider the general question of the availability of VHF channels and the possibility of obtaining additional VHF channels for television purposes. In the VHF band, so far as the Board is aware, the only band which is available for and is not currently used by radio services is the 92-108 Mc/s band which has been reserved for broadcasting purposes. The only stations operating in this band are experimental frequency modulation broadcasting stations operated by the Postmaster-General's Department in four of the State capital cities. In this band, two television channels could be provided. In 1957 the Board, with the approval of the Minister, held a public inquiry under the *Broadcasting and Television Act 1942-1956*, into the question of the introduction of frequency modulation broadcasting in the VHF band. The Board said in paragraph 37 of its Tenth Annual Report that the evidence in this inquiry made it plain that, in circumstances existing at that time, there were very real practical objections to the introduction of frequency modulation broadcasting. There is no reason to depart from this view at the present time. The areas in the Commonwealth where there are deficiencies in the sound broadcasting service are in some country areas and there is a clear need for the improvement of the service in these areas. The number of broadcasting stations at present operating in State capital cities (varying from four in Hobart to eight in Sydney and Melbourne) would appear to be adequate, but in some country areas remote from the capital cities it is difficult to receive even one station reliably at all times. However, the number of these areas is relatively small and it is extremely

doubtful if frequency modulation broadcasting stations were established to provide a service in these areas whether receivers for such a restricted market would be available at a price comparable to the cost of existing broadcasting receivers. The Board is examining various methods, such as the use of directional aerials and other techniques, of improving the broadcasting service in country areas by making further use of the medium frequency band in which the service at present operates; at the present time this is, in our view, a more realistic approach to the problem than the introduction of a service in a new frequency band. The introduction of broadcasting stations operating in a band of frequencies not at present used, in order to provide the same type of service as at present provided by medium frequency stations, involves considerable difficulties, mainly because of the large number of broadcasting receivers in the hands of the public designed for medium frequency reception only. This problem would not be very different whether the VHF band or UHF band were used for broadcasting services, except that in the latter case the coverage of stations would be reduced because of the relatively unfavourable propagation characteristics of UHF frequencies compared to VHF frequencies.

128. There was strong support at the technical conference for a proposal to use the 92-108 Mc/s band for television. If the 92-108 Mc/s band is used for television, and at some future date the introduction of a broadcasting band in addition to the medium frequency band is required, it would seem that the ultra high frequency band would be reasonably satisfactory for the purpose, although the 92-108 Mc/s band is to be preferred. There was support for this view at the technical conference, where it was also pointed out that the UHF band would have less disadvantages for broadcasting purposes than for television. We have already (see paragraph 125) expressed the view that provision should be made for the establishment of at least five stations in the State capital cities and four in the major country areas. A possible eleven channel allocation plan, using two channels from the 92-108 Mc/s band and assuming that channel 4 will not be available (see paragraph 122) is set out in Appendix 4 of the Director's report. This plan would provide for four State capital city stations, three stations in the Newcastle and Illawarra areas and three in most of the other populated centres of the Commonwealth. If the existing restrictions were removed from channel 3 (see paragraph 122), an additional station could be provided for Newcastle. A further additional station in one of the Sydney, Newcastle or Illawarra areas could be provided if channel 4 were available and this would also provide for an additional station in a number of other country areas.

129. In the statements of evidence discussed at the technical conference, suggestions were made that other VHF frequency bands might be made available for television. In particular it was suggested that the bands 56-63 Mc/s, 202-209 Mc/s and 216-223 Mc/s might be made available. Each of these bands would provide one television channel. In the case of the 202-209 Mc/s band an estimate of £400,000

was given to the conference as the approximate cost of transferring the service operating in that band to another portion of the frequency spectrum. These suggestions were discussed only briefly at the conference as the organizations at present using the frequency bands were not represented. The suggestions, together with the removal of restrictions on the use of channels 3, 4 and 5 are considered appropriate matters for consideration by the Radio Frequency Allocation Review Committee.

130. If additional VHF channels were made available for television, inconvenience would be caused to some viewers in areas where the additional channels are used, as receivers at present available are fitted only for reception of channels 1-10. It is understood that the majority of Australian receivers are equipped with twelve channel turrets fitted for reception of ten channels, and that the provision of facilities to receive up to twelve channels would not be difficult or very expensive—possibly of the order of £3-£5. In some receivers, however, it is understood that the difficulties of providing for reception of additional channels would be greater, and, for receivers where a new tuner unit would be required, the additional cost might be £15-£20 to the viewers concerned.

Use of the UHF Band

131. If sufficient VHF channels for the development of television cannot be made available, the only other band available is the UHF band in which there is sufficient spectrum space available, at the present time, to provide for 45 channels. This band would provide sufficient channels for extensive development, although the number which could be provided in any one area would be limited to six or seven, depending upon the method in which it is used. The maximum number of stations which can be provided in any area would be achieved by using a combination, usually called intermixture, of VHF and UHF channels and it would be technically practicable to provide, by using available VHF channels and UHF channels, for up to ten stations in Sydney (four VHF and six UHF) and eight in each of the Newcastle and Illawarra areas (two VHF and six UHF). The intermixture of VHF and UHF channels in the one area has led to considerable difficulties in the U.S.A., where UHF commercial stations, established in areas where VHF services were available, have found it difficult to operate successfully and many of the UHF stations have closed down after a short period of operation. The main reasons appear to have been that the percentage of receivers fitted for UHF reception in areas where VHF services are available was small, and the networks and advertisers were not prepared to use the UHF stations. The same type of problem would exist in Australia if UHF services were intermixed with VHF services in capital cities. With the heavy saturation in these cities of receivers capable of receiving VHF transmissions only, particularly in Sydney and Melbourne, new stations commencing operation on UHF would find it difficult to obtain viewers. The problem would be overcome in time if all receivers manufactured were capable of reception on both VHF and UHF channels, and the cost of such receivers is estimated at approximately

£15 more than existing VHF receivers. The cost to the viewer of converting existing VHF receivers to receive UHF transmissions in addition to VHF, is estimated at £25, not including the provision of a UHF aerial estimated to cost an additional £5. While it is true that the experience in other countries in this respect may not be a reliable guide to what may happen in Australian conditions, the Board thinks that the difficulties involved in the intermixture of VHF and UHF channels in the one area are such that it should be avoided where the services are of a competing nature.

132. Various other methods by which services in the UHF band might be introduced were proposed at the Technical Conference:

- (a) UHF might be used for all areas except the State capital cities (where VHF services are available). This would enable provision to be made for six VHF services in the capital cities with the VHF channels available or to be available by 1963.
- (b) UHF might be used for all areas except the State capital cities now, and within a number of years UHF transmission facilities could be added to existing capital city services; after a period of years the VHF band could be abandoned.
- (c) VHF services might be introduced into country areas, and at a later stage UHF added to the capital cities with the aim of changing capital city services to UHF. As a further stage in providing for the operation of all services in the UHF band country stations could gradually introduce UHF.
- (d) UHF services could be introduced in capital cities in parallel with VHF with the aim of converting capital city transmissions to UHF over a period of 8-10 years. The VHF channels thus released could be used to provide service in country areas.

133. Each of these procedures has serious disadvantages which are explained in the Director's report. With regard to (a), although six VHF stations could be established in capital cities, the problem of overlapping of VHF and UHF signals would still exist. For example, in the Newcastle, Illawarra and Latrobe Valley areas there are many VHF receivers and these viewers would have to purchase additional equipment to receive the UHF transmissions. If viewers were reluctant to purchase this equipment and continued to rely for reception on the capital city VHF stations, the prospects for successful commercial operation would be appreciably reduced for licensees of UHF stations. With regard to (b), which is aimed at producing the result that all stations will operate in the UHF band after some years, one serious difficulty is that many viewers on the fringe of the existing service of capital city stations would, unless some other provisions were made, experience considerable difficulty in achieving satisfactory UHF reception because of the restricted range of UHF stations compared to VHF.

It would be necessary for capital city stations to operate for some years with both VHF and UHF transmissions in order to enable viewers to change over from VHF to UHF, and this would possibly take some five to ten years. With regard to (c), the main merit of this arrangement would be that the extended coverage characteristics of VHF stations would be available for country areas, and that existing receivers would be suitable for receiving the country stations. However, the introduction of UHF in such areas at a later stage to replace VHF stations is subject to the same disadvantages as apply in changing existing capital city stations to UHF, and if country services are to use UHF, it would seem that the most appropriate time to introduce such a service is in the initial stages of development. With regard to (d), the main advantages claimed for this arrangement are that VHF stations, with their wider coverage, would more reliably serve outlying country areas than would UHF, and as the capital city areas are the more densely populated areas, the restricted range of UHF is not so serious. With capital city stations operating on UHF, the VHF channels presently used or reserved for television could be used to increase the number of VHF services in country areas. This arrangement suffers from the same disadvantage as (b) in that many existing viewers, particularly those receiving a fringe service from existing stations, would have considerable difficulty in receiving the UHF transmissions. By using existing capital city VHF channels for country areas, provision could be made, eventually, with VHF channels at present available, for four VHF stations in Newcastle and Illawarra and a number of other areas. However, it would be some years before it would be practicable to use the capital city VHF channels in those areas nearer to the capital cities where the demand for channels is greatest, and development would accordingly be retarded.

134. The Director's report makes it clear that the weight of the evidence at the technical conference was clearly opposed to the introduction of UHF transmissions. The reasons may be summarized as follows:—

- (a) Restricted range of UHF stations compared with VHF stations.
- (b) The cost of a UHF service would be greater than for a VHF service.
- (c) There could be delays in planning due to the unknown factors involved in the use of the UHF band in Australia.
- (d) Serious problems could arise in areas where there is penetration of VHF services into areas served with UHF.
- (e) The UHF band should be reserved for future developments.

135. With regard to (a), the restricted range of UHF would make it necessary to use more stations to cover a given area than would be necessary with VHF. A report dated 17th May, 1960, by the United Kingdom Television Advisory Committee states that—

“Whereas some 20 stations are required in each of the lower bands (VHF) to provide upwards of 98 per cent. population coverage, possibly four or five times as many stations would be needed in Bands IV and V (UHF) to give 95 per cent. coverage.”

While this statement may exaggerate the comparison with Australian conditions, it is quite clear that a much larger number of UHF stations is required to cover a given area in Australia than of VHF stations although many of the additional stations could be of low power. With regard to (b), evidence at the technical conference indicated that the cost to the viewer would be greater for UHF reception than for VHF. For receivers manufactured to receive UHF only, the cost would be £5 to £10 greater than for VHF, based on a quantity production similar to that of VHF, and if only 30 per cent. of the quantity of VHF sets were produced, the cost would be of the order of £20 more. VHF receivers could be adapted to receive UHF transmissions in addition to VHF at a cost of approximately £25 by the addition of a separate converter unit. For receivers designed to receive both VHF and UHF transmissions, the cost would be approximately £15 more than for VHF only, assuming an annual demand of 100,000 receivers. The cost to some viewers will be increased if additional VHF channels are introduced and, as mentioned in paragraph 130, the cost could vary between approximately £3 and £20 to provide for reception of additional VHF channels, depending upon the type of receiver in use. The establishment and operating costs of UHF stations can be estimated only after a detailed examination of the different areas of the Commonwealth, as the coverage of stations would vary widely in different areas because of the different types of terrain. No detailed estimate of the difference in cost for any area has been made, but one estimate given as a first approximation at the technical conference indicated that the extra cost for a UHF system could be about 60 per cent. greater than for a VHF system. Information from the report of the Television Allocation Study Organization (U.S.A., 1959) indicated that the establishment cost of a 100 kw e.r.p. UHF station would be £20,000 more than for a VHF station of the same effective radiated power. For a 500 kw e.r.p. UHF station, which over favourable terrain would give a coverage approximating to that from a 100 kw e.r.p. VHF station, the establishment cost would be £45,000 more. The annual operating costs of such UHF stations would be approximately £2,500 per year more than for VHF. As to (c), so far as the “unknown factors” involved in introducing a UHF system are concerned, the experience already gained by the Board’s staff in making observations of the coverage of an experimental UHF transmitter which it has established in Melbourne has given valuable indications of the characteristics of the UHF band in local conditions. The information gained

can be applied to other areas, and in particular to the areas at present under consideration. If UHF services were introduced, the Board does not think that the broad planning, and in particular the areas chosen for development in the third stage, would be changed. The restricted range of UHF transmissions and the existence of pockets of poor reception would, however, make it necessary for special provision to be made to cover the same area as with VHF. The completion of a plan to provide a UHF service over the whole of the country areas, including the proposed fourth stage would need much further examination of all the factors involved. As to (d), the penetration of signals from VHF stations into areas served by UHF stations could produce problems. These would arise if the UHF band were used in country areas, and would result from the penetration of capital city VHF signals into the adjacent country areas, for example, Illawarra and Newcastle in New South Wales and the Latrobe Valley in Victoria, and this would constitute a considerable handicap to a commercial station in competition with VHF stations. As to (e), the suggestion that the UHF band should be reserved for future developments is of considerable importance. It may be necessary in the future to provide for additional sound broadcasting facilities, and educational and colour television in this band. In so far as colour television is concerned, the UHF band may offer some advantages over the VHF band because it would be possible to provide for a greater channel width than is available in the VHF band and this, in turn, could lead to a more economical type of colour system than so far developed.

136. The basic arguments advanced at the technical conference in favour of the introduction of UHF were that the limitations imposed by the availability of VHF channels are such that it is necessary to introduce UHF transmissions to provide for the expansion of the service and that some of the current disadvantages of UHF would be overcome with the improvement of techniques. As is explained in the Director's report, the argument in support of the introduction of the UHF band is based upon the assumption that there are not sufficient VHF channels for the development of the television service, and that it is unlikely that sufficient further channels would be made available for this purpose. If this assumption is correct, then it would appear that, despite its disadvantages compared with the VHF band, it would be desirable to use the UHF band at the present stage of the development of the service, as its introduction at a later stage would lead to much greater difficulties, chiefly those arising from intermixture in a saturated market. There is sufficient evidence available, which is supported by the Board's investigation (mentioned in paragraph 6 of the Director's report) that a useful service could be provided from UHF stations, and there are some indications that, with development of UHF techniques, some of the existing disadvantages of UHF compared to VHF will be reduced. However, although these developments will overcome some of the present limitations of the UHF band, it is undeniable that the band will remain generally

inferior to the VHF band in providing coverage. It should be pointed out that almost all applicants were, to say the least, reluctant to undertake the provision of services in the UHF band.

137. We think, after consideration of all the available evidence and the views expressed on this subject, and after close examination of the whole problem, both here and overseas, on which there is an enormous literature, that there are overwhelming advantages in adopting the view that the Australian television services should continue to be developed in the VHF band, if sufficient additional channels in that band can be made available to provide for the minimum development envisaged in paragraph 125. This seems, at this stage to be largely a matter for the Radio Frequency Allocation Review Committee, and we suggest that our views should be referred to that Committee by the Postmaster-General. If additional VHF channels cannot, in fact, be made available, we think that the decision should be made now that future television development, including the present third stage, should be in the UHF band. The manner in which the UHF channels should be used would require further examination.

138. *Conclusions.*—

- (i) The most important technical matter for decision as a result of these inquiries is whether the development of the Australian television service is to be confined to the VHF band or whether the UHF band is to be used.
- (ii) If an adequate number of channels can be made available to permit the development of the television service in the VHF band there are very great advantages to be gained. The existing service has developed in this band and over 1,000,000 receivers are in the hands of the public, the industry is familiar with the techniques of VHF equipment manufacture and a more efficient and economic service can be provided in that band than in the UHF band.
- (iii) The 92-108 Mc/s band of frequencies at present reserved for frequency modulation broadcasting, which would provide two additional television channels, might be used for television purposes if required.
- (iv) At present, the nine VHF channels available (excluding channel 4 on the availability of which there is some doubt—see paragraph 122) are sufficient to provide for the establishment of a fourth station in the State capital cities, and two stations (including a national station) in all the areas under consideration. With the use of the 92-108 Mc/s band three stations could be established in all those areas.
- (v) The number of stations for which provision should be made for the future cannot be determined with any certainty. To provide for future development provision should be made for the establishment of at least five

stations in the State capital cities and four in major country areas. To permit this to be done, it is necessary for 13 VHF channels to be available free of restrictions.

- (vi) Before channels are allocated to the stations to be established in the present third stage of development, a decision should be made as to the number of VHF channels which will be available.
- (vii) The question of the availability of additional VHF channels to provide for the development envisaged, together with the removal of the restrictions on existing channels 3, 4 and 5, should be considered, as a matter of urgency, by the Radio Frequency Allocation Review Committee.
- (viii) If sufficient VHF channels to provide for the development envisaged cannot be made available, the alternative of making use of channels in the UHF band must be adopted immediately.
- (ix) There are 45 channels available in the UHF band which are sufficient to provide for all foreseeable developments.
- (x) If it is necessary to make use of the UHF channels, there are strong reasons in favour of developing the services in the country and provincial areas in this band from the outset to avoid the difficulties of "intermixture" which would arise if they were to be brought into use at a later stage of development.

Proposed Establishment of a Technical Advisory Committee.

139. The Director points out in paragraph 7 of his report that there was considerable support for a proposal for the establishment of a committee, which would include representatives of the electronics industry, to study and advise the Board on technical problems associated with the development of television. Suggestions were made that such a committee might study short term problems associated with the current stage of development and longer term problems associated with further development. The *Broadcasting and Television Act 1942-1960* provides that the Board may, with the approval of the Minister, appoint such advisory committees as it thinks fit. The Board is considering this matter and will make a recommendation to the Minister in due course. It has always been the practice of the Board to consult representatives of the industry in connexion with the technical standards for television, and matters relating to receiver manufacture that are associated with technical planning.

140. *Transmitter Sites and Operating Power.*—The areas in respect of which applications were invited by the Minister were, as the Minister said, those broadly described in the Board's provisional Plan for the Assignment of Channels referred to in paragraph 123, and were based on population density in accepted regional divisions. The location of transmitters in these areas had been tentatively selected for the purposes of that plan with a view to securing the largest

practicable coverage, while at the same time providing a satisfactory service to the main cities and large towns in those areas. The transmitter sites tentatively selected by the Board for the various areas, with their heights above sea level, were as follows:—

| | | | | | |
|------------------------|----|----|-----------------|----|-----------|
| Canberra | .. | .. | Black Mountain | .. | 2,668 ft. |
| Newcastle-Hunter River | .. | .. | Great Sugarloaf | .. | 1,349 ft. |
| Illawarra | .. | .. | Barren Ground | .. | 2,182 ft. |
| Richmond-Tweed Heads | .. | .. | Peach Mountain | .. | 1,964 ft. |
| Central Tablelands | .. | .. | Mt. Canobolas | .. | 4,576 ft. |
| Ballarat | .. | .. | Mt. Buninyong | .. | 2,442 ft. |
| Bendigo | .. | .. | Mt. Alexander | .. | 2,445 ft. |
| Latrobe Valley | .. | .. | Near Callignee | .. | 2,437 ft. |
| Goulburn Valley | .. | .. | Mt. Major | .. | 1,250 ft. |
| Darling Downs | .. | .. | Middle Ridge | .. | 2,300 ft. |
| Rockhampton | .. | .. | Mt. Archer | .. | 1,980 ft. |
| Townsville | .. | .. | Mt. Cleveland | .. | 1,800 ft. |
| North Eastern Tasmania | .. | .. | Mt. Barrow | .. | 4,644 ft. |

141. No decision was made as to the formal determination of specific sites before the commencement of the inquiries, and each applicant was required to specify in his application the proposed location of the transmitter and the estimated coverage of the station on the basis of the technical equipment proposed. The site of the transmitter for a television station is, subject to any direction of the Minister, to be determined by the Board and it is the usual practice to make such a determination after the grant of the licence. It is clearly desirable, however, that in this report we should indicate our views on the location of transmitters for the new stations so far as this is practicable at the present time. There was, in some areas, considerable discussion on this subject in the course of the inquiries, and in those areas the selection of the transmitter sites has an important bearing on the areas to be covered. It is necessary for the Board not only to have regard in this connection to the views expressed by applicants, but also to consult the Postmaster-General's Department, which is responsible for the establishment of national television stations, and the Departments of Air and Civil Aviation, which are concerned with the provision and operation of radio communication and navigation services. In a number of areas it has not been practicable, within the time available for the completion of this report, for the Board to come to a conclusion on these matters, mainly because additional information or further discussion with the Departments of Air and Civil Aviation is required. In some cases the decision as to the location of a transmitter will be different if the UHF channels are to be used, compared with that which would be most suitable for a station on a VHF channel. The Board has received many representations and suggestions from persons and organizations interested in the development of television in the various areas, concerning the advantages which were claimed of various transmitter sites. Although we do not refer to all sites which have been suggested at various times, all of these have been considered in the detailed examination of this question.

142. In the following areas all applicants proposed that the sites already tentatively selected by the Board should be adopted:—

| | | | |
|------------------------|----|-----------------------------------|--|
| Newcastle-Hunter River | .. | Great Sugarloaf (five applicants) | |
| Bendigo | .. | Mt. Alexander (two applicants) | |
| Latrobe Valley | .. | Near Callignee (two applicants) | |
| Rockhampton | .. | Mt. Archer (one applicant) | |
| North Eastern Tasmania | .. | Mt. Barrow (three applicants). | |

143. In the other areas, the sites proposed were as follows:—

Canberra Area

| | | | | |
|------------------------------------|----|----------------------------------|----|-----------|
| Television Australia Ltd. | .. | Bull's Head | .. | 4,500 ft. |
| | | 19 miles south west of Canberra. | | |
| Community TV (Canberra) Ltd. | .. | Black Mountain | .. | 2,668 ft. |
| Canberra Television Ltd. | .. | Black Mountain | .. | 2,668 ft. |
| Australian Capital Television Ltd. | .. | Red Hill | .. | 2,368 ft. |

Illawarra Area

| | | | | |
|---|----|--------------------------|----|-----------|
| Wollongong & Illawarra Television Ltd. | .. | 1 mile east of Robertson | .. | 2,550 ft. |
| I.T.N. Ltd. | .. | Knights Hill | .. | 2,550 ft. |
| Television Wollongong Transmission Ltd. | .. | Barren Ground | .. | 2,182 ft. |
| South Coast Telecasters Ltd. | .. | Mt. Kiera | .. | 1,500 ft. |
| Television Corporation Ltd. | .. | Saddleback | .. | 1,260 ft. |

Richmond-Tweed Heads Area

| | | | | |
|-----------------------------|----|------------------------|----|-----------|
| Richmond Tweed TV Ltd. | .. | Nightcap Mountain | .. | 2,400 ft. |
| Lismore Telecasters Ltd. | .. | Near Nightcap Mountain | .. | 2,400 ft. |
| North Coast Television Ltd. | .. | Mt. Mathieson | .. | 2,636 ft. |
| Television Corporation Ltd. | .. | Near Rosebank | .. | 850 ft. |

Central Tablelands Area

| | | | | |
|--|----|------------------------|----|-----------|
| Country Television Services Ltd. | .. | Mt. Canobolas | .. | 4,576 ft. |
| Central Western Television Ltd. | .. | Mt. Canobolas | .. | 4,576 ft. |
| Pan Australian Television Corporation Ltd. | .. | "Porcupine" near Edith | .. | 4,600 ft. |
| Orange and District Telecasters Ltd. | .. | Mt. Canobolas | .. | 4,576 ft. |
| Television Corporation Ltd. | .. | Mt. Canobolas | .. | 4,576 ft. |
| P. A. Yeomans | .. | Mt. Canobolas | .. | 4,576 ft. |

Ballarat Area

| | | | |
|--|------------------|----|-----------|
| Ballarat and Western Victoria Television Ltd. .. | Mt. Buninyong | .. | 2,442 ft. |
| General Television Corporation Pty. Ltd. .. | Mt. Buangor area | .. | 3,195 ft. |
| R.H. Wilson .. | Mt. Callender | .. | 1,587 ft. |

Goulburn Valley Area

| | | | |
|--|---------------|----|-----------|
| General Television Corporation Pty. Ltd. .. | Mt. Major | .. | 1,250 ft. |
| Goulburn Murray Tele- vision Pty. Ltd. .. | Mt. Major | .. | 1,250 ft. |
| Rural Telecasters Pty. Ltd. .. | Mt. Glenrowan | .. | 1,695 ft. |

Darling Downs Area

| | | | |
|---|--|----------------------|----------------------|
| Darling Downs TV Ltd. .. | Mt. Lofty, or Mt. Kynoch, or Gabbinar area | .. } .. } .. } | approx. 2,300 ft. |
| Toowoomba & Darling Downs Television Ltd. .. | Mt. Mowbullen | .. | 3,622 ft. |

Townsville Area

| | | | |
|---|-------------|----|---------|
| Telecasters North Queensland Ltd. .. | Castle Hill | .. | 938 ft. |
|---|-------------|----|---------|

144. *Canberra Area*.—Three transmitter sites were proposed by applicants for licences for this area. Two applicants proposed Black Mountain, one applicant Red Hill and one applicant Bull's Head. Black Mountain and Red Hill are both close to the populated Canberra area and Bull's Head is 19 miles to the south west. The main advantage of the Bull's Head site is that a service would be provided over a larger area than from Black Mountain, including some areas in New South Wales. It would, however, have the disadvantage that in the populated city area of Canberra there would be a serious possibility of multiple image reception (ghosting) due to reflections from the nearby hills. The advantages of the Bull's Head site are outweighed by its disadvantages as compared to a site close to the city of Canberra, and of the two such sites considered, the Board prefers Black Mountain because of the greater coverage which would be achieved compared to that to be expected from Red Hill. However, the Board does not propose to make a final choice in the Canberra area until discussions which are proceeding with the National Capital Development Commission are completed.

145. *Newcastle-Hunter River Area*.—All applicants suggested Great Sugarloaf as the site for the transmitters for this area; it has considerable advantages over any other alternative site, and we think that the station should be established there.

146. *Illawarra Area*.—All applicants suggested different sites for the location of transmitters in this area. One applicant suggested Mt. Kiera, 2½ miles north-west of Wollongong. All other applicants

suggested sites to the south of Wollongong as follows: near Robertson, 19 miles to the south-west; Knight's Hill, 17 miles to the south-west; Barren Ground, 25 miles to the south-south-west; and Saddleback, 25 miles to the south-south-west. It is desirable that the stations to serve this area should provide a service to the north to those parts not adequately served by the Sydney stations, to the south as far as practicable along the coast, and to the Moss Vale area. Although each site suggested would have some advantages over the other sites in providing a service to one or more parts of the area to be served, Knight's Hill is preferred because from that site an adequate service will be provided to the north of Wollongong, and to the Moss Vale area, and a better service will be provided to the south than from other sites.

147. *Richmond-Tweed Heads Area.*—Four applicants for this area proposed three different sites, namely Nightcap Mountain (two applicants), Mt. Mathieson and a site near Rosebank. An additional site, Blue Knob, was proposed initially by one applicant but it was later withdrawn because of difficulty of access. It is desirable that stations established to serve this area should provide service to the area south of Brisbane, where reception of Brisbane stations is unsatisfactory, to the Kyogle area and south along the New South Wales coast. Of the three sites, Mt. Mathieson is preferred as the best overall coverage of the Richmond-Tweed Heads area would be obtained from stations located there.

148. *Central Tablelands area.*—Two sites were proposed by applicants for licences for the Central Tablelands area, five applicants proposing Mt. Canobolas and one applicant "The Porcupine", a high peak near Edith. Quite different areas would be served by stations from these two sites, which are 75 miles apart. On the one hand, high powered stations on Mt. Canobolas would serve a very large area of New South Wales where the service from Sydney stations is very poor. On the other hand, the major portion of the population served by stations at "The Porcupine" would be in the area already provided with a service from Sydney stations, and there would not only be appreciable overlapping with the coverage of stations to be established to serve the Illawarra area but the service from "The Porcupine" to Orange and the west would be inferior. Having regard to the desirability of providing a service to the maximum population at present not served by television stations or likely to be served by stations to be established in the current stage of development, a site on Mt. Canobolas is preferred.

149. *Ballarat area.*—Three sites were proposed by applicants for licences for this area, Mt. Buninyong, 8 miles south-south-east of Ballarat, Mt. Callendar, 16 miles west of Ballarat, and the Mt. Buangor area (Look Out Hill), 39 miles west-north-west of Ballarat. A service from stations located at Mt. Buninyong would overlap to a considerable extent with the service from the Melbourne stations and would not extend to the Western District and Wimmera areas to the same extent as would a service from stations located to the west of

Ballarat, particularly at Mt. Buangor. For this reason, a location near Mt. Buangor is preferred as the site for the stations. There is no reason to doubt that the city of Ballarat would receive a satisfactory service from the site.

150. *Bendigo area*.—Both applicants for licences for this area proposed Mt. Alexander, 17 miles south of Bendigo, as the site for the stations. Although there are other possible sites from which a service could be provided to the city of Bendigo, Mt. Alexander is considered the best site.

151. *Latrobe Valley area*.—Both applicants for this area proposed sites near Callignee in South Gippsland, 14 miles south of Traralgon. If high ground were available to the east, it would be preferable to establish the stations further east than Callignee with a view to improving the service to eastern Gippsland, but the ground falls away in that direction and no suitable sites are available there. A possible alternative site would be at Mt. Erica, a 4,980 feet peak in the Baw Baw Ranges. Although from this site a better service would be provided to some parts of the Latrobe Valley area than from Callignee, in other parts it would be poorer, and there are problems of access to Mt. Erica. The matter will be further considered.

152. *Goulburn Valley area*.—Two sites were proposed by applicants for licences for this area, namely, Mt. Major, 16 miles east of Shepparton, and Mt. Glenrowan, 9 miles south-west of Wangaratta. These sites are 30 miles apart. Although the service from stations established at Mt. Glenrowan would extend into the Goulburn Valley area, stations on Mt. Major would provide a better service to the majority of towns in the area and would also provide a service to Wangaratta. The service from stations on Mt. Glenrowan would extend into the area which it is proposed should be served at a later stage from stations established in the Upper Murray area, which are provided for in the Provisional Assignment Plan. From Mt. Major the service in a northerly direction would be better than that from Mt. Glenrowan. The Mt. Major site is therefore preferred.

153. *Darling Downs area*.—Two sites were proposed by applicants for licences for this area, namely, at a location near Toowoomba (three possible sites being suggested) and at Mt. Mowbullen, 46 miles north-west of Toowoomba. Appreciably different areas would be served by stations at these two locations. On the one hand, from high powered stations near Toowoomba that city would receive an excellent service, and the service would extend towards Brisbane with appreciable overlapping of coverage with that of Brisbane stations. On the other hand, from Mt. Mowbullen, stations would provide a service appreciably further to the west and there would be little overlapping with the coverage of Brisbane stations. To provide a service over the widest possible area, a site at Mt. Mowbullen is

preferred, but there is some doubt whether the service provided from stations at that location would give an adequate service to Toowoomba, and this is being further investigated.

154. *Rockhampton area.*—The applicant for a licence in this area proposed Mt. Archer, 5 miles north-east of Rockhampton, as the site for the station. There are alternative sites to serve this area to the south of Rockhampton, in the Mt. Hopeful area, and in order to provide a service to the greatest population, a site to the south of Rockhampton would be better than one at Mt. Archer. Of the sites to the south, Mt. Hopeful is considered perhaps the best for providing a service to the greatest population. There are, however, economic problems arising from the difficulty of access to sites to serve this area, which are more acute for Mt. Hopeful than for Mt. Archer, and further consideration is being given to the matter.

155. *Townsville area.*—The applicant for a licence in this area suggested Castle Hill as the site for the transmitter. Castle Hill is close to the centre of the city of Townsville with population on all sides. The site is also used by a number of authorities for radio-communications and is approximately two miles from the local aerodrome, and the use of high masts for television stations would increase the hazards to air navigation. In addition, there is very little space available for the establishment of television stations. Alternative sites to serve the area are Mt. Stuart, 7 miles south of Townsville, and Mt. Elliott, 18 miles south-east of Townsville. Mt. Elliott is the best site from which to provide service to the largest population, but both Mt. Elliott and Mt. Stuart raise serious economic problems as the construction of roads to either site would be very costly. Further consideration is being given to the matter.

156. *North-eastern Tasmania area.*—The three applicants for licences in this area proposed Mt. Barrow, 18 miles east of Launceston, as the site for the stations. There are other alternative sites from which a service could be provided to parts of the area which would be served from Mt. Barrow, but stations located on Mt. Barrow would serve a greater population than those on any other site, and in our view should be located there.

157. *Operating Power.*—The Board considers that high power should be used by all stations to be established in this stage of the development of the service in order to provide a service to the maximum population in country areas and that the operating power should be of the order of 50–100 kw e.r.p. In some cases it will be desirable to consider the use of directional aerials in making the most effective use of the available channels and this matter, together with the question of the actual power to be used, will be discussed with the licensees. The operating power of stations is a matter for determination by the Board, subject to any directions of the Minister, and this is usually determined after the grant of licences.

PART VI.—OBSERVATIONS.

158. The Minister referred the applications for licences in provincial and country areas to the Board, in pursuance of section 83 of the *Broadcasting and Television Act 1942-1960*, for its recommendation as to the grant of the licences for those areas. Following the Government's decision to invite applications for licences in these areas, the Minister, on 30th April, 1959, made a statement in Parliament, which is quoted in full in paragraph 63 of this report, in the course of which he said that the Government had "decided that, as far as practicable, priority in the grant of such licences would be given to applicants which are local independent companies not associated with metropolitan stations, provided such applicants demonstrate their capacity to provide, in the circumstances prevailing in the area, a service comparable to that available to city viewers and to conform to the technical and programme standards laid down by the Australian Broadcasting Control Board". Subsequently, on 12th August, 1959, the Minister explained in Parliament that by the words "not associated with metropolitan stations" he had meant "not associated financially with" those stations. The Minister also said, on 30th April, 1959, that the Government had "decided that the number of commercial licences in any area should not necessarily be limited to one and that, subject to technical considerations and to the quality of the applicants, more than one commercial service in each area might be licensed."

159. The Minister made it clear in Parliament on 12th August, 1959, that nothing in what he said on 30th April, 1959, was to be construed in any way as a direction to the Board in connexion with the discharge of its duty under the Act, which is to make recommendations as to the grant of licences pursuant to a reference by the Minister. The precise meaning of the Minister's statement was the subject of very lengthy, although not always very useful, discussions in the inquiries held by the Board. The Board thinks that the general effect of the statement, as an indication of Government policy in relation to the development of television services, a matter of great social importance, is clear enough on the face of it, and consistent with previous statements by Ministers and in reports of the Board. The decisions which will be made by the Government as a result of these inquiries will set the pattern for the provision of television services to all other parts of the Commonwealth. The reasons for the adoption of the principle of preference to "local independent applicants" are deeply rooted in the history of the development of commercial broadcasting and television services in this country and elsewhere. The whole question is discussed at length in the Board's report of July, 1958, on applications for licences in Brisbane and Adelaide, with special reference to the claims of Sydney and Melbourne television stations to substantial shareholdings in the companies which were applicants for licences in Brisbane and Adelaide, and references are given in that report to the practices of other English speaking countries, notably the United Kingdom, the United States and Canada. The Board's conclusion was that, as far as practicable, the basic principles of local ownership and independence of control from existing stations should be maintained in the selection of licensees for those cities.

160. The principle that priority should be given to independent local companies not associated with metropolitan stations in the grant of the new licences conforms with the long established policy of successive Governments of restricting the ownership or control of broadcasting and television stations in order to prevent the development of monopolies in these fields. Until recently, this policy, so far as it related to television, was expressed in the *Broadcasting and Television Act 1942-1956* as a prohibition on the direct or indirect ownership or control of more than two television stations, without any statutory definition of what was meant by control. The policy was carried further by the *Broadcasting and Television Act 1960*, which, whilst permitting a person to exercise control over two commercial television stations, provides in effect that for the purposes of that Act—

- (a) a person is in a position to exercise control of a licence for a commercial television station if that person is:—
 - (i) in a position to exercise control of the company which holds the licence; or
 - (ii) is in a position to exercise control of the operations conducted under or by virtue of the licence, the management of the station in respect of which the licence is in force or the selection or provision of the programmes to be televised by that station; and
- (b) a person shall be deemed to be in a position to exercise control of a company if he is in a position to control more than 15 per centum of the total votes which would be cast at a general meeting of the company.

This legislation appears to us to give added force to the decision of the Government which was announced by the Minister on 30th April, 1959.

161. We do not propose in this report to add to what has been said on many occasions concerning the undesirability of "the media of mass communications falling into too few hands", and in particular, of increasing the influence in television of those who already have very substantial interests in metropolitan newspapers and television stations. The independence of the licensees of the stations to be established in the provincial and country centres is, however, not to be considered only in this negative sense of avoiding the evils which may arise from the concentration of the ownership or control of a large number of stations. It is based on a positive concept, that it is desirable that the operations of stations should be controlled, in practice, by people who have some real interest in the areas concerned. It is not sufficient that they should merely be shareholders in the licensee companies, with sufficient shares to exercise control at a general meeting of the company. They must also, as the Act says, be in a position to exercise control of the management and operations of the station, and must also be in a position to accept and discharge complete responsibility, under the licence, for the selection of the programmes to be televised.

162. Throughout the Commonwealth, the local newspaper and the local broadcasting station have important places in the life of the communities which they serve and there are strong reasons for believing that, in this stage in the development of the television services, the place of the country television station as a local institution should be similarly established. There are special problems associated with the establishment of television services which make the application of this principle difficult. A local independent television company would, of course, find it necessary to rely on films or relays from other stations for a substantial part of its programmes, although there should be increasing opportunities for the televising of programmes of particular interest to country people. It is to be expected, however, that a station, owned by the people of an area, with their special knowledge of local conditions and attitudes, would be more likely to provide a really adequate service for the area than a station which is to all intents and purposes a "satellite" of a metropolitan station and that the identification of the station with the local community will be more effective if it is apparent that the service originates in the local studios. The real question to be determined as a result of these inquiries is whether the control of country television can be effectively decentralized, in the manner implied by the Minister's reference to the licensing of "independent local companies", or whether country television can only be effectively developed as an extension of the services already being provided by the metropolitan stations for viewers in the capital cities and adjacent areas. The Minister's statement involves, in addition to the basic idea of a "local independent station", the idea of "association" with metropolitan stations, and the Board thinks that an examination of this question is not only necessary in itself, but also throws light on the concept of "independence". We therefore now propose to examine the nature of the association of the metropolitan stations with certain of the applicants for licences.

163. Paragraph 69 contains a list of 16 applications with which a licensee of a metropolitan station was associated either as a shareholder in an applicant company, as an applicant on behalf of a company to be formed, or as an applicant itself. Paragraphs 70 to 79 contain a summary of the proposals which were made to the Board in these 16 applications and in evidence given in support of them in the course of the inquiries.

164. The applications of the four companies associated with Amalgamated Television Services Pty. Ltd. (ATN) were all of the same kind (see paragraphs 71-73). These applications were based, in the first place, on the assumption that no applicant could demonstrate its capacity to provide a service comparable with that available to city viewers unless a metropolitan station was associated with it as a shareholder and agreed to relay its programmes to the station of the applicant company, if it were granted a licence. Having adopted this assumption, the structure of the applicant companies was carefully designed so as to suggest that in all essential respects they would be "local independent companies", notwithstanding their association with ATN, since it was maintained that a large majority of their shares would be held by local shareholders, that ATN would have

only one representative on their boards of directors, and that, under the terms of their agreements with ATN for the provision of programmes, they would retain the right to select the programmes to be relayed from ATN.

165. The Board was not convinced by the evidence adduced by these applicants, or by the arguments of their counsel, to support the contention that they should be regarded as "local independent companies". The evidence strongly suggests that, when the Government announced its intention to grant licences for commercial television stations in five areas in New South Wales, ATN decided to endeavour to secure the establishment of a network of stations which would for all practical purposes be an extension of the ATN service. There was evidence that, with this objective in mind, ATN had conversations with certain parties who were understood to be probable applicants for licences for these areas, for the purpose of exploring the possibility of joining with them in their applications. When these conversations failed to produce the desired result, undoubtedly because of the explicit nature of the Minister's statement, ATN had discussions with other groups in the Canberra, Hunter-River, Illawarra and Central Tablelands areas, as a result of which companies were formed in these areas in which ATN became a shareholder and Mr. J. H. M. Oswin, the General Manager of ATN, became its representative on the Board of Directors. As stated in paragraph 71, the shareholdings of ATN in these four companies varies from 14.2 per cent. to 22½ per cent. of the total issued capital. The Board has, however, been informed, subsequent to the inquiries, that these holdings would be reduced to the extent necessary to conform with the requirements of the recent amendments to the Broadcasting and Television Act, and that Mr. Oswin had resigned his position as a director of these companies. The constitution of each of the four companies is very much the same, and each of them has an agreement, in almost identical terms, with ATN for the provision of programmes, in accordance with which ATN undertakes to make available on relay to each of the companies such of ATN's programmes as the company may require on giving the required notice. ATN's programmes would be available for relay to the country stations at any time during the hours of service of ATN, but the companies have the right to acquire programmes from other sources. The agreement remains in force for a period of three years from the date of commencement of commercial operations and may thereafter be determined by either party, after one year's notice, except that ATN is precluded from terminating the agreement on its part until the number of commercial stations in Sydney exceeds the number of such stations in the area concerned. The agreements give the country stations the right to select programmes on relay from ATN and to obtain programmes from other sources, but it became apparent during the inquiries that none of the four companies had any real intention of exercising these rights. It was the clear intention of the parties that ATN and the four companies would in fact operate on an exclusive relay system, except during brief periods devoted to local programmes, and it is equally clear that any real exercise of independence by the country stations in the selection of programmes would create a situation which would destroy most of the advantages of the relay system.

166. The evidence in the inquiries into the applications with which ATN was associated indicated that each of the companies concerned had relied almost entirely on the advice given to them by the representatives of ATN. The most notable feature of Mr. Oswin's extensive evidence, which was given quite frankly, on each of these four applications, was that he spoke with authority in his dual capacity of General Manager of ATN and a director of each of the four companies, in a way which left no doubt as to the unity of purpose between these parties and the dependence of the applicants on ATN. The evidence of other witnesses for the companies gave the same impression. For example, when it was put to Mr. L. V. Armati, Chairman of Directors of the company associated with ATN in the Central Tablelands area, that his Board had accepted the standard form of agreement with ATN "unanimously . . . in every detail", he replied, "If I can alter the expression 'unanimously' to 'joyously' it would be correct", and the same satisfaction with the ATN proposals was expressed by Mr. G. T. Hudspeth, Chairman of the company associated with ATN in the Illawarra area when, in relation to his discussions with Mr. Oswin, he said, "All along I thought this was too good a proposition . . . we cannot let this go to waste".

167. A significant explanation, in part, of the attitude of ATN to the companies with which it is associated in the Canberra, Newcastle-Hunter River, Illawarra and Central Tablelands areas was given to the Board during the Canberra area inquiry by Mr. Taylor, who appeared for each of the companies, in the following terms:—

" . . . perhaps the more important reason from the point of view of those who run ATN would be this compelling reason that the programmes that are going to be put over the station are ATN programmes. The standard of presentation of those programmes and the way in which the station is run are matters of vital importance to ATN because it cannot risk its standards being lowered in any way in the country area. If it has a shareholding and a director it has a voice; it has the right to go there from day to day; it has the right to give advice and to lay down the way in which things shall be done; and in essence it comes down to this, that it constitutes a partnership.

"To say that those things could be done without a shareholding as a proposition of logic I suppose cannot be refuted, but as a practical proposition in a commercial enterprise it just does not happen that way. I suppose a real way to put it is the fiscal equivalent of blood being thicker than water. In other words, if we are in it as a partner or shareholder we are prepared, of course, to do more for and have a greater interest in the country station than if we are merely supplying the programmes to it." The type of association described by Mr. Taylor does not seem to the Board to be compatible with the concept of independence to which we referred in paragraph 161

168. ATN itself is not associated with an applicant in the fifth area in New South Wales, namely Richmond-Tweed Heads, presumably because it is more convenient and economical to relay programmes to that area from Brisbane. It is, however, as pointed out in paragraph 74, associated indirectly with an applicant in that area, and also an

applicant in the Darling Downs area, through Queensland Television Limited (QTQ) with which ATN has a close association as a shareholder with two directors on the Board, and is a party to an agreement for the purchase of programmes. Mr. Taylor appeared also for both of these applicants and the general nature of their proposals and the arguments advanced in support of them were similar to those of ATN, which are discussed in the preceding paragraphs.

169. Paragraph 75 contains particulars of the association between Television Corporation Proprietary Limited (TCN) and companies which are applicants for licences in the Canberra and Newcastle-Hunter River areas. In each case, TCN holds 15 per cent. of the shares and has a representative on the board of directors and it was claimed that the local control of the companies would be ensured—

(a) because local shareholders would hold 85 per cent. of the shares and have a majority on the boards of directors; and

(b) because their agreements with TCN could be cancelled at the end of the second year of operation of their stations.

TCN also submitted applications for licences for stations in the Illawarra, Richmond-Tweed Heads and Central Tablelands areas on behalf of companies to be formed, and the evidence given in relation to these applications, so far as it went, indicated that TCN's intentions with respect to the companies to be formed are substantially similar to the proposals made to the Board in connexion with the Canberra and Newcastle-Hunter River areas. It must be said that the information supplied in respect of the Illawarra, Richmond-Tweed Heads and Central Tablelands areas was quite insufficient as to the constitution of the proposed companies to enable these applications to be considered in any detail.

170. The evidence given during the inquiries into the applications with which TCN is associated suggested that TCN is also anxious to secure the establishment of a network of stations throughout New South Wales which would for all practical purposes be an extension of the TCN service. Under agreements with the applicant companies with which they are associated in the Canberra and Newcastle-Hunter River areas, TCN undertakes to make the whole of its programmes available on relay to the stations if required to do so by the companies. The stations are, however, obliged to transmit at least the whole of TCN's programmes and advertising between the hours of 6 p.m. and closing time daily, unless, having given TCN two weeks' notice of their intention to transmit a programme from their own studios, they have received TCN's consent to do so, "such consent not to be unreasonably withheld". The agreements between the companies and TCN also provide for a financial association between them; TCN is required to pay the companies a fixed sum plus a percentage of TCN's net revenue from advertising each year, and the companies are required to pay TCN 30 per cent. of their net revenue from local advertising. TCN is also required, if requested by the applicant companies, to provide or procure substantial funds by way of loans, to enable the companies to commence and continue operations.

171. The extent to which the applicants associated with TCN would be dependent on TCN was left in no doubt by the evidence. The stations would in fact operate merely as satellites of TCN at least from 6 p.m. till closing time every night, and the financial arrangements which are contemplated point to the likelihood of a dominant influence by TCN in the general management and operations of the stations. This was supported by the evidence of Mr. K. S. Schapel, Chairman of Directors of Australian Capital Television Limited (who is also the Canberra representative of Australian Consolidated Press Limited, which has substantial holdings in TCN), who said he organized the company with the basic idea that it would enter into an agreement with TCN to relay TCN's programmes. Mr. Schapel agreed that it would be his earnest endeavour to ensure that the Canberra people would get programmes from TCN and that substantially speaking they would get nothing else.

172. The interest of General Television Corporation Limited (GTV) in the proposed establishment of commercial television stations in the four Victorian country areas (see paragraph 78) cannot, strictly speaking, be described as an association with applicant companies. GTV made an application for a licence in its own name in each of the four areas, for a station to which its programmes would be relayed, and suggested that, if this were not permissible under the law, the *Broadcasting and Television Act 1942-56* as it then stood should be amended to permit the metropolitan licensees to operate relay stations in country areas. However, GTV made an alternative application for a licence in one of the four areas, "together with some minority association with three other applicants" in the other areas and expressed its willingness to join companies which might be granted licences in other areas, provided it held not less than 15 per cent. of the shareholding in those companies. The applications by GTV which were referred to the Board are those in its own name for each of the four areas, and it appears from the Act that only one such licence could be granted in addition to the existing licence held by the company. The evidence in support of the suggestion that licences might be granted to local companies to be formed in which GTV would have a shareholding, and to which it would supply programmes on relay, was insufficient to enable the Board to consider it. It is apparent from the views submitted on behalf of GTV, which are summarized in paragraph 78, that its ideas as to the methods by which television should be provided to country areas are similar to those of ATN and TCN, namely, that the service of the metropolitan stations should be relayed to country stations except during brief periods devoted to the televising of local programmes.

173. Tasmanian Television Limited (TVT) made an application for the North-eastern Tasmania area on behalf of a company to be formed, in which it would hold 15 per cent. of the shares. This applicant indicated that a "working agreement" would be made with the licensee company when it was formed and it appeared from the evidence that such an agreement would provide for the bulk of the programmes for the new station to be relayed from TVT.

174. For the reasons given in the preceding paragraphs, and having regard to our conclusions on this part of the evidence as summarized in paragraph 90, we think that none of the applications with which ATN, TCN, GTV, QTQ or TVT is associated can be regarded as those of local independent companies for the purposes of our recommendations to the Minister.

175. While we regard the question of independence which we have just discussed as the basic issue, it is closely related to the other considerations which are discussed in Part IV. In particular, it must be considered in relation to the capacity of local independent companies to provide the kind of television service required of them as licensees. It would be absurd to permit the principle of "independence" to lead to the selection of applicants who were unable to provide adequate programmes. The Minister referred to this as "capacity to provide in the circumstances prevailing in the area a service comparable to that available to city viewers", and this led to a lengthy but not very fruitful discussion during the inquiries.

176. It would be useful as a commencement to consider on what basis the service to be provided by country stations is to be compared with the service which is available to city viewers. There were some suggestions that what was meant was that a service comparable with that available to city viewers should be regarded as one which was substantially equivalent to that available to city viewers, but this cannot be accepted. As the Minister said, any conclusions in this field will vary according to the "circumstances prevailing in the area" concerned. Again it is to be noted that there are very considerable differences between the services provided by stations in the metropolitan areas. For example, the present weekly hours of service vary considerably in the different cities, as the following table shows:—

| | | | | | |
|------------|----|----|-----|----|-----|
| Sydney | .. | .. | ATN | .. | 95 |
| | | | TCN | .. | 81 |
| Melbourne | .. | .. | GTV | .. | 68½ |
| | | | HSV | .. | 63½ |
| Queensland | .. | .. | BTQ | .. | 54½ |
| | | | QTQ | .. | 47½ |
| Adelaide | .. | .. | ADS | .. | 52½ |
| | | | NWS | .. | 57½ |
| Perth | .. | .. | TVW | .. | 42 |
| Hobart | .. | .. | TVT | .. | 30 |

The following comparison of the progressive increases in the weekly hours of operation of these stations is perhaps more illuminating:—

| Station. | Commencement. | Progressive Increase in Hours of Service. | | | |
|--------------------|------------------------|---|--------------------------------|-------------------------------|------------------|
| | | | | | |
| New South Wales— | | | | | |
| ATN | (3.12.56) 37½ hrs. | (June 57) 47 | (June 58) 65 $\frac{7}{12}$ | (June 59) 94 | (June 60) 95 |
| TCN | (28.10.56) 21½ hrs. | (April 57) 33½ | (April 58) 55½ | (April 59) 76½ | (April 60) 71 |
| ABN | (5.11.56) 26 hrs. | (May 57) 26 | (May 58) 42 $\frac{2}{3}$ | (May 59) 54 $\frac{7}{12}$ | (May 60) 56½ |
| Victoria— | | | | | |
| GTV | (19.1.57) 31½ hrs. | (July 57) 37½ | (July 58) 54 $\frac{5}{12}$ | (July 59) 67½ | (July 60) 68½ |
| HSV | (4.11.56) 27½ hrs. | (May 57) 35 $\frac{7}{12}$ | (May 58) 46 $\frac{1}{12}$ | (May 59) 60 | (May 60) 63½ |
| ABV | (18.11.56) 23½ hrs. | (May 57) 26½ | (May 58) 40½ | (May 59) 53½ | (May 60) 54½ |
| Queensland— | | | | | |
| BTQ | (1.11.59) 42½ hrs. | (May 60) 54 $\frac{5}{12}$ | | | |
| QTQ | (16.8.59) 36½ hrs. | (Feb. 60) 47½ | | | |
| ABQ | (2.11.59) 48 hrs. | (May 60) 49½ | | | |
| South Australia— | | | | | |
| ADS | (24.10.59) 40½ hrs. | (April 60) 52 $\frac{7}{12}$ | | | |
| NWS | (5.9.59) 36 hrs. | (Mar. 60) 51 $\frac{7}{12}$ | | | |
| ABS | (11.3.60) 49½ hrs. | | | | |
| Western Australia— | | | | | |
| TVW | (16.10.59) 36½ hrs. | (April 60) 41½ | | | |
| ABW | (9.5.60) 49½ hrs. | | | | |
| Tasmania— | | | | | |
| TVT | (23.5.60) 29½ hrs. | | | | |
| ABT | (4.6.60) 49½ hrs. | | | | |

177. The view of the applicants associated with metropolitan stations was, generally speaking, that what was intended by the Minister was that a service should be provided by country stations of the same extent and the same nature as that provided to viewers by stations in the capital city of the State in which the country station was situated. On the other hand, the general view of the "non-associated" stations was that the great differences in the extent and nature of the services already being provided in capital cities was, in itself, a clear indication that "comparability" did not connote that the same hours of operation or the same choice of

programmes should be available to viewers as was available to those in say Sydney or Melbourne. It was pointed out to us that, in some circumstances and in some areas, comparability on that basis could not possibly be achieved. Mr. Young summed up the position in the following terms in his closing address—

“ In considering comparability, does one consider that a station in North Queensland has to be comparable with a Sydney metropolitan station, a Brisbane metropolitan station, a Tasmanian metropolitan station or a Western Australian metropolitan station? Is there any more reason to choose comparability within one State than over the whole of Australia? I would submit that probably what was in mind was that the programmes should be of comparable standard, and what the Board will be concerned with is whether programmes of an appropriate standard will be available to a country licensee.”

That is the Board's view, and it is of the opinion that there are independent local applicants which, on this basis of comparison, are able to provide a service, in the circumstances prevailing in their areas, of the kind contemplated by the Minister. The Board has carefully considered the evidence given to it on the subject of the availability to country stations of programmes of an appropriate standard, and also the confidential reports on this subject which it has received from the licensees of the stations operating in Perth and Hobart. In this connexion, the Board invites attention to paragraph 107 in which it expresses the view that adequate supplies of programme material would, in general, be available to licensees of “ non-associated ” stations at prices which the stations could afford to pay.

178. The question of the independence of licensees must be considered not only in relation to the nature and extent of the services to be provided, but also to the question of the number of licences to be granted in any area. The evidence given on this subject is summarised in paragraphs 109 to 112. The applicants associated with ATN, TCN, and QTQ all advocated the grant of licences for two stations, to which programmes would be relayed, and they maintained that the relay system was the cheapest and most effective way of providing adequate services to country districts, other than those very remote from the metropolitan stations. Although, as we have pointed out, the evidence on the question of the number of licences was not supported by any detailed economic investigations as to the capacity of the areas concerned to support stations, it appears to the Board that the financial strength and experience of the metropolitan stations, combined with the economies which would result from the adoption of the more or less continuous relay system, which would avoid many overhead costs, would enable two relay stations in several of the areas to operate profitably. On the other hand, from the evidence which was given, supplemented by the investigations which the Board itself has been able to make, we are of the opinion that there could be no really independent services on a two station basis. If one “ non-associated ” station, and an associated station operating on the continuous relay system,

were to be licensed in any area, the "non-associated" station would inevitably be compelled to come to terms with the other metropolitan station for a continuous relay operation. If two "non-associated" companies were to be licensed, they could not operate at a profit without seriously lowering their standards, and they would certainly, in a short time, likewise be forced into the continuous relay system and an association with the metropolitan stations on terms which would for all practical purposes destroy their independence.

179. It is necessary to point out, however, that if it is desired that the services available to country viewers should be similar in all respects to those available to city viewers, it would be necessary to resort to the relaying of programmes as was proposed by those applicants associated with metropolitan stations. We have said in our conclusions on the evidence in paragraph 107 that "whatever doubts there may be as to the comparability of the service provided by a country station dependent on its own resources with the service available to city viewers, the service provided on relay from the metropolitan stations would in fact be that 'available to viewers' in the capital city of the State from which the programmes are relayed, except during brief periods devoted to local items".

180. The Board's view on the number of licences which should be granted is that—

- (a) if the principle of independence is to be maintained, only one licence should be granted at the present time in each area to a local independent applicant, and a condition of the licence should be, as in the case of the licences granted for the single stations in Perth and Hobart, that the licensee should not enter into any exclusive arrangement with any metropolitan television station for the provision of programmes or the sale of station time or advertising; and
- (b) alternative services of the same nature and the same extent as are available to city viewers can be made available to country viewers only on the basis of quasi-satellite operation of two stations on continuous relay from metropolitan stations.

We should make it clear that there are, in our view, not only no disadvantages, but also positive advantages, in country stations taking a substantial part of their programmes on relay from metropolitan stations, provided no exclusive arrangement is made with any metropolitan station, and the arrangement is entered into freely in the ordinary course of business. It is to be expected that country stations will wish to make such arrangements where relay facilities are or can be made available. As indicated in paragraph 104 most of the "non-associated" applicants appreciated the advantages of taking programmes by means of relay operation and were prepared to take at least some part of their programmes by this means from the metropolitan stations if relay links are available. Four of these applicants in Victoria propose, if granted licences, to co-operate in the establishment of a link system. It is, in our view, most desirable

that the relay system should be used, on a non-exclusive basis, particularly for the simultaneous transmission of programmes originated by metropolitan stations. In this way, the demand for those programmes will be increased and the high cost of their production will be spread among a number of stations.

181. These observations are made by the Board only in respect of the areas for which applications for licences are now being considered and which, in our view, are capable of supporting one independent station. When commercial television stations are established in many smaller country centres it is likely that satellite operation in association with a neighbouring country station, or something similar to that, will have to be considered.

182. It will be apparent from the summary of applications in Part II. that no general principles relating to the number of licences which should be granted in any area can be applied to all the areas under consideration. There are not, in fact, in every area two applicants which are prepared to operate as one of two licensees. In the Townsville and Rockhampton areas there is only one applicant in each area; in the Bendigo, Latrobe Valley and Darling Downs areas one of the two applicants in each case is not prepared to accept one of two licences; and in the Ballarat area the only competent applicant, apart from General Television Corporation Ltd., was not prepared to accept one of two licences.

183. It is also essential to bear in mind, in considering the number of stations for which licences should be granted in these areas, the question of the availability of frequency channels which is discussed in Part V. and in the following paragraphs.

184. Although the primary responsibility of the Board in this report is to make recommendations to the Minister as to the grant of licences, it has been pointed out that this matter must be considered having regard to problems which arise in relation to the availability of frequency channels. In Part V. of this report we have dealt with this matter at some length and in paragraph 138 we have set out some conclusions.

185. We are satisfied that, if sufficient channels in the Very High Frequency (VHF) band can be made available to meet anticipated developments in the Australian television services, channels in this band should be used in preference to the alternative of using channels in the Ultra High Frequency (UHF) band. At present only nine VHF channels can, it seems, be regarded with certainty as available for television purposes, and these are sufficient to provide for the establishment of two television stations in the areas under consideration, together with a fourth station in the State capital cities, although the fourth channel is not available until 1963. If it is assumed that a national station will be established in each of the country areas which have been the subject of these inquiries, only one commercial station could be established in each of those areas on the present basis of frequency allocation. Moreover, if a fourth station were to be established in Sydney and Melbourne in the near

future, the situation would have been reached that, within a relatively short period of time from the commencement of television services in the Commonwealth, the available number of frequency channels would be exhausted for many of the more populous areas. This is a state of affairs which, in our view, should not be permitted to continue.

186. If it were decided now, or in the near future, that two commercial stations (in addition to a national station) should be established in some provincial and country centres, provision could be made for those stations by making use of two channels in the 92-108 Mc/s band which has up to the present been reserved for frequency modulation broadcasting. Under this arrangement a fourth station could still be established in the State capital cities. The adoption of this course alone would not make what we regard as proper provision for future developments. It is, in our view, essential that provision should be made for the establishment of at least five stations in capital cities and four stations in major country areas. It would be wrong to continue to accept a situation which, even in the foreseeable future, would make it impossible to provide any further expansion of the Australian television services in the most populous centres in the VHF band. Provision for the establishment of five stations in capital cities and four in major country centres, which we suggest should be made, requires the availability of thirteen VHF channels free of restrictions. It is our understanding that the availability of channels for television purposes will, in the light of our report, be considered by the Radio Frequency Allocation Review Committee and we suggest that the comments we have made in this respect on the matter should be referred to that Committee for immediate examination. This matter is one of extreme urgency. If our view as to the provision which should be made for future development is accepted, thirteen VHF channels are required. If this number of channels is not available, the alternative of developing provincial and country television services in the UHF band will need to be adopted. It is essential for the matter to be resolved before channels can be allocated to the stations to be established in the areas now under consideration, and so permit the licensees of those stations to place orders for equipment, which cannot be done until the question of channels is decided. The disadvantages and difficulties involved in the use of UHF channels are set out, at some length, in Part V. of this report. To the facts set out there we should perhaps add that as late as July, 1960, the Federal Communications Commission (F.C.C.) of the United States received an appropriation of \$2m. (approx. £A900,000) for the purpose of experimental UHF transmissions. Here we wish to do no more than point out that there are serious implications in resorting to the use of UHF channels. The advantage of doing this is that it will ensure that adequate facilities are available for future development, but this should not obscure the disadvantages which are involved; the fact that there are sufficient UHF channels available to meet requirements, while there may be difficulties in making additional VHF channels available should not, we hope, have the result of a ready acceptance of the view that the easy course is the best one to follow.

187. We now wish to make some observations concerning matters which affect the constitution of several of the applicant companies. In paragraph 161, we referred to the desirability of adopting the general principle that the operations of the stations in provincial and country areas should be in the hands of people with some real interest in the areas concerned. We think it is equally important, in addition, that the financial benefits which flow from the possession of a licence should be shared by as many as possible of the residents of these areas—as the Minister said in Parliament last May when introducing the Bill to amend the *Broadcasting and Television Act 1942-1956* “the benefit derived from the exercise of licences which lay in the grant of the Government should be spread widely through the Australian community”. It was for the latter reason that we pointed out in paragraph 90 that, whilst there are local independent companies in each of the areas under consideration to which licences might be granted, some modification of the constitution of certain of these companies seemed to be desirable. There is ample evidence that all the funds which are required for the establishment of stations can be obtained from persons resident in the areas and from Australian companies which by their activities over the years have contributed to the development of the areas. The modifications to the constitution of existing companies which we have in mind are, broadly:—

- (a) that, as a general principle, at least fifty per cent. of the shares should be available to the public in the area as a genuine public issue, and
- (b) that persons or companies without any significant interest in the areas should either be excluded from holding shares in the companies, or their holdings should be reduced to smaller proportions.

In this connection special attention should, we think, be given to shareholdings by local broadcasting companies which are controlled by overseas companies, which we think should be reduced, and to shareholdings by other companies which are controlled overseas, which we think should not be permitted. In addition, we think that local directors should, where necessary be appointed to represent the additional local shareholders we propose. We make specific recommendations in the case of each company to which this paragraph applies.

188. Applications for licences were made by several companies in which substantial shareholdings have been, or are to be, taken up by companies engaged in the publication of provincial and country newspapers circulating in the areas concerned, or the conduct of commercial broadcasting stations in those areas. Some objections were raised by opposing applicants that the grant of a licence to such companies would create a monopoly of the advertising media in these areas, in view of the proposed combination of the newspaper, broadcasting and television interests. It is important, we think, to bear in mind the great importance and honourable record of local provincial and country newspapers and broadcasting stations in Australia. We know a great deal about the community service provided by provincial and country broadcasting stations, which we

have often commended, and, although we have not had an opportunity of studying in any detail the contributions made to local development and local organizations by local newspapers, we believe this to be very considerable and of great value. The newspapers concerned in the applications to which we refer are owned mainly by old established family companies with a long history of association with their areas. We believe that the association of local newspaper and radio interests with the local television services will be an advantage and not a disadvantage. They provide experience and knowledge of local interests not elsewhere easily obtainable, and, as the Bishop of Grafton wrote in a letter quoted in the application of Richmond-Tweed T.V. Ltd. in the Richmond-Tweed Heads Area, are "sensitive and responsive to the true needs of the situation". Charges of monopolistic tendencies, discrimination, and lack of impartiality were made in the vaguest terms and certainly not supported. We would think that it is a natural development for local newspapers and broadcasting stations to be associated with local television stations, as indeed many of the applications indicate. Discrimination in advertising on commercial television stations is prohibited by the *Broadcasting and Television Act 1942-1960*, and licensees are required to comply with standards determined by the Board in respect of such advertising.

189. Amalgamated Wireless (A/asia) Ltd., a company with its capital widely dispersed in Australia, which is a shareholder in ATN and in Brisbane T.V. Ltd. and Television Broadcasters Ltd. (Adelaide) is a proposed shareholder in several of the companies which have made applications for licences in country areas, as will be seen from the particulars in Part II. Some of these shareholdings are held through companies which operate local broadcasting stations. The Board sees no objection to a company such as Amalgamated Wireless having small holdings in country television stations; it has a distinguished record in the broadcasting and electronics fields, and indeed was a pioneer in these fields. It is undoubted that the company could provide considerable assistance to a television company commencing service in a country district.

190. It is necessary to refer to the position of A.T.V. (Australia) Pty. Ltd., a wholly owned subsidiary of Associated Television (England) Ltd., which has considerable direct or indirect interests in commercial television stations ATN, QTQ and NWS and in a number of broadcasting stations. This company has, or proposes to have, shareholdings, in its own name or through broadcasting companies, in a number of applicant companies. The Board considers that, in the event of any of these applicants being granted a licence, the shareholding of any broadcasting company in which A.T.V. has a shareholding should be limited to 5 per cent. and that in the other cases no shareholding by A.T.V. (Australia) Pty. Ltd. should be permitted.

191. The application submitted by Pan-Australian Television Corporation Limited was for a licence in the Central Tablelands area. This was a very well prepared and presented application on behalf of

a company in many ways admirably constituted, but unfortunately the application appears to us to have been misconceived in that the establishment of a transmitter on the site proposed by the company would produce the result that the major portion of the population served would be in the area already provided with a service from the Sydney stations, whilst the service provided to the western part of the Central Tablelands area would be inferior to that which is desired. The company was not prepared to accept a licence unless the transmitter was located on the site proposed by it.

192. It may be convenient if we were to express here the effect of the observations made in this Part, as follows:—

- (a) There are very strong reasons why the operations of commercial television stations in provincial and country areas should really be in the hands of people who have a positive interest in, and association with, those areas, and who are not, by reason of their association with metropolitan stations, directly or indirectly subject to the domination of those stations: this should be secured by the grant of licences to what have been described in our inquiries as "local independent companies not associated with metropolitan television stations".
- (b) If the principle set out in (a) is to be maintained, only one licence should be granted at the present time.
- (c) There are in each of the areas applicants which fulfil the requirements of paragraph (a), with the financial resources and other qualities required to ensure the provision of a service in conformity with the Board's technical and programme standards, so long as the number of stations in each area is, for the present, limited to one but some modifications to the constitution of certain of these companies seems desirable.
- (d) Programmes of appropriate standard will be available to all applicants to enable them to provide a service of a character comparable with that available to city viewers.
- (e) Alternative services of the same nature and the same extent as are available to city viewers can be made available to country viewers only on the basis of the quasi-satellite operation of two stations on practically continuous exclusive relay from metropolitan stations, subject to the availability of frequency channels which is discussed in paragraphs 185 and 186.

PART VII.—RECOMMENDATIONS

193. It is now our duty to make recommendations to the Minister as to the grant of licences in the areas under consideration. In doing so we have applied the principles and conclusions which we have set out in this report, and we have carefully considered all the applications and supporting documents and the evidence presented by applicants and the submissions of their counsel. We have also taken into account the qualities of the applicants, as indicated by their standing and reputation in their respective districts, the extent to which the directors and principal officers of the companies or proposed companies indicated a real appreciation of their responsibilities and of the responsibilities of their companies if granted licences, and the proposals of the applicants with respect to their technical and programme services. It is only proper to say that, notwithstanding the conflict of opinion and outlook, especially as between those claiming to represent "independent" companies and those representing "associated companies", we were greatly impressed by the standing and quality of the witnesses. In considering certain of the applications we have taken into account statements by them (see paragraph 8) that they were prepared to alter their proposals so far as they might be contrary to the provisions of the new Division 3 of Part IV. of the Act.

194. It will be apparent from paragraph 192 that we are of the opinion that different considerations must be taken into account in recommending the grant of licences if only one licence is to be granted in each area at the present time, compared with those which should be applied if two licences are to be granted in some areas. Accordingly, we think that our recommendation should be made in the alternative, as follows—

- (a) if only one licence is granted in each area;
- (b) if two licences are granted in these areas.

While we are able to make firm recommendations on basis (a), it will be seen that, on the face of the applications which were made, it is not possible to make satisfactory recommendations on basis (b) (see paragraph 182).

195. If one licence is to be granted in each area, we recommend that the licences should be granted to the applicants whose names are set opposite the names of the respective areas in the following table. The constitution of these applicant companies is described in Part II. We suggest in the succeeding paragraph that special conditions should be attached to the grant of these licences:—

| | | |
|-----------------------------|----|--|
| Canberra Area | .. | Canberra Television Ltd. |
| Newcastle-Hunter River Area | .. | Newcastle Broadcasting and Television Corporation Ltd. |
| Illawarra Area | .. | Television Wollongong Transmissions Ltd. |
| Richmond-Tweed Heads Area | .. | Richmond Tweed T.V. Ltd. |
| Central Tablelands Area | .. | Country Television Services Ltd. |

| | | |
|-----------------------------|----|---|
| Ballarat Area | .. | Ballarat and Western Victoria Television Ltd. |
| Bendigo Area | .. | Bendigo and Central Victoria Telecasters Ltd. |
| Latrobe Valley Area | .. | Eastern Victoria Television Pty. Ltd. |
| Goulburn Valley Area | .. | Goulburn-Murray Television Pty. Ltd. |
| Darling Downs Area | .. | Darling Downs T.V. Ltd. |
| Rockhampton Area | | Rockhampton Television Ltd. |
| Townsville Area | .. | Telecasters North Queensland Ltd. |
| North-Eastern Tasmania Area | .. | Northern Television Ltd. |

196. The conditions referred to in the preceding paragraph are—

As to Canberra Television Ltd.—that the shareholding of Canberra Broadcasters Proprietary Limited, in which Associated Television Limited, London, through subsidiary companies, holds approximately 45 per cent. of the shares (see paragraph 190), should be not more than 5 per cent. of the issued capital of the licensee company and that the shares held by Canberra Broadcasters Proprietary Limited in excess of this percentage should be offered to the public in the Canberra area. (This company has already issued more than 50 per cent. of its shares to the public.)

As to Newcastle Broadcasting and Television Corporation Ltd.—that the proposed public issue of 40 per cent. of the issued capital be increased to 50 per cent., and offered to the public in the Newcastle-Hunter River area.

As to Television Wollongong Transmissions Ltd.—that the shareholding of Wollongong Broadcasting Proprietary Limited, in which Associated Television Limited, London, through subsidiary companies, holds 50 per cent. of the shares (see paragraph 190), should be not more than 5 per cent. of the issued capital of the licensee company, and that the shares held by Wollongong Broadcasting Proprietary Limited in excess of this percentage should be offered to the public in the Illawarra area. (This company has already issued 47 per cent. of its shares to the general public.)

As to Richmond Tweed T.V. Ltd.—that the shareholding (8½ per cent.) of A.T.V. (Australia) Pty. Ltd., a wholly owned subsidiary of Associated Television Limited, London (see paragraph 190), should not be permitted, and that the proposed general public issue of 25 per cent. of the issued capital be increased to 50 per cent. and offered to the public in the Richmond-Tweed Heads area.

As to Country Television Services Ltd.—that the total shareholding of Young Broadcasters Proprietary Limited and Lithgow Broadcasters Proprietary Limited, in which companies Associated Television Limited, London, through a subsidiary company, holds shares, should not exceed 5 per cent. of the total issued capital and that the proposed public issue of shares should be at least

50 per cent., the shares being offered to the public in the Central Tablelands area. (The company's proposals in its application were in conformity with the proposed condition.)

As to Ballarat and Western Victoria Television Ltd.—that the shareholding (6 per cent.) of A.T.V. (Australia) Proprietary Limited, a wholly owned subsidiary of Associated Television Limited, London (see paragraph 190), and of Ballarat Theatres Proprietary Limited, a company controlled by Twentieth Century Fox Film Corporation of U.S.A. (6 per cent.) be not permitted; that the shareholding (12 per cent.) of Woodrow Corporation Proprietary Limited (a proprietary company whose four shareholders are companies operating outside the Ballarat area) which conducts a motion picture theatre in Ballarat, should be reduced from 12 per cent. to 5 per cent. of the total issued capital; and that the shares becoming available as a result should be offered to the general public of the Ballarat area. (This company has made a public issue of 57 per cent. of the shares.)

As to Bendigo and Central Victoria Telecasters Ltd.—that the proposed public issue of 44½ per cent. of the total issued capital be increased to not less than 50 per cent. and the additional shares should be offered to residents of the Bendigo area.

As to Eastern Victoria Television Pty. Limited—that the proposed public issue of shares be not less than 50 per cent., the shares being offered to residents of the Latrobe Valley area. (In its application the company proposed a public issue of 57 per cent.)

As to Goulburn Murray Television Proprietary Ltd.—that the proposed public issue of shares be not less than 50 per cent., the shares being offered to residents of the Goulburn Valley area. (In its application the company proposed a public issue of 54 per cent.)

As to Darling Downs T.V. Limited—that the shareholding (15 per cent.) of Birch Carroll and Coyle Limited, a company in which Greater Union Theatres Proprietary Limited (in which the Rank Organisation of England has a half interest) has a controlling interest, be not permitted; that the shareholding (7½ per cent.) of Empire Theatres Proprietary Limited, in which Birch Carroll and Coyle Limited holds 20 per cent. of the shares, be not permitted; that the shareholding (5 per cent.) of Hoyts Theatres Limited, controlled by Twentieth Century Fox Film Corporation of U.S.A., be not permitted; and that the shares becoming available as a result should be offered to residents of the Darling Downs area. (The company has already issued 50 per cent. of its issued capital to the general public.)

As to Rockhampton Television Ltd.—that the shareholding (3½ per cent.) of Hoyts Theatres Limited, controlled by Twentieth Century Fox Film Corporation of U.S.A., be not permitted and that these shares be offered to the public in the Rockhampton area in addition to the 67 per cent. proposed for public issue in the company's application.

As to Telecasters North Queensland Ltd.—that not less than 50 per cent. of the total issued capital be offered to the public of the Townsville area. (In its application, the company proposed a public issue of 43 per cent.)

As to Northern Television Ltd.—that the constitution of the company be varied so as to produce the result that the general public issue of shares to residents of the area should be increased from 16 per cent. to 50 per cent.

197. It is appreciated that the reorganization of the shareholding in the above companies as recommended in the preceding paragraph will involve some problems and we think that the simplest method to adopt, consistently with previous practice, is to require, by way of a condition of the grant of the licence, that the shareholding of each company should be as widely spread as possible and approved by the Minister before the grant of the licence, and we recommend accordingly. It would be, in our view, desirable to apply the same condition to all companies to which licences are to be granted. In effect, we suggest that the Minister should inform all the companies concerned that he is prepared to grant licences on being satisfied as to the shareholding of the companies.

198. It is necessary under section 92G of the *Broadcasting and Television Act 1942-1960* that the articles of association of a licensee company shall contain certain specified provisions. It seems desirable that, before licences are granted, the Minister should be satisfied as to the provisions of the articles of association. In view of the provisions of section 92C, it is desirable that the Minister should be informed of the names of the directors of each company to which a licence is to be granted. In view of the general provisions of Division 3 of Part IV. of the Act, as amended, it is desirable that the Minister should also be satisfied that the grant of the licences is in accordance with the law.

199. We have already proposed that, if licences are to be granted to what have been described as "local independent companies" for one station in any area, the licence for such a station should be subject to the condition (as in the case of the Perth and Hobart stations) that the licensee shall not enter into any exclusive arrangement with any metropolitan commercial television station for the provision of programmes or the sale of station time or advertising. We recommend accordingly.

200. We have already said that it is impossible, on the face of the applications in the various areas, to make recommendations as to the grant of two licences in all areas. If two licences are to be granted in any area, it seems to us, for the reasons we have given in this report, that these licences must be granted to companies associated with metropolitan stations which will be operated on an exclusive and practically continuous relay system from the stations with which they are associated. In the New South Wales areas (other than the Richmond-Tweed Heads area) licences might be granted to the two companies associated with ATN and TCN respectively. These are—

Canberra area—

Television Australia Limited (ATN).

Australian Capital Television Limited (TCN).

Newcastle-Hunter River area—

Northumberland Television Limited (ATN).
Commercial Television Newcastle Limited (TCN).

Illawarra area—

Wollongong and Illawarra Television Limited (ATN).
Television Corporation Limited on behalf of a company to
be formed (TCN).

Central Tablelands area—

Central Western Television Limited (ATN).
Television Corporation Limited on behalf of a company to
be formed (TCN).

201. In respect of the Richmond-Tweed Heads area, while Television Corporation Limited made a formal application, the only applicant seriously proposing a continuous relay operation was the company associated with QTQ, Brisbane, namely, North Coast Television Limited. Presumably, if two licences are to be granted in this area, the other Brisbane station, namely, BTQ, should be given an opportunity of being considered, and we are unable therefore at present to make recommendations as to the grant of two licences in this area.

202. In the Victorian areas, for the reasons we have already given in paragraph 182, it is impossible to make recommendations for the grant of two licences. If it were decided that two licences were to be granted in each of the areas, it seems that the claims of HSV Melbourne should be considered in addition to those of GTV.

203. In the Darling Downs area substantially the same problem arises as in the Richmond-Tweed Heads area in that, while QTQ is associated with an applicant company, BTQ is not. In the Rockhampton and Townsville areas only one application was received for each area and the relay system is obviously impracticable at present. In North-eastern Tasmania, relays are only practicable from the single station at Hobart.

204. It would seem, therefore, that if it were decided that two licences were to be granted, apart from the Canberra, Newcastle-Hunter River, Illawarra and Central Tablelands areas, the whole question would have to be reconsidered. In particular, the conditions to be attached to the grant of the licences would require careful consideration.

205. We should point out that we were informed by counsel for stations HSV and BTQ referred to above that they were not associated with applications for licences because they had assumed that they were ineligible, having regard to the Minister's statement of 30th April, 1959.

206. During the final stages of the preparation of this report it was publicly announced that the shares held by Electronic Industries Limited in General Television Corporation Proprietary Limited (GTV)

were to be transferred to a company which would be controlled by Television Corporation Limited (TCN). This would produce the result that TCN would be in the position to control the licence for GTV and neither company would be entitled, under the Act as amended, to exercise control of another licence. The recommendations which we make in paragraph 195 are not affected by this transaction. It is clear that the transaction does, however, make even more difficult the working out of alternative proposals involving the grant of two licences in many of the areas concerned.

Dated this first day of August, 1960.

R. G. OSBORNE, Chairman.

R. B. MAIR

R. A. YEO

J. R. DARLING

RANDAL M. WHITE

} Members.

APPENDIX A.

COMMONWEALTH OF AUSTRALIA.

*Broadcasting and Television Act 1942-1956.*APPLICATION FOR GRANT OF A LICENCE FOR A COMMERCIAL
TELEVISION STATION.

The Secretary,
Australian Broadcasting Control Board,
497 Collins Street,
MELBOURNE.

In pursuance of the provisions of the *Broadcasting and Television Act 1942-1956*, application is hereby made for the grant of a licence for a commercial television station for the.....area.

The particulars and information required by the form of application supplied by the Minister are attached.

Name.....

Address.....

.....
Signature

Dated this.....day of.....19.....

COMMONWEALTH OF AUSTRALIA.

*Broadcasting and Television Act 1942-1956.*APPLICATION FOR GRANT OF A LICENCE FOR A COMMERCIAL
TELEVISION STATION. PARTICULARS TO BE SUPPLIED BY
APPLICANT.

An applicant for a licence shall supply the particulars or information required by the following paragraphs. Such particulars and information should be set out in separate numbered schedules of which seven copies should be supplied—

- (1) State whether the application is made on behalf of an individual, a partnership, a company, a company to be formed, or other combination of interests.
- (2) If the application is made by a company, state where incorporated, attach a copy of the Memorandum and Articles of Association, and furnish full details of—
 - (a) the financial position of the company, including the last balance sheet and a copy of the profit and loss account and of the profit and loss appropriation account for the last five years;
 - (b) the shareholders, including the address and occupation of each, the number of shares held and the amount paid or deemed to be paid up on each share and, in the case of any shareholder which is a company and which holds more than 5 per cent. of the shares, similar details with respect to the shareholders in such company;
 - (c) the names and occupations of directors and names of principal officers of the company;
 - (d) the association of the company or any shareholder holding more than 5 per cent. of the shares in the company or any director or principal officer in any way with:—
 - (i) any commercial television station;
 - (ii) any person, firm or company carrying on any business;

APPENDIX A—*continued.*

- (e) any shares, and if so, the number of shares, in the capital of the company which are beneficially owned by persons other than residents of Australia or companies controlled by persons who are residents of Australia.
- (3) If the application is made on behalf of a company to be formed, state where the company is to be incorporated, attach a copy of the proposed Memorandum and Articles of Association, a copy of the proposed prospectus or notice in lieu of prospectus which the company proposes to file and any relevant agreements, together with particulars of the proposed capital, shareholding, first directors and all relevant information in respect thereof as required under paragraph 2.
- (4) If the application is made by an individual or partnership, or combination of interests (which is not a company or a proposed company), supply the information in respect of such of the matters specified in paragraph 2 as is applicable.
- (5) State whether the applicant is a subsidiary company or is, or in the case of a company to be formed will be, controlled either directly or indirectly by any other company, organization or interest. If so, give full details including the manner and extent of such control. If such control is or will be exercised by any company which is itself a subsidiary company, full details must be given of the company or organization having control, directly or indirectly, of the subsidiary company or other company so controlled.
- (6) Give details of any documents, instruments, contracts, or understandings, relating to ownership, operation or control of the station or facilities or any right or interest therein. Full details of any network arrangements entered into or proposed should be given.
- (7) State the basis upon which the application is made, that is, whether it is on the basis that—
- (a) a licence will be granted for a station which will provide an exclusive commercial service in the area; or
 - (b) a licence will be granted for a station which will provide a service in competition with one or more other commercial services or transmissions in or into the area, or both.
- (8) Give estimated costs, and details of the basis on which the costs are computed, of—
- (a) the establishment of the station, including itemised costs of—
 - (i) technical equipment;
 - (ii) radiating structure;
 - (iii) land;
 - (iv) buildings;
 - (b) the operations of the station for each of the first three years.
- (9) Give the estimated income of the station for each of the first three years, together with details of the basis on which this is computed.
- (10) Give details, supported by documentary evidence, of the capital or funds available for meeting the cost of—
- (a) the construction of the station;
 - (b) the operation of the station for the first three years.
- Full particulars of the sources from which the capital or funds will be secured are to be supplied.
- (11) Give details of the technical and programme staff already engaged and proposals for recruiting and training such staff, together with particulars of the estimated staff required.

APPENDIX A—*continued.*

- (12) Give details of the proposed hours of service in the first three years after the commencement of operations.
- (13) Give details of the proposed composition of programmes for the first three years after the commencement of operations. As far as practicable, information under this heading should be supplied with respect to such matters as—
- (a) likely programme schedules;
 - (b) the manner in which programmes will be provided by the station, i.e., whether by means of films, telerecordings, video tape recordings, live programmes, programmes received by the station on relay, or otherwise.
- Details should also be supplied as to the extent to which it is likely that programmes produced in Australia will be used. In addition, full information should be given as to the sources from which the abovementioned programmes will be obtained. If the applicant proposes that the station should become a member of a network, full particulars of the proposed network operations should be given.
- (14) Give details of the technical equipment proposed, including—
- (a) transmitting equipment and radiator;
 - (b) studio equipment;
 - (c) outside broadcast equipment.
- (15) Give details of the proposed buildings for—
- (a) transmitter;
 - (b) studios.
- (16) Specify the proposed location of the transmitter and studios and the estimated coverage of the station on the basis of the technical equipment proposed.

NOTE.—The particulars and information supplied must be furnished having regard to the requirement in paragraph 7 that the basis on which the application is made should be stated. If necessary, alternative statements may be provided, if the applicant proposes that the application should be considered on more than one basis.

APPENDIX B.

Broadcasting and Television Act 1942-1956.

REFERENCE BY THE POSTMASTER-GENERAL.

In pursuance of the above Act, I, Charles William Davidson, Postmaster-General, hereby refer to the Australian Broadcasting Control Board, for its recommendation as to the exercise by me of the powers conferred by sub-section (1.) of section 81 of the *Broadcasting and Television Act 1942-1956*, the following applications made in pursuance of the Notice published by me in the Gazette dated 21st May, 1959, for licences for commercial television stations in the undermentioned areas:—

Canberra—

Community T.V. (Canberra) Ltd.
 General Television Corporation Pty. Ltd.
 Canberra Television Ltd.
 Australian Capital Television Ltd.
 Television Australia Ltd.

APPENDIX B—*continued.**Newcastle-Hunter River—*

Newcastle Broadcasting and Television Corporation Ltd.
 Paul Terry Productions, on behalf of T.P.N. Ltd., a company to
 be formed.
 Shortland Television Corporation Ltd.
 Commercial Television Newcastle Ltd.
 Northumberland Television Ltd.
 Northern Telecasters Ltd.

Illawarra—

I.T.N. Ltd.
 Television Wollongong Transmissions Ltd.
 Television Corporation Ltd. (two applications).
 Wollongong and Illawarra Television Ltd.
 South Coast Telecasters Ltd.

Richmond-Tweed Heads —

Richmond Tweed TV Ltd.
 Television Corporation Ltd.
 North Coast Television Ltd.
 Lismore Telecasters Ltd., a company to be formed.

Central Tablelands—

Country Television Services Ltd.
 P. A. Yeomans.
 Pan-Australian Television Corporation Ltd.
 Television Corporation Ltd.
 Central Western Television Ltd.
 Orange & District Telecasters Ltd., a company to be formed.

Ballarat—

Western Victoria Television Pty. Ltd.
 General Television Corporation Pty. Ltd.
 Ballarat Telecasters Ltd.
 R. H. Wilson.

Bendigo—

Bendigo and Central Victoria Telecasters Ltd.
 General Television Corporation Pty. Ltd.

Latrobe Valley—

General Television Corporation Pty. Ltd.
 Eastern Victoria Television Pty. Ltd.

Goulburn Valley—

General Television Corporation Pty. Ltd.
 Goulburn-Murray Television Pty. Ltd.
 A. L. Macgeorge, on behalf of a company to be formed.

Darling Downs—

Darling Downs TV Ltd.
 Toowoomba & Darling Downs Television Ltd.

Rockhampton—

Rockhampton Television Ltd.

Townsville—

Telecasters North Queensland Ltd.

North Eastern Tasmania—

Tasmanian Television Ltd., on behalf of a company to be formed.
 Northern Television Ltd.
 Television (Northern Tasmania) Ltd.

Dated this sixth day of October, 1959.

C. W. DAVIDSON,
 Postmaster-General.

APPENDIX C.

INQUIRIES INTO APPLICATIONS FOR EACH AREA.

DATES OF INQUIRIES AND COUNSEL FOR APPLICANTS.

Canberra Area.

| <i>Dates of Inquiry.</i> | <i>Applicant.</i> | <i>Counsel.</i> |
|---------------------------|--|---|
| 10th November, 1959 to | Community T.V. (Canberra) Ltd. | Mr. B. R. Gallen |
| 11th December, 1959 | Canberra Television Ltd. Australian Capital Tele- vision Ltd. Television Australia Ltd. | Mr. C. L. D. Meares, Q.C., and Mr. R. Randerson Mr. A. Larkins, Q.C., and Mr. M. J. Atwill Mr. R. L. Taylor, Q.C., and Mr. A. V. Maxwell |

Newcastle-Hunter River Area.

| | | |
|---------------------------|---|--|
| 15th December, 1959 to | Newcastle Broadcasting & Television Corporation Ltd. | Mr. K. W. Asprey, Q.C., and Mr. J. M. Williams |
| 11th February, 1960 | T.P.N. Limited Commercial Television New- castle Ltd. Northumberland Television Ltd. Northern Telecasters Ltd. | Mr. C. L. D. Meares, Q.C., and Mr. J. H. Tuckfield Mr. A. Larkins, Q.C., and Mr. M. J. Atwill Mr. R. L. Taylor, Q.C., and Mr. A. V. Maxwell Mr. N. A. Newton |

Christmas vacation, 18th December, 1959—11th January, 1960.

Illawarra Area.

| | | |
|---------------------------|---|---|
| 11th February, 1960 to | I.T.N. Ltd. | Dr. F. Louat, Q.C., and Mr. H. C. Berkeley |
| 9th March, 1960 | Television Wollongong Transmissions Ltd. Television Corporation Ltd. Wollongong and Illawarra Television Ltd. South Coast Telecasters Ltd. | Mr. C. L. D. Meares, Q.C., and Mr. J. A. Melville Mr. A. Larkins, Q.C., and and Mr. M. J. Atwill Mr. R. L. Taylor, Q.C., and Mr. A. V. Maxwell Mr. N. A. Newton |

Richmond-Tweed Heads Area.

| | | |
|------------------------|--|---|
| 10th March, 1960 to | Richmond Tweed TV Ltd. | Mr. G. Gowans, Q.C., and Mr. N. A. Vickery |
| 24th March, 1960 | Television Corporation Ltd. North Coast Television Ltd. Lismore Telecasters Ltd. | Mr. A. Larkins, Q.C., and Mr. M. J. Atwill Mr. R. L. Taylor, Q.C., and Mr. A. V. Maxwell Mr. N. A. Newton |

Central Tablelands Area.

| | | |
|------------------------|---|--|
| 24th March, 1960 to | Country Television Services Ltd. | Mr. C. Begg, Q.C., and Mr. J. Greenwell |
| 13th April, 1960 | P. A. Yeomans, on behalf of a company to be formed. Pan-Australian Television Corporation Ltd. Television Corporation Ltd. Central Western Television Ltd. Orange and District Tele- casters Ltd. | Mr. C. A. Porter Mr. J. W. Smyth, Q.C., and Mr. W. P. Ash Mr. A. Larkins, Q.C., and Mr. M. J. Atwill Mr. R. L. Taylor, Q.C., and Mr. A. V. Maxwell Mr. N. A. Newton |

Easter vacation: 14th April, 1960—26th April, 1960.

Technical Inquiry.

| | | |
|------------------|-------------------|---|
| 26th April, 1960 | Technical Inquiry | — |
|------------------|-------------------|---|

| APPENDIX C—continued. | | |
|---|--|--|
| <i>Dates of Inquiry.</i> | <i>Applicant.</i> | <i>Counsel.</i> |
| <i>Ballarat Area.</i> | | |
| 26th April, 1960 to 5th May, 1960 | Ballarat and Western Victoria Television Ltd. General Television Corporation Pty. Ltd. R. H. Wilson | Mr. C. A. Sweeney, Q.C., and Mr. R. H. Searby Mr. J. X. O'Driscoll, Q.C., and Mr. X. Connor. |
| <i>Bendigo Area.</i> | | |
| 5th May, 1960 to 10th May, 1960 | Bendigo and Central Victoria Telecasters Ltd. General Television Corporation Pty. Ltd. | Mr. C. A. Sweeney, Q.C., and Mr. R. H. Searby Mr. J. X. O'Driscoll, Q.C., and Mr. C. Jacobs |
| <i>Latrobe Valley Area.</i> | | |
| 10th May, 1960 to 11th May, 1960 | General Television Corporation Pty. Ltd. Eastern Victoria Television Pty. Ltd. | Mr. J. X. O'Driscoll, Q.C., and Mr. C. Jacobs Mr. C. A. Sweeney, Q.C., and Mr. R. H. Searby |
| <i>Goulburn Valley Area.</i> | | |
| 11th May, 1960 to 25th May, 1960 | General Television Corporation Pty. Ltd. Goulburn-Murray Television Pty. Ltd. Rural Telecasters Ltd. | Mr. J. X. O'Driscoll, Q.C., and Mr. C. Jacobs Mr. C. A. Sweeney, Q.C., and Mr. R. H. Searby Mr. R. A. Smithers, Q.C., and Mr. P. Derham |
| <i>Darling Downs Area.</i> | | |
| 25th May, 1960 to 27th May, 1960 | Darling Downs TV Ltd. Toowoomba and Darling Downs Television Ltd. | Mr. R. A. Smithers, Q.C., and Mr. N. A. Vickery Mr. R. L. Taylor, Q.C., and Mr. A. V. Maxwell |
| <i>Rockhampton Area.</i> | | |
| 30th May, 1960 | Rockhampton Television Ltd. | Mr. R. A. Smithers, Q.C., and Mr. N. A. Vickery |
| <i>Townsville Area.</i> | | |
| 30th May, 1960 | Telecasters North Queensland Ltd. | Mr. G. V. Roberts |
| <i>North-Eastern Tasmania Area.</i> | | |
| 30th May, 1960 to 3rd June, 1960 | Tasmanian Television Ltd. Northern Television Ltd. Television (Northern Tasmania) Ltd. | Mr. F. Neasey Mr. J. Wilson Mr. R. A. Smithers, Q.C., and Mr. N. A. Vickery |

APPENDIX D.

Broadcasting and Television Act 1942-60.—Section 105A.

105A.—(1) The Board may, upon the application of the licensee of a television station, by order addressed to a person who—

- (a) has the right, by virtue of ownership or otherwise, to make a television film available, or to procure another person to make a television film available, to that licensee for use by that station; and
- (b) has not complied with a request by that licensee that he make the film so available, or procure the film to be made so available, or has, in response to such a request, required the licensee to accept terms or conditions that are not acceptable to the licensee,

direct that person to make the film so available, or to prepare it to be made so available, in accordance with the order and on terms and conditions specified in the order, being terms and conditions that appear to the Board to be just and reasonable in all the circumstances.

APPENDIX D.—*continued.*

(2) Before making an order under this section, the Board shall hold an inquiry under Division 3 of Part II. of this Act into the matter the subject of the application.

(3) The Board shall not make an order under this section if the Board is satisfied that the person against whom the order is sought has a reasonable ground of objection to the making of the order.

(4) Without limiting the generality of the last preceding sub-section, where an application under this section relates to a television film made or procured for the use of, or previously made available or contracted in the ordinary course of business to be made available for the use of, a particular television station or of particular television stations, the person against whom the order is sought shall be taken to have a reasonable ground of objection to the making of the order if he satisfies the Board, or the Commonwealth Industrial Court upon an appeal, that the making of the order would—

- (a) enable the television film to be used by a television station serving an area coinciding to a substantial extent with the area served by that particular station or one of those particular stations;
- (b) enable the film to be used in Australia before there had been a reasonable opportunity for it to be used by that particular station or all those particular stations;
- (c) prevent the film from being available at a time when it was *bona fide* required for use by that particular station or one of those particular stations; or
- (d) cause a breach of a reasonable condition imposed by agreement by an advertiser or other person who had sponsored the television of that film by that particular station or one of those particular stations.

(5) Without limiting the generality of sub-section (3) of this section or the operation of the last preceding sub-section, the person against whom the order is sought shall be taken to have a reasonable ground of objection to the making of the order if he satisfies the Board, or the Commonwealth Industrial Court upon an appeal, that his failure to comply with the request of the licensee was not, or the terms or conditions that he required the licensee to accept were not, in any wise related to an intention or attempt to obtain, for himself, either alone or in association with any other person or persons, or for some other person or persons, control, either in whole or in part, of, or of the management of, or of the selection of the programmes of, any television station or stations (whether already established or not).

(6) A person who, either in or outside Australia, acquires (whether by purchase of the film or otherwise) power to grant rights to the use of a television film for television purposes in Australia shall not, at the time of acquisition or at any other time, make an agreement that could prevent him from granting such rights to the licensee of a television station on reasonable terms and conditions.

(7) Subject to the next succeeding sub-section, a person who, either in or outside Australia, acquires rights to the use of a television film for television purposes in Australia but does not acquire power to grant, without limitation, rights to the use of the film for television purposes in Australia, shall not, either at the time of the acquisition or at any other time, make an agreement that could prevent the grant by another person, on reasonable terms and conditions, of any rights to the use of that or any other film for television purposes in Australia that it is not within the power of that person himself to grant.

(8) Where a person acquires rights to the use of a television film for television purposes in Australia for the purposes of a particular television station or particular television stations, the last preceding sub-section does not prevent the making by that person of an agreement that may reasonably be regarded as necessary for the purpose of—

- (a) preventing a television station serving an area coinciding to a substantial extent with the area served by that particular station or one of those particular stations from obtaining the use of the film; or

APPENDIX D.—*continued.*

- (b) preventing the use of the film in Australia before there has been a reasonable opportunity for it to be used by that particular station or all those particular stations.
- (9) The Board may, in its discretion, order a party to proceedings before the Board under this section to pay to another party such amount in respect of costs as is fixed by the Board, and the party to whom the costs are payable may recover the amount of the costs as a debt by action in a court of competent jurisdiction.
- (10) Where the Board makes an order under sub-section (1) of this section, the person against whom the order is made may appeal against the order to the Commonwealth Industrial Court on the ground—
- (a) that he had a reasonable ground of objection to the making of the order; or
 - (b) that the terms and conditions specified in the order are not just and reasonable in all the circumstances.
- (11) The Commonwealth Industrial Court has jurisdiction to hear and determine an appeal under this section, and shall—
- (a) if it is satisfied that the ground of appeal specified in paragraph (a) of the last preceding sub-section has been established—quash the order;
 - (b) if it is satisfied that the ground of appeal specified in paragraph (b) of the last preceding sub-section has been established—either quash the order or direct that the order be varied in such manner as will, in the judgment of the Court, make the terms and conditions just and reasonable in all the circumstances; or
 - (c) if it is not satisfied that a ground of appeal has been established—dismiss the appeal.
- (12) An appeal under this section shall be by way of re-hearing, but the Court may have regard to any evidence given before the Board.
- (13) The jurisdiction of the Commonwealth Industrial Court under this section may be exercised by a single judge.
- (14) Sub-sections (6) and (7) of this section apply both in and outside Australia, and, for the purpose of giving jurisdiction to courts with respect to any offence arising under either of those sub-sections outside Australia, the offence shall be deemed to have been committed at any place in Australia where the offender is found, resides or carries on business.
- (15) In this section—
- “licensee”, in relation to a national television station, means the Commission;
 - “person” includes the Commission;
 - “television film” or “film” means any photographic film, magnetic tape or other thing from which images can be reproduced and which is intended for use for televising images (not being commercial advertisements), and includes a sound recording for use in conjunction with any such film, tape or other thing.
- (16) In this section, unless the contrary intention appears, a reference to a particular television film includes a reference to any print, copy or facsimile of that television film.
- (17) For the purposes of this section, the area served by a television station is the area or areas within which consistently reliable reception of the programmes televised by that station can be obtained.

APPENDIX E.

**INQUIRIES BY AUSTRALIAN BROADCASTING CONTROL BOARD
INTO APPLICATIONS FOR LICENCES FOR COMMERCIAL
TELEVISION STATIONS IN PROVINCIAL AND COUNTRY
CENTRES.**

REPORT BY THE DIRECTOR OF TECHNICAL SERVICES ON
TECHNICAL EVIDENCE AND TECHNICAL CONFERENCE.

Contents.

1. Introduction.
2. Availability of frequency channels.
3. Number of stations required.
4. Technical considerations.
5. Consideration of VHF assignment plans.
6. Use of Ultra High Frequency (UHF) band.
7. Proposed establishment of a technical committee.
8. Summary.
9. Conclusion.

Appendices.

- Appendix 1.—List of organizations submitting technical statement.
- Appendix 2.—Announcement by Chairman concerning form of inquiry into technical questions and in particular frequency allocation problems.
- Appendix 3.—Nine channel plan with channel 4 omitted.
- Appendix 4.—Eleven channel plan omitting channel 4 and using channels 94–101 Mc/s (3A) and 101–108 Mc/s (3B).

1. Introduction.

In December, 1959, the Board invited all applicants for licences for commercial television stations in the thirteen provincial and country areas being considered, a number of equipment manufacturers, the Postmaster-General's Department and the Australian Broadcasting Commission, to submit evidence by 2nd February, 1960, concerning the question of the availability of frequency channels.

In response to this invitation, written evidence was received from eighteen sources, as outlined in Appendix 1.

On 10th March, after consideration by the Board of the technical evidence submitted, the Chairman of the Board announced the procedure to be adopted for dealing with the technical evidence and a copy of the statement is attached as Appendix 2.

The evidence was made available in the Board's Sydney and Melbourne offices between 21st March and 8th April, 1960, following which additional evidence was received. It had been intended that this additional evidence would be forwarded to persons upon whose statements comments had been made, but unfortunately this course was not found practicable. However, copies were made available for examination at the technical conference which commenced on 26th April, and concluded on 29th April and was attended by a total of 40 representatives.

This report has been written after examination of the written evidence and in the light of discussions which took place at the technical conference, and is prepared under various subject headings relevant to the written evidence and discussions.

2. Availability of Frequency Channels.

2.1 At the time that the Royal Commission on Television made its report (November, 1953), there were seven channels available in the Very High Frequency (VHF) band for television. The Royal Commission recommended that television services of the Commonwealth should be planned on the basis of the use of VHF channels and urged that every effort should be made by the authorities concerned to release additional VHF channels for television services.

In accordance with the Royal Commission's recommendations, discussions were commenced in June, 1954, between the Postmaster-General's Department, other Government users of the frequency spectrum and the Board with a view to having three or more VHF channels released for television purposes. As a result of these negotiations and with the co-operation of the authorities concerned, three additional channels were made available, with the result that the following ten VHF channels were reserved for television:—

- | | |
|------------|---|
| Channel 1. | 49–56 megacycles per second (Mc/s). |
| 2. | 63–70 megacycles per second (Mc/s). |
| 3. | 85–92 megacycles per second (Mc/s) (for use in inland country areas only) |
| 4. | 132–139 megacycles per second (Mc/s) (available from 1st July, 1963) |
| 5. | 139–146 megacycles per second (Mc/s) (available from 1st July, 1963) |
| 6. | 174–181 megacycles per second (Mc/s). |
| 7. | 181–188 megacycles per second (Mc/s). |
| 8. | 188–195 megacycles per second (Mc/s). |
| 9. | 195–202 megacycles per second (Mc/s). |
| 10. | 209–216 megacycles per second (Mc/s). |

It will be recalled that with regard to channel 4 (and as mentioned in my 1959 statement on frequency allocation questions) the frequency band concerned is used by the Department of Air, and in 1958 the Board was advised that the Department desired to retain use of the band until 1970.

2.2. In addition to channels in the VHF band, there is frequency space in the UHF band allocated for broadcasting purposes (from 500–820 Mc/s) and this band could accommodate 45 television channels of 7 Mc/s bandwidth each.

2.3. Written evidence submitted by the Postmaster-General's Department has indicated that, as a result of the deliberations of the 1959 International Administrative Radio Conference held in Geneva, further difficulties have arisen with regard to the use of channel 4. The Geneva conference made two international allocations in the band 132–139 Mc/s which prejudice its use for television in Australia. The allocations are for aeronautical mobile services (132–136 Mc/s) and for space, fixed, mobile, and earth-space services (136–137 Mc/s). These allocations have priority, and channel 4 could therefore be used for television only on the basis that interference is not caused to the other services.

In the Department's evidence it was stated that a review was to be made of frequency allocations in Australia and that it should be possible to complete this review within the next six months. In May, 1960, the Postmaster-General announced that the Government had decided to establish a special committee to conduct a review of frequency allocations to all classes of approved users in Australia.

If the television service within Australia is to develop in the VHF band it is essential that an early decision be made as to whether channel 4 is or is not to be used. This question, together with others referred to later in the report, is a matter which is considered appropriate for resolution following the forthcoming review.

2.4. Suitability of Channels.

2.4.1. In written evidence submitted some doubts were expressed of the desirability of using television channels which are not used in other countries. Two points were made in this regard, firstly the desirability of international standardization from a frequency allocation viewpoint, and secondly that transmitting equipment would be more expensive because of the limited market for equipment on such channels.

2.4.2. With regard to the international standardization of channels, this is not completely attainable because of the different channel widths used in various countries and the different frequency bands used. Of the Australian channels, the most important departure from frequency bands used in other countries relates to channels 4 and 5 (132-146 mc/s). As far as is known, no other country uses television in this portion of the frequency spectrum. However, for frequencies above 30 Mc/s, international use of the frequency spectrum varies between various regions of the world, and although there are strong reasons in support of international standardization of frequency usage for some services, e.g., aeronautical, maritime and possibly services dealing with communication in outer space remote from the earth, it is not considered that the desirability of standardization should preclude the use in Australia of television channels which are not used in other countries.

2.4.3. With regard to the cost of transmitting equipment, evidence given at the technical conference by equipment manufacturers indicated that there would be no appreciable difficulty in manufacture of equipment for channel 4 or 5 and that the cost would possibly be 10 per cent. higher than for equipment for channels 6-10.

2.4.4. In view of the above it is not considered that the fact that certain channels may be in a portion of the frequency spectrum not used for television in other countries should necessarily preclude their use in Australia.

2.5. Possibility of Obtaining Additional Channels.

2.5.1. In written evidence and at the conference the view was expressed that additional VHF channels were required for development of the television service and various suggestions made concerning parts of the VHF spectrum which might be used.

2.5.2. There was appreciable support for the use of the band 92-108 Mc/s, on the basis that it was immediately available and would provide two television channels, and that there was little demand for the use of the band for frequency modulation broadcasting for which the band is at present reserved. In support of this view, it was submitted that if additional broadcasting facilities were required they could be accommodated in the UHF band, which would be more suitable for broadcasting purposes than for television.

On the other hand the view was expressed that the medium frequency broadcasting band was heavily loaded and gave little scope for broadcasting development and that the 92-108 Mc/s band was the most appropriate band to use for this purpose.

The 92-108 Mc/s band is at present used by experimental frequency modulation broadcasting stations in Sydney, Melbourne, Adelaide and Brisbane and only a small portion of the band is in use. It is of course used widely in the U.S.A. and Europe for frequency modulation broadcasting, and as far as is known, Japan is the only country using it for television.

From the technical viewpoint the band is the most satisfactory available for frequency modulation broadcasting, and is superior to the UHF band because of its propagation characteristics, being less affected by obstructions. Further, the use of frequency modulation in the UHF band could cause some difficulty with receivers in that the required frequency stability of local oscillators in superheterodyne receivers could be difficult to achieve. However, these difficulties could possibly be overcome by the incorporation of automatic frequency control in receivers, although at some added costs in production.

It is possible that if the UHF band was used for broadcasting, techniques other than frequency modulation would be appropriate for use, such as sub-carrier methods or pulse techniques. As far as is known the UHF band is not used for broadcasting in other countries, apart from its use as the sound channel of UHF television stations, where the use of inter-carrier type receivers makes the frequency stability problem less severe.

If it were necessary to divert the use of the 92-108 Mc/s band for television use, and broadcasting services were needed in the UHF band, no insuperable technical difficulties are foreseen in providing for such facilities, although it is possible that receiver costs would be higher than in the VHF band.

2.5.3. There were proposals made in written evidence and at the technical conference that other portions of the VHF band should be examined with the view to obtaining additional television channels, and in this connexion the following bands were mentioned: 56-63 Mc/s, 202-209 Mc/s and 216-223 Mc/s.

These bands are not allocated for broadcasting or television purposes in Australia, although they are used for television in some other countries. In support of the proposal that the 202-209 Mc/s band be made available for television, the opinion was expressed that the service at present using the band (Distance Measuring Equipment, operated by the Department of Civil Aviation) could be transferred to a higher frequency at a cost of £400,000.

2.5.4. The question of the possible availability of additional VHF channels (apart from the 92-108 Mc/s band) is not one which the Board can determine, and it is considered that if additional channels are required the various suggestions which have been made in this connexion should be referred to the Postmaster-General's Department for attention by the Committee to be set up to study the general frequency allocation question.

3. Number of Stations Required.

3.1. The number of stations to be established in each of the thirteen areas under consideration by the Board is a matter for Government decision following the submission of the Board's report on applications for the grant of licences for commercial television stations. As this is one of the matters which has been the subject of considerable discussion at the public inquiries, and because of the sociological and economic problems involved, it was not considered appropriate that the technical conference should discuss the matter in detail.

Nevertheless, evidence was submitted concerning the number of stations for which provision should be made in planning for the future. There was considerable evidence submitted that the Provisional Plan for the Assignment of Television channels for Australian Television services, published in the Board's Seventh, Eighth and Ninth Annual Reports, (providing for four services in state capital cities and two in country areas) made inadequate provision. This evidence favoured a minimum provision of four services in state capital cities and a minimum of three in at least the major provincial and country areas. (Such provision would enable competing commercial services in country areas, in addition to national services.)

In addition evidence was submitted that if the service is to develop from the commercial viewpoint on the basis of economic demand, rather than be limited by technical considerations, additional stations could be justified, particularly in heavily populated centres such as Sydney and Newcastle.

3.2. Further evidence, relating to the possible needs of educational television was given, the view being stated that to provide for such requirements two channels should be allocated in each capital city and major area (such as Newcastle and Illawarra). A further view was that such provision was conservative, it being envisaged that multi-channel television with six or more services from a central capital city to country schools could be foreseen, although certain of these may use the closed circuit technique not requiring provision of a channel in an allocation scheme.

On the other hand some doubt was thrown on the desirability of conducting educational television on the same technical basis as the existing monochrome service, the view being expressed that because of their special nature a colour system would be more appropriate. Further, some doubt was thrown on the availability of finance to support a number of stations for purely educational purposes.

4. Technical Considerations.

4.1. The number of channels required for development of the television service is primarily dependent upon the number of services which are to be provided in the various areas and the technical considerations of channel assignments which are used, and in the following, consideration is given to the technical problems involved.

4.2. With regard to technical standards for assignment purposes, and in so far as the VHF band is concerned, the geographical spacing between co-channel and adjacent channel stations in the Provisional plan was, as far as practicable, kept greater than the following values:—

| | |
|-------------------------------------|-----------|
| Co-channel, same polarization— | |
| Power 100 kw | 170 miles |
| Co-channel, different polarization— | |
| Power 100 kw | 135 miles |
| Co-channel, same polarization— | |
| Powers 100 kw—14 kw | 140 miles |
| „ 100 kw—1 kw | 120 miles |
| Co-channel, different polarization— | |
| Powers 100 kw horizontal | |
| „ 1 kw vertical | 100 miles |
| Adjacent channel— | |
| Power 100 kw | 60 miles |

At the time these spacings were determined it was realized that there would be some interference between co-channel stations particularly in areas where signal strength is relatively weak, but that it was inevitable that such interference would occur if the most effective use was to be made of the available VHF channels.

4.3. There were varying views put forward on use of the spacings outlined above. On the one hand views were expressed that the spacings were realistic and in fact, in some of the frequency plans submitted with written evidence, have been widely used. On the other hand views were expressed that larger spacings would be desirable, reference being made to the practice in the United States of America where in certain zones the minimum spacing between co-channel stations using the same polarization is increased to 220 miles because of the prevalence of super-refraction effects in such areas. Further evidence was submitted that with regard to the lower frequency channels (channels 1, 2 and 3) somewhat larger spacings would be desirable than for the higher channels (4-10).

4.4. An indication of the limitation imposed by 170 mile spacing of co-channel stations may be given by the following, estimated on the basis of propagation curves recently prepared by the Federal Communications Commission, U.S.A.

With two transmitters, 100 kw e.r.p., using omni-directional aerials, at 500 ft. above average terrain level the effective rural service range of each in the line between them would be approximately 35 miles for Channels 1-3 and approximately 41 miles for Channels 4-10, as limited by co-channel interference. This distance is appreciably less than the distance to which stations can be received, with varying degrees of satisfaction, as is indicated by the large distances at which reception is achieved of existing stations.

For stations operating without co-channel sharing the distance to which reliable reception would be achieved under the same conditions as above would be approximately 62 miles for Channels 1-3 and 57 miles for Channels 4-10.

With aerials higher than 500 ft. above average terrain level the interfering range would become greater, and larger co-channel spacings accordingly desirable.

4.5. In the light of the above it is considered that the above spacings should be regarded purely as minimum values and in any assignment plan endeavours made to have larger spacings. The spacing to be adopted between any pair of co-channel stations needs to be considered on its merits, with regard to the population to be covered by each station and the alternative services available to the population between the stations and who would be affected by the co-channel interference.

4.6. With regard to adjacent channel spacings of stations the figure of 60 miles adopted for planning was based on the characteristics of receivers being such that satisfactory reception, free of adjacent channel interference, would be possible with desired and undesired median signals of equal strength.

In one of the frequency plans submitted in evidence, adjacent channel discrimination of receivers was based on findings of the Television Allocations Study Organization (U.S.A.) which on the results of tests on a large number of receivers found that receivers would operate satisfactorily with undesired adjacent channel to desired channel signal strength ratios of 26 db (20:1). Discussion at the technical conference, particularly by receiver manufacturing representatives indicated that it would be unwise to plan on the basis of such discrimination as few Australian receivers would achieve it. Evidence submitted on tests made on Australian receivers indicated that adjacent channel interference could be troublesome on some Australian receivers even where the desired signal strength was greater than that of the undesired adjacent channel signal.

For planning purposes it is considered realistic to consider the receiver as capable of operating satisfactorily in the presence of an adjacent channel where the median desired and undesired signals are of equal strength, and although there could be difficulties with some receivers which do not meet this requirement the fitting or adjustment of adjacent channel traps should enable the requirement to be met. As for co-channel spacing, the 60 mile adjacent channel spacing should be regarded as a minimum and depending upon particular circumstances it may be desirable to use larger spacings.

4.7. Super-Refraction Effects.

4.7.1. In some of the evidence submitted the view was expressed that super-refraction effects could be troublesome from the viewpoint of co-channel interference particularly on the eastern coast of Australia. On this subject the conference was fortunate in having the expert assistance of Mr. F. J. Kerr of the Radiophysics Laboratory of the C.S.I.R.O.

4.7.2. In some written evidence the view was expressed that super-refraction was an important matter to be considered, particularly in relation to co-channel operation of stations and the siting of stations on the east coast of Australia, as under appropriate conditions co-channel interference could be serious and there was a possibility of drop outs within the service area of stations.

It was suggested that if the transmitting aerial was above the level of a refracting layer, upward refraction may occur with drop out of signals within the service area, and that the effect could occur with transmitting aerials more than about 2000 ft. above sea level. Some evidence of this effect, although inconclusive, was quoted concerning reception of one of the Sydney stations.

4.7.3. The current state of knowledge concerning the effects of super-refraction in Australia was explained at the conference by Mr. F. J. Kerr, who stated that data had been obtained on about 100 coastal radar stations in Australia and New Guinea, at 200 Mc/s, over a period of one and a half years, including two summers. The most important effect found was that of a coastal front, caused by cool moist air flowing inland and hot dry air flowing seawards at a higher altitude, causing inversion layers at 1000-3000 ft. altitude. At the resulting discontinuity change in temperature, gradient and drop of water vapor content produce more than normal fall off of density with height, with change of refractive index and consequent change in the direction of transmission of radio waves. In extreme cases the layer could act as a waveguide, and on very rare occasions propagation over distances of several hundred miles had been recorded.

On the eastern Australian coast the phenomenon occurs on a good proportion of summer days, and probably the most common result in summer is an increase in field strength out to about 100 miles, and not much beyond. The phenomenon may be intense over the sea, but would not be of importance more than five to ten miles inland.

4.7.4. With regard to the height of transmitting aerials in coastal areas Mr. Kerr gave the following information.

With an aerial below the refracting layer, trapping of rays within the duct would be greater than if the aerial were above the layer, resulting in more distant propagation during intense layering. To avoid long distance propagation it would accordingly be preferable to site aerials above the level at which intense layering occurs. Under these conditions some attenuation through layers may occur, but the proportional reduction of energy transmitted through a layer would be smaller than the increase due to trapping below a layer. Mr. Kerr was of the opinion that it would be preferable from the viewpoint of possible super-refraction effects to site aerials above possible layers, and if the site were a few miles inland serious attenuation due to low layers would not be expected.

4.7.5. To obtain information on the strength of signals expected along the eastern coast, measurements were arranged by the Board of the field strength from Sydney television stations at Taree—some 160 miles north of Sydney—the path passing approximately for half the distance over the sea. In addition measurements have been made over a path of similar length of the strength of Melbourne stations at Warrnambool, a path mostly over land. At Taree recordings were made for a total of 65 hours between October 1959 and March 1960, and this period was effectively extended by observations at other times. At Warrnambool recordings were made for a similar period.

Table 1 gives the result of the recordings for field strength exceeded for 10 per cent. and 1 per cent. of the total time, compared with figures from the most recent C.C.I.R. curves based on a large number of observations on different types of paths.

TABLE 1.
Observed field strengths at Taree and Warrnambool for 100 kw e.r.p.

| | Field strength dbu exceeded for percentage of time. | |
|---------------------|---|-------------|
| | 10 per cent. | 1 per cent. |
| <i>Channel 2—</i> | | |
| Taree | 39 | 52 |
| Warrnambool | 36 | 43 |
| C.C.I.R. | 30 | 39 |
| <i>Channel 7—</i> | | |
| Taree | 30 | 45 |
| Warrnambool | 31 | 43 |
| C.C.I.R. | 30 | 39 |

In general, in the observations at Taree and Warrnambool periods of high signals coincided with periods of marked temperature inversions. The number of occasions on which such inversions occurred on the New South Wales Coast in the past three summers were 1957-58, 9; 1958-59, 9; and 1959-60, 7, indicating that the recordings were not carried out during a markedly abnormal summer.

On Channel 7 the recorded figures for Taree and Warrnambool are not greatly in excess of the C.C.I.R. figures, but the difference is of significant extent in the case of channel 2, particularly for Taree. The recording period is insufficient to draw firm conclusions and to obtain more reliable figures; it would be desirable to make recordings extending over a period of at least two summers.

4.7.6. To obtain information on the possible attenuating effect of layers, recordings were made of the strength of signals of Adelaide station ADS Channel 7, at Port Wakefield, for 25 evenings over a period of six weeks between March and May, 1960.

Details of the tests were as follows:—

| | | |
|---|-------|-------------------|
| Transmitter aerial height | .. .. | 2,800 ft. |
| Receiver aerial height | .. .. | 30 ft. |
| Path length | .. .. | 61 miles |
| Distance to radio horizon (standard atmosphere) | .. .. | 75 miles |
| Duration of each recording | .. .. | 5 hours (approx.) |
| | | 1,700-2,200 hours |
| Transmitter power | .. .. | 100 kw. |

Signal characteristics are listed below, with preliminary results of a meteorological data study:—

- (a) No pronounced short period signal attenuation was observed.
- (b) Radiosonde data obtained in the mornings at Adelaide during the test period indicate the presence of low tropospheric layers on three occasions, with barely sufficient refractive index gradient to produce ducts. No radiosonde plots showed layers similar to the intense low layers observed in the Sydney area in summer.
- (c) The maximum variation in median signal level from night to night was 8 db, the maximum variation in signal level throughout the recording period was 12db, and the maximum variation in any one evening was 9 db.
- (d) Maximum median levels were received on calm nights when the dew point temperature at ground level fell rapidly.
- (e) The variation in signal level was usually slow, so that in general the signal could be described as steady with a tendency to increase from 1,700 hours to 2,100 hours. Most recordings had equal variations above and below the median level, but there was a tendency for larger signal peaks above the median, than troughs below the median, when variations were large.

These tests did not indicate the presence of any drop outs caused by the presence of inversion layers, but the meteorological conditions throughout the tests were such that intense low layers, which could be expected to produce drop outs, and which are observed in the Sydney area during summer, were not present.

4.7.7. There is some evidence from overseas sources concerning drop outs but insufficient to arrive at any conclusions concerning the possible severity. For example at the I.E.E. London symposium January 1958, a report by Mr. J. K. S. Jowett indicated that on a number of just non-optical VHF links there was a tendency for very deep fading to occur for approximately 0.1 per cent. of the time, the signal strength decreasing to perhaps 30 db below normal level, for a period of up to 20-30 minutes. The fifth Summary Report of the Boulder Laboratories (U.S.A.) gives some details of experimental work which has been in progress since 1955

near Los Angeles, but the results are not yet available. There is however earlier information available (B. R. Bean Proceedings of I.R.E. May, 1954) indicating the existence of fadeouts, it being found that such fadeouts were more severe at UHF than at VHF and that there was a correlation between the presence of low level tropospheric layers and fadeouts within the horizon.

4.7.8. There is insufficient measured data available to confidently predict the effect of super-refraction for particular transmission paths in Australia, but in the light of available information the following tentative conclusions have been drawn.

- (a) Provided that the transmission path is approximately 5-10 miles from the sea on the eastern Australian coast, the incidence of high field strengths beyond the normal service area of a station is unlikely to be seriously increased by super-refraction effects.
- (b) For transmitting sites in coastal areas, and from the viewpoint of limiting co-channel interference between stations the effect of super-refraction would be less pronounced with transmitting aerials located above inversion layers than below them.
- (c) With transmitting aerials located above inversion layers it is unlikely that frequent serious dropouts would occur in the normal service area because of the presence of such layers.

Having regard to the well known advantages of high transmitting sites in extending the coverage of stations, it is concluded that there is no reason to depart from this principle because of possible super-refraction effects in any particular case if a high site can be justified on general grounds.

4.8. Ionospheric Effects.

4.8.1. There was limited evidence submitted on this matter. One submission however, mentioned the possible interference which could arise particularly with Channel 1 due to sporadic E effects. The effect has been noticed on Channel 2 since the establishment of national stations in various states operating on that channel, and although it is expected to be in evidence for only a small percentage of the total time it would be expected that the effect will be more pronounced on the lower frequencies of Channel 1. The suggestion was made that care should be taken in the spacings chosen for use of Channel 1 because of this effect.

Although the effect of ionospheric transmissions in causing interference has been noticed in other countries, as far as is known no special measures are adopted to alleviate its effects, the view being taken that the small percentage of time that the effect is in evidence is insufficient to warrant limiting the number of stations which could otherwise be established.

4.8.2. It would appear desirable in preparing an allocation plan, to use Channel 1 with some care, with the aim of limiting the extent to which ionospheric effects will occur. In this connexion the most serious ionospheric effects are likely to occur between stations separated by approximately 700-1,400 miles, but depending upon the number of stations to be provided there may be appreciable difficulty in limiting its use in such a manner without depriving some population of a television service which could otherwise be made available. On present limited information available, interference due to ionospheric effects over distances of the order indicated above would not be expected for more than 1-2 per cent. of the total time, but when it occurs it would be serious.

4.9. Use of Vertical Polarization.

4.9.1. The Standards for the Australian Television Service specify that the radiated signals from both sound and picture transmitters shall be horizontally polarized, except in special cases.

It was envisaged at the time the provisional assignment plan was prepared that, to reduce the effects of co-channel interference, some use would be made of vertical polarization, and in that plan limited use was made of this technique.

4.9.2. Evidence submitted to the conference on the use of vertical polarization was varied, some supporting its use and other expressing doubt about it. Some evidence referred to radiation of undesired polarization from transmitting aerials, and the possibility of lack of discrimination against the undesired polarization of receiving aerials. In the latter connexion reference was made to experience in the U.S.A., where it was found that the expected advantages of cross polarization in reducing interference from undesired sources are greatly offset by poor polarization characteristics of typical home antenna installations.

It was submitted that the use of vertical polarization was of doubtful value, it being suggested that possibly there would be a change of polarization at large distances nullifying the expected advantages. It was also submitted that it was desirable to avoid overlap of coverage between stations using differing polarization as viewers would need two receiving aerials if they desired to receive all stations effectively.

Further views expressed were that vertical polarization should be used with care and that tests should be conducted on the characteristics of receiving aerials at an early date and prior to implementation of any plans in which its use was proposed.

At the technical conference it was suggested that the use of vertical polarization was an undesirable expedient, and in support of this view, some experience in the United Kingdom was quoted where change of polarization had been found in the hilly areas of Scotland. In addition evidence was given of a change of polarization in the Blue Mountains area of New South Wales of transmissions from the Sydney stations.

On the other hand there was evidence submitted, and supported by experimental work, that vertical polarization could be used with confidence and that 10 db discrimination against undesired polarization could be used for planning purposes.

4.9.3. The question of the use of differing polarizations as an aid in assignment problems has been considered by the International Radio Consultative Committee (C.C.I.R.) of the International Telecommunications Union, and some relevant extracts of Report No. 122 of the C.C.I.R. are as follows:—

“Between 30 and 300 Mc/s the median value of discrimination that can be achieved at domestic receiving sites by the use of orthogonal polarization may be as much as 18 db, and under these conditions the values exceeded at 90 per cent. and 10 per cent. of the receiving sites are about 10 db and 25 db respectively.

The values of discrimination are likely to be better in open country, and worse in built up areas or places where the receiving antenna is surrounded by obstacles. For domestic installations in densely populated districts the median values of 18 db will usually only be realized at roof level, and this value may be reduced to 13 db at street level.

No significant changes in the polarization of metric waves due to transmission through the troposphere have been observed over distances exceeding 200 km. Furthermore there have been no reports of systematic changes in polarization effects with frequency in the metric band, nor with distance nor types of terrain.

It must be emphasized, however, that in order to realize the discrimination ratios mentioned above, certain precautions are necessary at both the transmitting and receiving installations; cases have been reported in which for a transmitter of horizontally polarized waves, some 7 per cent. of the radiated power was vertically polarized. It is clear that if the best discrimination is to be achieved for co-channel operation, the transmitters and antenna systems must be designed and installed so as to radiate as much as possible of the total power on the assigned polarization.

In the same way, in order to achieve the desired discrimination at the home receiving installation, the reception of the undesired radiation on the receiver itself must be reduced to the minimum possible value.

From the studies described above, it is clear that the use of orthogonal polarization for broadcasting stations operating in the same frequency channel is of material assistance in discriminating against the reception of undesired signals. Worth-while advantages are obtainable over the whole band of frequencies from 40 to 500 Mc/s and within the normal broadcasting service ranges. From the uniformity of the discrimination obtained over these frequencies, it is considered to be almost certain that the advantages will extend to the top of the UHF broadcasting band at nearly 1,000 Mc/s.'

4.9.4. On the basis of the report of the C.C.I.R., which was the result of extensive studies made in Europe by the Federal German Republic, France, Italy and the United Kingdom, and also in the U.S.A., it is considered that the use of vertical polarization is a useful technique to be adopted in achieving economy in the use of television channels in Australia. It is not thought that further experimental work in this country would change the conclusions reached by the C.C.I.R.

However there are technical matters associated with its use which merit attention prior to its adoption in any area. These are as follows:—

- (a) Where the technique is to be adopted it will be necessary for the Board to specify the limits of undesired polarization component from a television station. (There are at present no figures given for this in the Board's Standards for the Technical Equipment and Operation of Television Stations but it would need to be significantly better than 10 db).
- (b) It will be desirable to stress to the manufacturers of receiving aerials and receivers the need for home receiving installations to discriminate against reception of waves of undesired polarization.
- (c) In considering areas where the use of vertical polarization should be adopted it would be desirable, as far as practicable, to avoid overlapping of the service areas of stations using differing polarization in order that viewers may have the choice of programmes available in the areas concerned without having to use two receiving aerials. However, it is not thought that this aspect should be an over-riding consideration in determining whether the technique should be adopted.

4.10. Directional Transmitting Aerials.

Directional transmitting aerials can be used to limit the extent of co-channel interference between channel sharing stations, by reducing the effective radiated power of the sharing stations in appropriate directions.

In evidence submitted on this matter no objection was raised to their use. Information available from the U.S.A. indicates that ratios of maximum to minimum radiation of the order of 20 db are permitted in that country. However, with a high degree of suppression of radiation in one direction there could be difficulty in achieving at the same time a specified degree of vertical to horizontal component of radiation, and accordingly it may not be realistic to rely on the advantages of crossed polarization in the direction of minimum radiation of stations using directional transmitting aerials. Nevertheless they could be an important tool in planning the most economical use of channels, but each case would need to be considered on its merits in the light of the population likely to be deprived of service in the direction of minimum radiation. One view expressed was that it would be preferable to use crossed polarization of stations rather than using directional aerials as viewers in the area between stations would have a better chance of receiving adequate signal strength for reliable reception.

4.11. Consideration of critical Areas.

4.11.1. In considering the problem of frequency assignments on a Commonwealth-wide basis, certain areas are more critical than others. In particular, the heavily-populated areas, where from an economic viewpoint the largest number of stations could be established, are those where the

most serious problems of assignments arise. The areas of most concern are eastern New South Wales, within approximately 150 miles of Sydney and in Victoria within approximately 150 miles of Melbourne. Of these two States, New South Wales is the more difficult and it is considered (and this view was supported at the technical conference) that if the assignment problem can be solved in New South Wales the requirements of the rest of the Commonwealth could be met.

In New South Wales the number of stations which could be established in the VHF band would be increased if it were practicable to operate stations in Newcastle and Illawarra on common channels, and in some of the frequency plans presented in evidence such sharing of channels was proposed. In earlier consideration of this possible sharing, the Board's technical staff has rejected it because of the possible interference in the area between the two stations, and where because of the difficult terrain, reception of Sydney stations is not wholly adequate for all existing or potential viewers.

4.11.2. There were varying views put forward with regard to the sharing of channels in the two areas. An analysis made by one company indicated that the sharing would be satisfactory, but on the other hand views were expressed that it would be undesirable because of possible interference effects. Further views were expressed that it would be desirable to conduct experimental work to determine whether the sharing were practicable, because of the economy in channel usage which would be obtained and that such work could be done within a few months.

One factor which was considered of importance in the matter was the effect of super-refraction, and the siting of transmitters with regard to location relative to the coast and their height above sea level.

In this connexion the view was put forward that the area between Newcastle and Illawarra could be compared to the United States Zone 3 near the Gulf of Mexico, where minimum co-channel spacing appreciably greater than in other areas is used because of super-refraction effects, and that the presence of well-formed inversion layers was not necessary to obtain substantial reinforcement of signals well beyond the horizon. On the other hand, views were expressed that super-refraction would not be an important consideration in sharing channels between Illawarra and Newcastle if high sites are employed 10 miles or more inland.

A further argument put forward against sharing of channels in the two areas was that, as it would be necessary to use vertical polarization for one of the areas, and as there was an appreciable number of existing viewers in both areas with horizontally polarized aeriels, these viewers would be put to additional expense in providing for reception of the vertically polarized transmissions.

The view was expressed that the sharing of stations in the two areas would permit the more powerful established metropolitan interests to impinge in the areas of new licences and entirely prevent the new stations from obtaining any kind of an audience in Sydney, and that there could be effects other than super-refraction which could result in serious co-channel interference between the stations.

4.11.3. In considering the possibility of sharing channels between Newcastle and Illawarra, and in the light of the evidence submitted, it is firstly relevant to consider the question of sites. In applications for licences in the Newcastle area all applicants have suggested Great Sugarloaf as the proposed site, and there are very strong reasons favouring its use. For Illawarra, however, five separate sites have been proposed, namely, Mt. Kiera, Barren Ground, Knight's Hill, near Robertson, and Saddleback. The distances from Mt. Sugarloaf to these sites are respectively 111 miles, 132 miles, 129 miles, 129 miles and 131 miles, which are all less, although in four cases only slightly less, than the 135-mile minimum spacing between co-channel 100 kw e.r.p. stations using differing polarizations, as used in the preparation of the provisional assignment plan.

By the use of directional transmitting aërials at the stations in Newcastle and Illawarra, each reducing effective radiated power in the direction of the other area, the protection standards on which the 135-mile spacing was determined could be achieved with less distance separation between stations. However, in the case of Newcastle, it would be undesirable to appreciably reduce power in a southerly direction because of the large population in the coastal area between Sydney and Newcastle, many of whom are not satisfactorily served from Sydney and who will rely on reception of the Newcastle stations. In the case of Illawarra some reduction in power in a northerly direction would be practicable for stations if located on Mt. Kiera, but for stations located south of Wollongong, and particularly those inland, a reduction of power in a northerly direction would be undesirable because of the shielding effect of the escarpment to the north of Wollongong, in an area where reception of the Sydney stations is poor.

Measurements made of the strength of signals from the Sydney stations at Taree, 160 miles from Sydney (mentioned in Table 1) give an indication of the possible extent of interference which would be experienced between Newcastle and Illawarra stations on the one channel. On channel 2 the strength of signal, exceeded 10 per cent. of the time during the past summer, was 39 dbu and for channel 7, 30 dbu. Applying a correction figure for distance (on the basis of C.C.I.R. curves) to 90 miles, the expected field strengths exceeded for 10 per cent. of the time from Illawarra in the area south of Newcastle would be 54 dbu for channel 2 and 45 dbu for channel 7. Allowing a ratio of 18 db between desired and undesired signal strength for acceptable reception (including 10 db for differing polarization), the field strength at which interference would be expected for 10 per cent. of the time would be 72 dbu for channel 2 and 63 dbu for channel 7, or respectively 4 mV/m and 1.4 mV/m, which are undesirably high.

It is not suggested that the measured results at Taree are a wholly reliable basis on which to derive conclusions concerning the possible sharing of Newcastle and Illawarra stations, as the measurements have been made over a relatively short period, and the results would not necessarily apply to a different transmission path.

Using the angular distance methods of estimating field strength and applying it to the actual transmission path north of two of the possible Illawarra sites, the field strength exceeded for 10 per cent. of the time 90 miles north would be as follows for 200 Mc/s:—

Barren Ground—42 dbu.
Near Robertson—53 dbu.

Information in the report of the Television Allocations Study Organization (U.S.A.), based on a large number of measurements of the coverage of television stations, and in particular Fig. 1 (c) page 306, indicates that although the above figures would fit on a smooth curve through the average of measurements made, there could be an appreciable difference in any actual case, and the actual field present could be appreciably higher or appreciably lower. It is considered that the only satisfactory way of determining the actual interfering fields which would be present, in view of their probable high values and the appreciable effect of the actual sites used, would be to establish a transmitter on the finally determined Illawarra site and to take recordings of field strength over an extended period.

To adopt the sharing of Newcastle and Illawarra without extended measurements from the actual transmitter site in Illawarra would, it is considered, be a serious risk in the light of available information, quite apart from possible effects of super-refraction.

4.11.4. A further possible sharing arrangement which has been suggested and which would give economy in the use of channels, is the sharing of channels between Sydney and Central Tablelands stations, on the basis that Mt. Canobolas would be the site and that vertical polarization would be used for the Central Tablelands stations.

Although the mountain range to the west of Sydney would be an obstacle in the path of transmission from one area to the other and aid in reducing interference, there are many existing viewers of the Sydney stations in the Blue Mountains area who would be subject to severe interference from the Central Tablelands stations operating on the same channels as Sydney stations. The strength of the interfering signals from Central Tablelands would be such that there would be very great difficulty in achieving satisfactory reception of Sydney stations even with elaborate receiving aerials. It is accordingly considered that this proposed sharing should be avoided.

4.11.5. The alternative sharing arrangement used in the Board's provisional plan was for Central Tablelands to share channels with Illawarra stations, the former stations to use vertical polarization. Although this sharing has some disadvantages, by appropriate choice of site for Illawarra stations and the possible use of directional transmitting aerials the extent of interference between the two stations should not be of a serious nature. It is considered that this sharing is preferable to that between Sydney and Central Tablelands stations.

5. Consideration of VHF Assignment Plans.

5.1. A number of possible VHF assignment plans was presented in evidence submitted but it was not practicable at the conference to consider in detail all aspects of the various plans, and discussion was limited to some of the more important principles. One of the important items, namely the possible sharing of channels between Newcastle and Illawarra stations, has been dealt with earlier in this report.

Other proposals included, and on which comment is relevant, are as follows:—

- (a) Proposals were made that some of the areas outlined in the Board's provisional plan could be combined, namely, Richmond Tweed-Clarence, South Western Slopes-Eastern Riverina, Ballarat-Bendigo, Maryborough-Bundaberg, Goulburn Valley-Upper Murray.
- (b) It was suggested that some of the areas for which stations were provided in the Board's provisional plan were not necessary, these being Blue Mountains, Blue Mountains West, Bathurst, Armidale, Geelong and Colac.
- (c) It was suggested that the Lithgow area (Blue Mountains West) would be an appropriate area for service by a community antenna system, and would accordingly not need consideration in a frequency allocation plan.

With regard to (a) above, the Ballarat and Bendigo areas are the subject of separate applications to the Board for the grant of licences, and the Board has taken evidence on the appropriate sites to be used for the two areas. The possibility of a common site to serve both was discussed briefly at the technical conference but no definite site was suggested which would enable an adequate service to be provided to both Bendigo and Ballarat. This possibility had been examined previously by the Board's technical staff and as far as can be determined there is no suitable site which would give urban grade service to both cities from a single transmitter.

The other suggestions in (a) for combination of areas are matters which are appropriate for consideration in relation to the determination by the Board of sites for particular areas, and for the areas at present under consideration the relevant combinations are, apart from Ballarat-Bendigo, the Richmond Tweed-Clarence and Goulburn Valley-Upper Murray combinations.

As far as is known there is no site available which would, at the same time as providing an adequate service to Shepparton in the Goulburn Valley area, provide an adequate service to Albury in the Upper Murray area, and it is not considered that this combination would be practicable.

Similarly, it is doubtful whether, from a site chosen to adequately serve the Richmond Tweed area, an adequate signal could be provided to Grafton, the largest city in the Clarence area.

With regard to (b) above, the provisional plan provided for a high powered station in the Blue Mountains area in addition to one at Blue Mountains West. It was anticipated that from these stations a high grade service would be provided over the difficult Blue Mountains area, including Katoomba and Lithgow. Experience with the Sydney stations has shown that good service is available in much of the populated area of the Blue Mountains but that Lithgow is not served, nor is it expected to be served adequately from stations in the Central Tablelands area if located at Mt. Canobolas. It would however receive a reasonable service from a station on "Porcupine" which is one of the sites suggested for Central Tablelands. A possible alternative arrangement which would economize on channels is to provide for low powered stations to serve the Lithgow area, such stations sharing channels with Newcastle stations. Although such an arrangement would probably leave some pockets of population inadequately served community antenna systems could be used in such pockets to obtain reliable service. The further possibility of serving Lithgow by community antenna systems is technically feasible, but whether it is a desirable technique for a city of that size is open to question.

With regard to Bathurst, experience would indicate that a reliable service should be available there from Central Tablelands stations whether established at Mt. Canobolas or "Porcupine" and it is not considered necessary from a technical viewpoint, to provide for stations there.

With regard to Armidale it is expected that although this city will be near the limit of service from New England stations by appropriate choice of site it is considered that separate stations to serve the city will not be needed.

In Victoria, Geelong at present receives a reasonably adequate signal from Melbourne stations, and although a higher value of signal strength would be desirable for a city of that size, if service is to be provided for country stations in the VHF band, it may be necessary because of limitation of the number of channels available for Geelong to rely on reception from Melbourne. Further, if Ballarat stations are located on Mt. Buninyong, one of the possible sites, Geelong would receive a good signal from those stations.

With regard to Colac, the signal strength from Melbourne stations is poor, but a much better service will be available from Ballarat stations whether located at Mt. Buninyong or Mt. Buangor and it is not considered that stations are necessary for the town.

5.2. Draft VHF Plans.

5.2.1. In discussion on draft plans at the technical conference the view was expressed and received appreciable support that the conference should very forcibly request the chairman of the conference to bring to the Board's notice and through the Board the attention of the Minister and, if necessary, the Government, to the urgent need for clearly and firmly determining the following—

"Are the number of television transmissions licences issued in Australia to be limited by—

- (a) Economic considerations; or
- (b) Channel availability?

If (a) is to be the controlling factor, then it appears that the VHF band on its own is inadequate.

If (b) is the controlling factor then this conference must urge an immediate and open inquiry into the VHF allocations to determine how many channels can be made available.

It is necessary that this policy decision be made known at the earliest possible date, and before the completion of the current hearings so that manufacturers of receiving and transmitting equipments can make the necessary plans for design and production, and so that licence applicants can review their applications to determine whether any significant changes are necessary."

In the absence of knowledge of the number of stations for which provision is to be made it is not practicable to determine the number of channels necessary or the best method of using the available channels. On the other hand, the capacity of the VHF band in providing for establishment of stations is a most important consideration and would have a definite bearing on any decisions made concerning the policy which is to be adopted for future development of the services. In the circumstances the most appropriate course in pursuing this matter from the technical viewpoint appears to be to outline the technical possibilities of the VHF band (see paragraph 5.2.2).

With regard to the suggestion that an inquiry be held into VHF allocations to determine how many channels can be made available, the Postmaster-General recently announced that the Government had decided that it would establish a special Committee to conduct a review of frequency allocations to all classes of approved users in Australia, and that the Committee would, *inter alia*, examine particularly any matters relating to radio frequencies that may arise from reports to the Postmaster-General by the Board in regard to broadcasting and television.

5.2.2. In the light of the foregoing, and to assess the possibilities of the VHF band, two draft plans have been prepared, one with nine channels (assuming non-availability of channel 4) and one with eleven channels (assuming non-availability of channel 4 but using two channels from the 92-108 Mc/s band). Appropriate comments are given for both plans concerning the further development which could be undertaken if additional VHF channels became available.

5.2.3. Nine Channel Plan.

The draft nine channel plan (using channels 1-10 but excluding channel 4) is given in Appendix 3.

In the plan, as on present indications channel 5 is not immediately available, channel 10 has been used for Illawarra giving two stations in that area and in Newcastle, and in a number of other country areas.

An extension of this plan would be practicable if channel 3 were unrestricted, as an additional station could then be provided in Newcastle, with some minor amendments in other details of the plan. Further, if channel 4 were available it could be used to provide for an additional station in Illawarra or other area adjacent to Sydney.

5.2.4. Eleven Channel Plan.

In the draft eleven channel plan, Appendix 4, existing channels 1-10 are used (excluding channel 4), together with possible new channels designated 3A (94-101 Mc/s), and 3B (101-108 Mc/s).

In this plan provision has been made for four stations in the state capital cities and three in a number of the larger country areas, and two in other areas. In some of the major provincial and country areas at present under consideration by the Board for the grant of licences, it has been found necessary to assign one of the new channels, and this is a disadvantage particularly in areas such as Newcastle and Illawarra where there is a large number of existing receivers which would not be capable of receiving the new channels without the provision of additional facilities.

A possible improvement to this plan would be to combine the areas of South Western Slopes and Eastern Riverina. It may be practicable by appropriate choice of site for these areas to combine them, thus permitting the establishment of three stations for the combined areas and three for the Upper Murray area which is provided with two channels in the plan.

If channel 4 were available it could be used to provide for an additional station in Newcastle and some other country areas or for a high powered station in the Blue Mountains area which has not been included in the plan.

If VHF channels additional to 3A and 3B were available it would be possible to extend the plan by providing for more stations, but not necessarily in locations where they might be most needed. For example, suggestions have been made that the following bands could be made available, 56-63 Mc/s, 202-209 Mc/s and 216-223 Mc/s. Not one of these channels would be technically satisfactory for use in Sydney, Melbourne, Adelaide or Brisbane under present conditions as the first two are adjacent to channels 2 and 9, in use in those cities, and the third would be subject to oscillator radiation from receivers tuned to channel 7. However they could be used in areas adjacent to the capital cities.

Assuming that channels 3A, 3B, are available and that at a future date the bands 202-209 Mc/s and 216-223 Mc/s became available (designated 9A and 10A respectively) a possible arrangement of channels would be as follows for the Sydney, Newcastle and Illawarra areas—

Sydney—2, 3A, 5, 7, 9 (with channel 3A at 93-100 Mc/s instead of 94-101 Mc/s).
 Newcastle—6, 8, 9A, 10A.
 Illawarra—1, 3B, 10.

Further, if channel 3 were unrestricted it could be used to provide an additional station for Newcastle, and channel 4 if available could be used for an additional station at Illawarra.

The addition of these possible channels 9A and 10A would also make possible the provision of an additional station in many of the country areas shown in the plan.

5.2.5. From a technical viewpoint, as has been mentioned earlier in this report, it is considered that if sufficient channels can be made available to provide for television development in the area within 150 miles of Sydney then sufficient channels should be available for the remainder of the Commonwealth.

The number required within 150 miles of Sydney, whilst maintaining satisfactory technical standards, is equal to the total number of stations to be established in the Sydney, Newcastle and Illawarra areas. This number of channels would need to be free of restrictions (such as that existing with regard to channel 3), and in addition technically compatible with other channels used in the area. If high powered stations are required for the Blue Mountains area, the number of channels would be accordingly increased, unless such stations were regarded from the allocation viewpoint as Sydney stations.

5.2.6. Arising out of consideration of the technical problems involved, and the evidence given at the technical conference, it is considered that if extension of television service to country areas is to proceed in the VHF band with provision for a larger number of stations than provided for in the Board's provisional plan, it is necessary to have answers to the following—

- (a) Should the 92-108 Mc/s band be used for television purposes?
- (b) Can the restriction on channel 3 (restricted to use in inland areas) be lifted?
- (c) Is it practicable to use channel 4 in Australia for television service?
- (d) Can channel 5 be made available earlier than 1963 for television use?
- (e) What number of additional channels, if any, in the VHF band can be made available for television service, and under what conditions could they be made available?

Apart from (a) above, which it is considered could be determined separately following consideration by the Board, these questions are deemed relevant for consideration by the Committee to be set up to review frequency allocations.

5.2.7. Receiver Problems with Additional VHF Channels.

At the present time Australian receivers are manufactured to receive only channels 1-10, and the provision of additional VHF channels would raise some problems. In some receivers, if 12 channels were available the extra channels could be relatively easily provided by addition of "biscuits" to the existing turrets, but in other receivers using incremental tuners replacement of the complete tuner assembly would be required.

At the technical conference evidence was given that the cost of a replacement tuner for a receiver would be approximately 10 per cent. of the receiver cost—approximately £15-£20. It is estimated that the cost of adding biscuits to existing receivers fitted with turret tuners to provide two additional channels would be £3-£5. If more than twelve channels were required however new tuners would be needed.

6. Use of the Ultra High Frequency (UHF) Band.

6.1. Considerable written evidence was submitted concerning the use of the UHF band and there was also considerable discussion at the conference.

With one exception, the evidence was opposed to the use of UHF for the present phase of development of television, the main points against its introduction being as follows—

- (a) The coverage obtained from a UHF station is inferior to that from a VHF station, and there would be many more pockets of population where poor reception would be obtained.
- (b) A larger number of UHF transmitters would be required to serve the same area as can be served with VHF, making operation more expensive.
- (c) UHF is more appropriate to capital city use where the density of population is great, than in country areas where population is widely distributed.
- (d) The cost to viewers would be increased.
- (e) Because of the unknown factors relating to UHF, plans for development of UHF services in country areas would take appreciable time to formulate—up to 2-3 years.
- (f) UHF would be particularly unsuitable in areas now partly covered with VHF services (for example portions of the Newcastle, Illawarra and Latrobe Valley areas) because of the intermixture problem arising from penetration of Sydney and Melbourne stations, and would adversely affect the prospects of successful operation of local services in those areas.
- (g) With the adoption of UHF for such areas as mentioned in (f) many thousands of existing viewers equipped with VHF receivers would be deprived of the opportunity of receiving local stations without having to incur considerable expenditure by installing additional receiving apparatus and aerial systems.
- (h) The UHF band should be reserved for new developments such as a colour system, as it is doubtful whether compatible colour systems are satisfactory at the present time. The UHF band would also be satisfactory for educational stations which could effectively use colour.

In support of the evidence in favour of the introduction of UHF the following points were made —

- (a) To permit the maximal quality of reception and widest choice of services to the greatest number of viewers the use of UHF channels is necessary.
- (b) The existing 10 VHF channels are insufficient for development of the service, and ignore the claims of non-entertainment services, such as educational institutions.
- (c) The acquisition of additional VHF channels (a limited number only of which could be foreseen) in addition to creating similar intermixture problems as for UHF, would stave off saturation problems for only a short time.

- (d) The full development of Australian television may ultimately require more than five services in the capital cities and more than three in a considerable number of the provincial and country centres.
- (e) A decision to use UHF channels for country services would ensure that up to six VHF services could be provided in the State capitals, and at least an equal number of UHF services in country areas.
- (f) Recent technical developments in UHF equipment (particularly in Europe) indicate that equipment problems may not be as serious as might be concluded from U.S.A. experience.

6.2. Evidence was submitted on the appropriate methods of introducing UHF, as follows—

- (a) UHF could be used for all areas except the State capital cities (where VHF services are available). This would enable provision to be made for six VHF services in the capital cities.
- (b) UHF could be used for all areas except the State capital cities now, and within a number of years UHF transmission facilities could be added to existing capital city services; after a period of years the VHF band could be abandoned.
- (c) VHF services could be introduced into country areas, and at a later stage UHF added to the capital cities with the aim of changing capital city services to UHF. As a further stage in providing for the operation of all services in the UHF band country stations could gradually introduce UHF.
- (d) UHF services could be introduced in capital cities in parallel with VHF with the aim of converting capital city transmissions to UHF over a period of 8-10 years. The VHF channels thus released could be used to provide service in country areas.

6.3. Although there is space available in the UHF band for 45 channels of 7 Mc/s bandwidth each, the number of stations which can be established in the one area is limited by technical considerations. If it were decided to retain VHF services in capital cities indefinitely, facilities for up to seven UHF stations could be provided in centres such as Newcastle and Illawarra and at least three or four stations in other country areas. If however it were decided that eventually all services would operate in the UHF band, the number for which facilities could be provided would be six for Sydney, Newcastle and Illawarra, and at least three or four in country areas. Consequently the UHF band on its own does not provide for unlimited development, although it does afford the possibility of establishing a greater number of stations than can be established in the VHF band.

6.4. Cost to viewer for UHF

An important consideration of introducing UHF is the cost to the viewer. Evidence was given of the estimated cost involved and although there was some variation between estimates it would appear that the following represents a reasonable assessment.

For receivers manufactured to receive UHF transmissions only, the cost would be £5-£10 greater than for VHF only. This extra cost is on the basis of a quantity production similar to VHF, and if only say 30% of the quantity of VHF sets were produced costs would be of the order of £20 more than VHF costs.

For receivers capable of VHF and UHF reception and assuming an annual demand of 100,000 receivers the cost would be approximately £15 more than for VHF only.

For converting VHF receivers in the hands of the public for UHF reception the additional cost would be approximately £25, exclusive of the provision of a UHF aerial which would be an additional requirement.

6.5. Station costs.

The relative station costs for VHF and UHF are difficult to forecast but it is probable that a greater number of UHF stations would be required to give the same coverage as VHF, although many of the additional stations could be low power units suitable for unattended operation. One estimate given as a first approximation indicated that the extra cost for a UHF system would be about 60%.

A detailed analysis of coverage likely to be achieved with UHF would be necessary to more precisely determine the likely increased costs and it would vary between different areas. For example in some areas of difficult terrain it may be necessary to consider the use of multi-casting technique where two or more transmitters at separate sites are used to overcome some of the effects of the propagation characteristics of UHF, with appreciable increase in establishment and operating costs.

6.6. Comparison of station coverage with VHF and UHF.

Field surveys conducted by the Television Allocations Study Organisation, U.S.A., (TASO) showed that, near a television transmitter, excellent service was provided by both UHF and VHF stations, but as one went further from the transmitter, UHF service deteriorated much more rapidly than did VHF service. In areas of adequately high signal strength, UHF provided both the best and the poorest pictures, the best primarily because of freedom from man-made electrical noise and the poorest primarily because of less satisfactory receiving installations.

The T.A.S.O. surveys showed that with currently used effective radiated powers and transmitting antenna heights, service fell off rapidly beyond about the distances indicated in Table 2.

TABLE 2.

| Frequency Range. | U.S. Channel Range. | Critical Distance. |
|--|---------------------|--------------------|
| | | Miles. |
| Low VHF (54-88 Mc/s) | 2- 6 | 65 |
| High VHF (174-216 Mc/s) | 7-13 | 55 |
| Low UHF (470-632 Mc/s) | 14-40 | 40 |
| Medium and high UHF (632-890 Mc/s) | 41-83 | 30 |

In very flat country it was found that UHF was not at such a disadvantage as indicated above, and was capable of providing service quite comparable to that provided by a similarly located VHF transmitter. On the other hand, it was found that in mountainous country UHF was at a severe disadvantage compared to VHF.

The T.A.S.O. studies showed clearly that some of the reasons for the poorer performance of UHF were basic in nature and not susceptible to complete compensation by the application of known techniques. Other reasons for poorer performance stem from equipment limitations which may or may not change as the art progresses.

The most significant differences between UHF and VHF performance were found to be due to propagation effects, receiver antenna performance, receiver noise factor and external noise.

The propagation characteristics of VHF and UHF were the subject of extensive study by T.A.S.O. A direct comparison at some 1,232 points in 8 areas across the country showed that, for the same effective radiated power, VHF field strengths exceeded UHF field strengths by an average of 6.5 db. The values of field strengths compared were the medians of continuous runs at least 100 feet in length taken with a measuring antenna height of 30 feet. Throughout the surveys the average variation from maximum to minimum measured field strength within a single run was 9.4 db at UHF and 4.5 db at VHF, indicating the greater variation with location, of UHF signals. (This greater variation is not entirely

disadvantageous to UHF as although it results in the presence of spots of low signal strength, it affords a serviceman the opportunity of finding spots of high signal strength when installing a receiving antenna.)

The comparisons made extended only to the distances at which UHF could be measured. Beyond these distances the difference between UHF and VHF would have been greater.

Areas were found in which exceptions occurred. In some extremely flat, open (or treeless) areas within line of sight from the transmitter, the UHF field strength was consistently appreciably higher than VHF field strengths for equal effective radiated powers. In one case, the average of UHF measurements along a 22 mile long bridge was 8.1 db higher than for VHF. However, further from the stations the UHF field strength dropped suddenly and over the next 20 miles, averaged 11.6 db lower than VHF field strength.

Theoretical calculations for propagation indicate that over a smooth earth the field strength should be proportional to frequency within the line of sight from the transmitter and the T.A.S.O. studies indicate that where these conditions are met UHF field strength is substantially higher than VHF field strength. However, in areas which are even moderately rolling or which contain even moderate vegetation, rocks, houses or other obstructing, scattering or absorbing objects, the VHF field strength is substantially higher than UHF field strength.

With regard to receiving antenna performance, UHF suffered in comparison with VHF, for one reason because of the smaller physical size of receiving antennas of the same type. The transmission line associated with the antenna has higher losses at UHF than at VHF and the difference increases as the line ages, or becomes wet. The difference in performance is indicated in Table 3 which shows the reduction in input terminal voltage to the receiver for high VHF and UHF bands relative to low VHF band for equal signal strengths at the aerial. The figures are based on values furnished to T.A.S.O. by manufacturers of receiving antennas and transmission lines, the transmission line length being assumed to be 30 feet.

TABLE 3.

| TV Band. | Reduction in Receiver Input Terminal Voltage compared to Low VHF. | |
|------------------|---|---|
| | Transmission Line New and Dry. | Transmission Line Five Years Old and Wet. |
| High VHF | 6.1 db | 7.3 db |
| UHF | 16.4 db | 20.1 db |

Theoretically, if antennas of equal size are used, they would be equally effective in picking up signals, and it is possible that development of techniques could improve UHF performance in this respect.

With regard to receivers the most significant characteristic in limiting performance is the noise factor. The average and best noise figures shown by the T.A.S.O. data are indicated in Table 4.

TABLE 4.

| TV Band. | Receiver Noise Figure. | |
|------------------|------------------------|---------|
| | Average. | Best. |
| Low VHF | 6.5 db | 4.6 db |
| High VHF | 8.5 db | 6.5 db |
| UHF | 13.3 db | 10.0 db |

The noise figures of current UHF receivers are seen to be markedly poorer than for VHF. This is because of the lack of good reasonably priced tubes for UHF tuners particularly radio frequency amplifiers. Development of techniques may improve UHF performance, one development which has shown promise in other fields being the parametric amplifier.

In only one respect, namely, for external noise, did the T.A.S.O. studies indicate superior performance of UHF. Both man-made and natural noise are insignificant factors in limiting reception at UHF whereas they can be troublesome at VHF, particularly in large cities. The surveys made by T.A.S.O. showed that UHF reception is substantially free from atmospheric noise and from airplane flutter. Multipath difficulties were not found to be a really serious factor except in large cities, and in any location multipath was more objectionable at VHF than at UHF. Galactic noise, which may be an occasional bothersome source of interference at VHF was found of no consequence at UHF.

6.7. Possible developments with relation to UHF

As mentioned earlier the most significant differences between UHF and VHF performance as a result of the T.A.S.O. studies, were found to be due to propagation effects, receiver antenna performance, receiver noise factor and external noise, and of these only with relation to external noise was UHF superior.

The propagation effects characteristic of the frequency bands in question are not subject to alteration and it must be accepted that from the viewpoint of general coverage UHF will always be inferior to VHF. On the other hand there is a possibility that receivers will improve in performance as development of equipment proceeds and there was evidence given that such improvement could be significant.

On the question of receiver performance and likely developments Mr. Kerr of the Radiophysics Laboratory gave information on development trends in parametric amplifiers which seem the most likely means of improvement. Present costs of such amplifiers are very high and it could be five years before development had proceeded to the stage where they could be economically used for television receivers. He was of the opinion that the full theoretical improvements would not be obtained and that it would be reasonable to expect an improvement of approximately 6 db over present equipment.

An improvement of 6 db would be significant in improving UHF performance, and the extra range obtained from a 500 kw e.r.p. UHF station, over average terrain would be of the order of five miles.

6.8. Australian experience with UHF transmissions.

6.8.1. As far as is known the only UHF television transmissions which have been conducted in Australia are those conducted from an experimental station established by the Board with the assistance of the Postmaster-General's Department at the site of national station ABV2 Melbourne.

For some months tests have been made of the coverage achieved in different directions, over types of country favorable and unfavorable to UHF propagation. These tests are continuing but it is relevant to mention the results of the tests made to date.

6.8.2. The tests were made using a transmitting system on Mt. Dandenong radiating approximately 16 kw e.r.p. in the frequency band 528-535 Mc/s. From field strengths measured from this transmitter in some 20 towns and from subjective assessment of pictures to determine the field strength necessary to provide an acceptable service, a comparison has been made of service in a number of locations mentioned by the existing 100 kw 200 Mc/s transmitters and a UHF transmitter operating on 500 kw e.r.p.

Whereas for adequate rural service with VHF in the absence of man-made interference, a median field strength of approximately 300 microvolts per metre is regarded as reasonable, a higher value of median field strength is necessary for UHF of the order of 1.0 mv/m, but since the

variation in field strength with location is often greater in the case of UHF, even with such a median field strength the number of viewers receiving satisfactory service may not be so great as for VHF.

At such a UHF field strength there has been no evidence of degradation of the picture by man made interference, so that the difference in signal required for rural and urban service is less marked than at VHF.

To towns within the horizon, measured UHF field strengths indicate that a comparable grade of service to that obtainable from existing VHF services at 100 kw e.r.p. could be provided from a UHF transmitter of 500 kw e.r.p. Towns in this category were Melbourne, Mornington, Werribee, Cowes, Sorrento and Geelong. To these towns propagation attenuation was generally less at UHF than VHF and this fact together with the higher effective power of 500 kw at UHF would compensate for the higher signal strengths required to produce satisfactory pictures on UHF receivers.

Areas with moderate obstructions to propagation which would receive satisfactory median UHF signals from a transmitter of 500 kw e.r.p. at Mt. Dandenong are Kilmore, Korumburra, Bacchus Marsh, Wonthaggi, Moe, Ballan and Gordon. The average propagation attenuation to the median signals of these towns was 2 db higher at UHF than VHF. Bacchus Marsh and Gordon would receive similar satisfactory service at UHF as is obtained at VHF. In the other towns in this category the percentage of satisfactory service would be lower at UHF than VHF.

In the more obstructed towns of Warragul, Broadford, Leongatha, Woodend, Yallourn, Morwell, Kyneton, Traralgon and Winchelsea, the attenuation to propagation was an average 3.6 db. greater at UHF than VHF. From a 500 kw e.r.p. transmitter all these towns would have median signal less than required for satisfactory service. Medians at VHF of all these towns, with the exception of Warragul and Morwell, were measured in 1959 to be below 300 microvolts per metre. A lower percentage of satisfactory service would be obtainable at UHF than at VHF.

In suburban Melbourne between Box Hill and Sunbury the ratio of highest to lowest UHF signal measured was approximately 200 to 1. On rare occasions the variation within a distance of 30 feet was greater than 10 to 1. Within an area of one square mile variations exceeding 10 to 1 were common. In country towns generally measurements varied within the limits of 10 to 1 and 100 to 1. For the twenty country towns mentioned above the average variation at VHF was approximately 6 to 1 and at UHF was approximately 20 to 1. This greater spread of measurements at UHF extended both above and below the median values so that in areas receiving comparable median signals both the best and the worst pictures might be obtained from the UHF service. In limited viewing in areas subject to multipath reception, it was generally possible to remove ghosting by appropriate siting and orientation of the receiving aerial.

To summarise for powers of 100 kw e.r.p. at VHF and 500 kw e.r.p. at UHF towns receiving fully satisfactory service at VHF could receive comparable service at UHF. In towns receiving only a percentage of satisfactory service at VHF the percentage of satisfactory service obtainable from UHF would be lower. It should be stressed that the above observations apply as a result of tests only in the Melbourne and surrounding areas, and although these provide a useful guide to results which could be achieved in other areas, the topography of the country would have an appreciable bearing on the coverage obtained.

6.9. General.

6.9.1. From the technical viewpoint the main disadvantages in using UHF channels for television in country areas are the limited range attainable and the creation of pockets of unsatisfactory reception, particularly in areas where the terrain is unfavorable to propagation, as applies in a number of the country areas at present under consideration for the grant of licences. Compared to VHF, a larger number of stations would be required for the same coverage in areas with difficult terrain and there would be more pockets of population where viewers would have difficulty in achieving satisfactory reception.

Although in some areas the coverage obtainable from UHF stations would be comparable to that obtainable with VHF, in others the coverage would be appreciably reduced. Two areas have been examined to compare the coverage. Central Tablelands and the Australian Capital Territory, and the results are given in Table 5.

TABLE 5.
Comparison of coverage with VHF and UHF.

| Direction from Transmitter. | Australian Capital Territory. | | Central Tablelands. | |
|-----------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| | VHF 200 Mc/s 100 kw. e.r.p. | UHF 600 Mc/s 500 kw. e.r.p. | VHF 200 Mc/s 100 kw. e.r.p. | UHF 600 Mc/s 500 kw. e.r.p. |
| | Miles. | Miles. | Miles. | Miles. |
| North | 63 | 33 | 77 | 62 |
| South | 49 | 27 | 79 | 60 |
| East | 45 | 32 | 57 | 46 |
| West | 30 | 15 | 83 | 78 |

For this analysis Black Mountain was assumed as the site for the Australian Capital Territory and Mt. Canobolas as the site for Central Tablelands. The effect of the rough country around Canberra in limiting the coverage, particularly at UHF is clearly seen. On the other hand, to the west of Mt. Canobolas where the terrain is smoother, the estimated range with UHF is not greatly different from that with VHF, although there would be more pockets of population having difficulty in reception.

Nevertheless it should be remembered that if the television service is to be developed in the VHF band, and because of the limited number of channels in that band it becomes necessary to adopt on an extensive basis short spacings between co-channel stations, the coverage obtainable with VHF as limited by co-channel interference in the direction between the co-channel stations will not be greatly different from that obtainable with UHF. In the latter band the increased number of channels available would make less necessary the adoption of short spacings between co-channel stations and the coverage would be more nearly limited by receiver noise considerations than by co-channel interference.

6.9.2. It is the general opinion that intermixture of VHF and UHF services in the one area is undesirable. This view is to some extent based on experience in the U.S.A. where commercial services commencing with UHF in areas already receiving VHF transmissions have had appreciable difficulty in operating on a successful economic basis. One reason put forward for the failure of UHF stations in such areas is the reluctance of viewers, having receivers for VHF only, to spend additional money on the conversion of their receivers or purchase of new receivers for UHF reception.

If UHF services are introduced in areas such as Newcastle and Illawarra in New South Wales, or Ballarat and Latrobe Valley in Victoria, a similar state of affairs will exist. There is a considerable number of VHF receivers in these areas, and if UHF were used the viewers in the areas would be put to the expense of converting receivers for UHF reception (at an estimated cost of £25) in addition to providing new aerials if reception of the local station were desired. If viewers were reluctant to incur such expenditure, and preferred to rely on reception of existing capital city stations the prospect of economical success of a local commercial station in the area could be appreciably reduced.

The estimated number of receivers within 50—100 miles of Sydney and Melbourne at 31st March, 1960 (a large number of which would be in the coverage of stations in the areas mentioned above), as given by the Postmaster-General's Department, is as follows:—

| | |
|----------------------------------|--------|
| Within 50—100 miles of Sydney | 14,900 |
| Within 50—100 miles of Melbourne | 13,000 |

However despite the immediate disadvantages, the adoption of intermixture would permit the maximum number of stations to be established. With channels currently available or to be available by 1963, it would be practicable to establish up to 10 stations in Sydney (4 VHF and 6 UHF), and eight in Newcastle and Illawarra (2 VHF and 6 UHF). If additional channels were available the number of stations could be appropriately increased as outlined in paragraphs 5.2.3 and 5.2.4.

A possible disadvantage of UHF development of monochrome television at this stage is that such use could preclude the possibility of development of a colour television system in the UHF band at a later stage. Evidence was given to the effect that existing compatible colour systems have some unsatisfactory features and that a more satisfactory system could possibly be developed using appreciable bandwidth, and which would be appropriate for development in the UHF band. Although no such systems are known and development overseas is proceeding more on compatible colour systems it is possible that systems could be developed even with existing known techniques.

6.9.3. The principal advantage of using UHF is the flexibility that it gives in establishing an appreciably greater number of stations than can be adequately accommodated in the VHF band, and although the coverage would be generally less than from VHF stations and the overall costs higher, from a technical viewpoint it is considered that a satisfactory service could be developed in the band. If UHF is to be used in country areas it is not considered necessary that re-consideration be given to the areas at present under consideration by the Board, as they are the more heavily populated provincial and country areas of the Commonwealth, but additional consideration would need to be given in some cases to the most appropriate sites to be used in some of the areas concerned, in order that optimum coverage should be achieved.

7. Proposed establishment of a technical committee.

7.1. In written evidence submitted a suggestion was made that because of the technical problems foreseen in the development of television services in Australia, a body should be constituted in Australia along the lines of the Television Allocations Study Organization of the U.S.A. The T.A.S.O. organization was set up in 1956 with the following objectives. "The objectives of the organization shall be to develop full, detailed and reliable technical information, and engineering principles based thereon, concerning present and potential UHF and VHF television service. These principles plus full supporting technical data shall be made available by T.A.S.O. to the Federal Communications Commission so that the Commission may be able to determine the soundest approach to television channel allocations. T.A.S.O.'s functions shall be limited solely to technical study, fact finding and investigation and interpretation of technical data." The report of the T.A.S.O. was completed in March, 1959, and was the result of work extending over two years by 271 engineers from 139 companies.

7.2. In the written evidence little detail was given of the type of organization envisaged for Australia, but at the technical conference detailed discussion took place on the matter and it was possible to obtain a clearer idea of what was intended.

The suggestion was that a committee be formed, which should be under the chairmanship of an officer of the Board, which would not be too large and which might be split into two or three sub-committees to study technical problems. It was suggested that the committee might have two programmes, one of short term extending over two or three months, and a long term programme of a year or more.

Subjects which might be included for consideration on a short term basis were:—

- (a) Cross polarization studies—relating to the discrimination achieved by cross polarization in critical areas.
- (b) The performance of receiving aerials on channels not in use at present.
- (c) Detailed investigation of field strengths in critical areas and methods of computing field strengths at various distances.
- (d) Measurement of service areas of existing stations and study of measurement technique.
- (e) Examination of existing meteorological data with reference to prediction of field strength, particularly in the Newcastle-Illawarra area.

7.3. For longer term study no specific matters were suggested but there was appreciable support for, and no objections raised to the formation of such a committee. Although no specific matters were suggested there are a number on which it would be valuable to the Board to have the assistance of the industry in general. Matters which could with benefit be examined by an expert committee are as follows:—

- (a) Characteristics of receivers—
 - adjacent channel interference characteristics
 - interference effects generated in receivers if additional VHF channels are used.
- (b) Propagation—
 - study of propagation
 - development of prediction methods to improve accuracy of predictions.
- (c) Receiving aerials—
 - study of characteristics of existing aerials with relation to channels not at present used, and discrimination against transmissions on different polarization.

7.4. In considering the desirability of establishment of a committee to study short term problems relevant to the current stage of development, it would appear that the most appropriate matter would be a study of factors relating to the possible sharing of channels between stations in the Newcastle and Illawarra areas, and some of the items referred to in (1) to (5) above would be relevant to such a study.

However even if such study were made, the remaining uncertainties are considered such that they could only be resolved by establishment of transmitters at the sites to be used. In the circumstances, and although such studies would have relevance to future planning of the service, it is not thought that a short term project to determine more precisely some of the present unknowns is warranted unless a decision to defer for some considerable time the grant of licences for additional television stations were made.

The establishment of a committee to study some of the longer term technical problems could however be very useful. It would be useful to the Board's technical staff in keeping abreast of development in local industry, and with the co-operation in any investigations necessary, the industry could effectively assist the Board. Further it would have the merit of more effectively keeping industry more closely informed of the technical work undertaken by the Board.

It should be mentioned that since early in the development of the television service the Board has consulted industry on certain problems; for example with relation to recommendations concerning certain receiver characteristics the Board consulted with receiver manufacturers, and with relation to technical standards for television stations discussions have been held with station representatives. There were views expressed at the technical conference however that such consultation on an irregular basis, although most useful, did not go far enough.

7.5. Following consideration of the views put forward, and in the light of the technical problems foreseen in the future development of the television service, it is recommended that a Television Technical Advisory Committee be set up. The proposed terms of reference of the committee are suggested as follows:—

“The functions of the committee will be to advise the Board on technical matters relating to the development of the television service, and in particular the following:—

- (a) Characteristics of receivers in so far as they relate to channel assignments.
- (b) Characteristics of receiving aerials.
- (c) Propagation studies, including development of improved prediction methods.
- (d) Characteristics of transmitting equipment in so far as they relate to channel assignments, including ratio of horizontal to vertical components of radiation from transmitting aerials and interference potentialities of television transmitters to other radio services.

The committee will have power to form sub-committees to study any specific matters relative to (a) to (d) above and in this regard to request the assistance of appropriate persons in the industry.”

The committee, it is considered, should be small for most effective working and limited to one or at the most two members from appropriate sections of industry.

It is suggested that, in the first instance, membership of the committee should be as follows:—

Representatives from—

- Australian Broadcasting Control Board
- Postmaster-General's Department
- Australian Broadcasting Commission
- Commonwealth Scientific and Industrial Research Organisation
- Receiving equipment manufacturers
- Transmitting equipment manufacturers
- Commercial television stations.

If the above recommendation is agreed to, it is considered that early action should be taken to form the technical committee, and a meeting held as soon as practicable thereafter.

8. Summary.

8.1. Use of the VHF band.

8.1.1. The majority opinion in technical submissions made to the Board both in written evidence and at the technical conference was that development of the television service should take place in the VHF band, and that insufficient VHF channels were available for such development.

As mentioned in the body of this report the number of VHF channels required is primarily dependent upon the number of stations for which provision needs to be made in the Sydney, Newcastle and Illawarra areas, as if the requirements of these geographically adjacent and heavily populated areas can be met, it should be technically practicable to provide for all other areas of the Commonwealth. For reasons outlined in the report it is undesirable to share channels between Newcastle and Illawarra areas, and accordingly the number of VHF channels required if development is to proceed in the VHF band with more than two stations in major provincial and country centres, is the sum of the number of stations for which provision needs to be made both immediately and in the foreseeable future in the three areas, plus the number of high powered stations which might be required in the Blue Mountains region.

8.1.2. It is not however a sufficient condition that a given number of channels be available, but it would be necessary for them to be free of restrictions such as exist on channel 3, and also for them to be located in the frequency spectrum so that they are technically compatible with other channels used.

At the present time seven channels are immediately available on an unrestricted basis (Nos. 1, 2, 6, 7, 8, 9, 10), channel 3 being restricted to use in inland areas, channel 4 being subject to doubt as to when or if it will be available, and channel 5 being available from 1963.

With channels 2, 7 and 9 presently in use in Sydney only four channels are available for use immediately between the Newcastle and Illawarra areas and the most appropriate use of these channels would be channels 6 and 8 for Newcastle and channels 1 and 10 for Illawarra, channel 5 being retained for a fourth Sydney station at a later stage of development. The latter channel would not be satisfactory for a third Newcastle station, and to provide for this it would be necessary to have the restriction removed from channel 3 or for channel 4 to be available, and if both these channels were available for use in coastal areas three stations could be provided in both Newcastle and Illawarra areas. There is however serious doubt as to whether channel 4 should be used for television.

Assuming that channel 4 is not to be available, and that the restriction remains on channel 3, but that two channels can be obtained from the 92-108 Mc/s band, then three channels could be provided for both Newcastle and Illawarra areas, each area using one of the new channels so obtained. This would cause some difficulty with existing receivers which are not fitted for reception of the new channels, and the cost to the viewer of providing for reception of the channels is estimated at £3-£5 for receivers fitted with turret type tuners, or £15-£20 for receivers where a new tuner unit would be needed.

8.1.3. For increase of the number of channels in the three areas, or for high powered stations in the Blue Mountains region, additional VHF channels would be needed. Apart from the band 92-108 Mc/s which is used for experimental frequency modulation broadcasting, all other portions of the VHF spectrum are allocated to radio services other than broadcasting and television, and it seems certain that there will be appreciable difficulty, and delay, in obtaining additional channels.

Nevertheless, if television is to extend at this stage of development in the VHF band only, and having in mind the possible requirement for stations for educational purposes, it is considered important to pursue the possibility of obtaining additional VHF channels. In this connexion it is relevant to comment that the history of radio services over the years has invariably shown that the growth of services rapidly outstrips the available frequency space, despite development of techniques to make more economical use of the space available, and this applies equally to broadcasting as to other services. The rapid development of television in Australia since its inception in 1956, and the current shortage of VHF channels, indicates that a similar state of affairs will exist with that service.

In pursuing the possibility of obtaining additional channels and making more effective use of existing channels answers are required to the following questions—

- (a) Should the 92-108 Mc/s band be used for television purposes?
- (b) Can the restriction on channel 3 (restricted to use in inland areas) be lifted?
- (c) Is it practicable to use channel 4 for television purposes in Australia?
- (d) Can channel 5 be made available earlier than 1963 for television use?
- (e) What number of additional channels, if any, in the VHF band can be made available for television service, and under what conditions?

Apart from (a) above, which it is considered could be determined separately following consideration by the Board, these questions are deemed appropriate for reference to the Postmaster-General's Department for consideration by the Committee to be set up to review frequency allocations.

8.2. Use of the UHF band.

8.2.1. From the technical viewpoint the characteristics of the UHF band are inferior to VHF in that the coverage obtainable would in general be less than from a VHF station and there would be more pockets of population where, because of obstructions in the transmission path, there would be difficulty in achieving satisfactory reception.

The reasons for the inferior characteristics are two-fold; firstly the propagation characteristics of the band, and secondly the performance of receiving equipment. Although over smooth terrain the coverage of a UHF station compares favorably with that from a VHF station, the presence of obstructions such as hills or even trees act to the disadvantage of UHF. As the propagation characteristics are not subject to change UHF will always be at a disadvantage in this regard. At the present stage of equipment development UHF is at a further disadvantage compared to VHF, principally with regard to the performance of receivers and receiving aerial systems. Developments in the future could however, improve UHF performance in this connexion, and reduce the difference between the performance of VHF and UHF receiving equipment. Although there are indications of such development, it will be some time, possibly five years, before practical application of development to television receivers will be practicable.

However despite the disadvantages of UHF compared to VHF, useful service ranges would be obtainable from UHF stations, even at the present stage of equipment development, as will be seen from Table 5 of the report.

To the viewer it is expected that the cost of UHF reception would be somewhat greater than VHF. If receivers are produced in quantities similar to current production of VHF receivers the cost is estimated at £5-£10 greater for receivers for UHF only, and £15 for receivers capable of both VHF and UHF reception. It is not expected that receiving aerial costs for UHF would be significantly different from those for VHF.

With regard to establishment and operating costs of stations, the overall cost for UHF would be greater than for VHF for the same coverage, but would vary appreciably in different areas. Based on T.A.S.O. information, the establishment cost of a 100 kw e.r.p. UHF station would be £20,000 more than for a VHF station of the same effective radiated power and the operating cost some £2,500 per year more. For a 500 kw e.r.p. UHF station which over favorable terrain would give a coverage approximating to that from a 100 kw e.r.p. VHF station the establishment cost would be approximately £45,000 more than for VHF and the operating costs £2,500 per year more.

8.2.2. Possible Methods of Using UHF.

There are various ways of introducing UHF services, as follows—

- (a) Intermixture of VHF and UHF stations in the one area.
- (b) Retain VHF services in capital cities and use UHF in country areas.
- (c) Use UHF in country areas now and eventually (in say 5-10 years) change capital city stations to UHF.
- (d) Use VHF in country areas now and eventually change capital city stations from VHF to UHF.
- (e) Retain UHF band for possible developments in broadcasting, or colour television.

8.2.3. With regard to (a) the intermixture of VHF and UHF assignments in the one area has caused appreciable difficulties in the U.S.A. where UHF commercial stations, established in areas where VHF services were available, have found it difficult to operate successfully and many such stations have closed down after a short period of operation. Possibly the basic cause of the difficulty has been that the percentage of receivers fitted for UHF reception in areas where VHF services are available is small, and as UHF stations were established at a late stage viewers were reluctant to purchase additional equipment necessary to receive the UHF transmissions.

The same type of problem would exist in Australia if UHF services were intermixed with VHF in capital cities. With heavy saturation of receivers capable of receiving VHF only, particularly in Sydney and Melbourne, new stations commencing operation on UHF would find it difficult to obtain viewers. The problem would be overcome in time if all receivers manufactured were capable of reception on both VHF and UHF, and the cost of such receivers is estimated at approximately £15 more than existing VHF receivers. To convert existing VHF receivers to also receive UHF, the cost to the viewer is estimated at £25, exclusive of the provision of a UHF aerial estimated at an additional £5.

8.2.4. With regard to (b) if it were decided to retain VHF service in capital cities and use UHF in country areas, up to six VHF services could be provided in capital cities with channels currently available or to be available from 1963, and up to seven UHF services in major provincial and country areas. The arrangement has the disadvantage that there would be a number of areas relatively close to the capital cities, (e.g. Newcastle, Illawarra, Latrobe Valley), and where there is an appreciable number of VHF receivers in existence, where viewers would have to purchase additional equipment to receive the UHF transmissions. If viewers were reluctant to purchase such equipment the prospects of successful commercial operation would be appreciably reduced for licensees of the UHF stations. The reduced coverage obtainable with UHF would be to the disadvantage of commercial licensees and would also make more difficult the provision of service to country areas remote from the heavily populated centres.

8.2.5. The adoption of (c), aimed at making all stations UHF would, with the available UHF channels, enable six stations to be provided in the capital cities and major provincial and country areas, and three or four stations in most other areas. It would be necessary for the capital city stations to operate for some years with both VHF and UHF transmissions, eventually closing down the VHF transmissions. In the intervening period viewers would have to replace existing receivers many of which would however, be replaced even if UHF were not introduced.

The introduction of UHF in capital cities to replace VHF has one serious drawback in that many viewers on the outskirts of the existing service range would have appreciable difficulty in achieving satisfactory UHF reception because of the restricted range of UHF stations compared to VHF. Although with development of UHF equipment this disadvantage could be partially overcome in time, there would still be an appreciable number of viewers in difficulty. On the other hand the facilities available in the UHF band would permit the establishment of low powered stations in difficult areas or alternatively community antenna systems could be used, at some additional cost to the viewer in obtaining service.

8.2.6. With regard to (d), the main advantages claimed for this arrangement are that VHF stations with their wider coverage would more reliably serve outlying country areas than would UHF, and as the capital city areas are the more densely populated areas, the restricted range of UHF is not so serious. With capital city stations operating on UHF, the VHF channels presently used or reserved for use could be used to increase the number of VHF services in country areas. This arrangement suffers from the same disadvantage as (c), in that many existing viewers, particularly those receiving a marginal service from existing stations would have appreciable difficulty in receiving the UHF transmissions. By using existing capital city VHF channels for country areas, provision could be made

eventually, with currently available VHF channels, for four VHF stations in Newcastle and Illawarra and a number of other areas. However it would be some years before it would be possible to use the capital city VHF channels in those areas nearer to the capital cities and where the demand for channel is greatest, and development would accordingly be slow.

8.2.7. The retention of the UHF band for possible future development, (e) above, has the advantage that a frequency band would be available in which to provide for such development if the need arose. In this connexion the band, although at some disadvantage from the stations coverage viewpoint compared to VHF, could be available for new colour television systems which would overcome some of the disadvantages of present colour systems of the compatible type. Although no such systems are at present known to be in use and present development trend is towards compatible systems, there are no basic technical reasons why they should not be developed, and the wider frequency band available at UHF could be useful for the purpose. Further, the band could be used effectively for broadcasting purposes.

If the UHF band is, however, reserved for extension at a later stage of the existing monochrome television service, and in the meantime service in all areas extends on VHF channels, there could be very serious disadvantages and it could be impracticable to introduce because of the extensive intermixture problem involved. This difficulty would be overcome in time however, if all receivers manufactured provided facilities for both UHF and VHF reception.

8.3. Formation of Television Technical Advisory Committee.

As mentioned in paragraph 7 of this report there was appreciable support for the establishment of a technical committee consisting of representatives of the Board, and of appropriate sections of industry. For reasons outlined in the report the establishment of such a committee is recommended, with the following terms of reference.

"The functions of the committee will be to advise the Board on technical matters relating to the development of the television service, and in particular the following:—

- (a) Characteristics of receivers in so far as they relate to channel assignments.
- (b) Characteristics of receiving aerials.
- (c) Propagation studies, including development of improved prediction methods.
- (d) Characteristics of transmitting equipment in so far as they relate to channel assignments, including ratio of horizontal to vertical components of radiation from transmitting aerials, and interference potentialities of television transmitters to other services.

The committee will have power to form sub-committees to study any specific matters relative to (a)–(d) above and in this regard to request the assistance of appropriate persons in the industry."

It is suggested that, in the first instance, membership of the committee should be as follows:—

Representatives (not more than two) from each of the following groups or organizations.

Australian Broadcasting Control Board
 Postmaster-General's Department
 Australian Broadcasting Commission
 Commonwealth Scientific and Industrial Research
 Organization
 Receiving equipment manufacturers
 Transmitting equipment manufacturers
 Commercial television stations.

It is recommended that early action be taken to form the committee.

9. Conclusion.

In this report an endeavour has been made to outline the possible alternative technical methods of proceeding with television development in Australia. In this connection the evidence submitted to the Board in writing and at the technical conference has been most useful, and although all aspects of the evidence have not been treated in the report it is thought that those aspects relevant to the frequency allocation problem have been covered.

It would appear that the number of VHF channels at present available is inadequate to provide for both immediate and long term development, but whether the VHF band with possibly additional channels would be adequate depends upon the number of stations to be provided for in the more densely populated areas. As the number of stations to be provided for in the various areas must be determined in the light of economic and sociological aspects in addition to the technical aspects to which this report is limited, no recommendation is made at this stage as to the technical methods to be adopted to meet development.

However if the number of stations for which provision is to be made, both immediately and in the foreseeable future, is greater than can be accommodated in the VHF band, and it is envisaged that the UHF band will be needed for further development of the existing service, it is important that a decision be made as soon as possible on the method of using the band in order that equipment manufacturers can proceed with the necessary development, and that the difficulties of introducing the new band be minimised.

D. McDONALD,
Director, Technical Services Division.
10th June, 1960.

APPENDIX 1.

LIST OF ORGANIZATIONS SUBMITTING TECHNICAL STATEMENTS.

| | |
|---|-------------------|
| Postmaster-General's Department. | |
| Canberra Television Limited. | |
| Northern Telecasters Limited. | |
| Television Wollongong Transmissions Limited. | |
| Country Television Services Limited. | |
| I.T.N. Limited. | |
| Television Corporation Limited. | |
| South Coast Telecasters Limited. | |
| Lismore Telecasters Limited. | } One statement. |
| Orange and District Telecasters Limited. | |
| Ballarat and Western Victoria Television Limited. | } Two statements. |
| Bendigo and Central Victoria Telecasters Limited. | |
| Eastern Victoria Television Pty. Limited. | |
| Goulburn Murray Television Pty. Limited. | |
| Pan Australian Television Corporation Limited. | |
| General Television Corporation Pty. Limited. | |
| Amalgamated Television Services Pty. Limited. | |
| Amalgamated Wireless (Australasia) Limited. | |
| Philips Electrical Industries Pty. Ltd. | |
| Standard Telephones and Cables Pty. Limited. | |
| A. G. Healing Limited. | |
| Pyrox Limited. | |
| Admiral of Australia (Pty.) Limited. | |

APPENDIX 2.

ANNOUNCEMENT BY CHAIRMAN CONCERNING FORM OF INQUIRY INTO TECHNICAL QUESTIONS AND IN PARTICULAR FREQUENCY ALLOCATION PROBLEMS.

The Board has now had an opportunity of considering the statements which have been submitted to it in connexion with that part of these inquiries which is concerned with technical questions and in particular the availability of frequencies, following on the circulation of the statement on this subject by the Board's Director of Technical Services, pursuant to paragraph 10 of the Board's circular letter of 8th October, 1959, on the procedure at these inquiries. It has now decided upon the form which that part of the inquiries will take and upon the procedure to be followed.

The Board will take this technical part of the inquiries on Tuesday, 26th April, 1960, at 10 a.m. Owing to the nature of the problems involved, however, and the complexity of the material submitted, the Board thinks that it is necessary to adopt a special procedure for dealing with this part of the inquiries. The matters to be considered are not matters for the most part which can be usefully discussed at a public sitting of the Board by the ordinary process of the examination of witnesses by counsel, and it is clearly preferable that any opinions that it is desired to advance should be submitted in writing. Further, the nature of the material submitted to the Board on this subject is such that it is not practicable to provide copies for all interested parties, or to incorporate them in the transcript. However, the Board will afford an opportunity for those interested in these matters to examine the material submitted to it, and for this purpose copies will be open for inspection at the Board's offices in Melbourne and Sydney from Monday, 21st March to 8th April. The Board thinks that this arrangement should give anyone interested ample opportunity to study the material submitted and to prepare any comments upon it. If it is desired to make any comments on the material submitted, the Board asks that such comments should also be submitted in writing, and that they should be lodged with the Board by 14th April, 1960. Ten copies of any such comments should be supplied and the Board will forward a copy to the person upon whose statement the comments are made.

On 26th April, therefore, the Board will hold a short public inquiry into these technical matters for the purpose of enabling any statements which have been submitted to be made part of the records of these inquiries. Each statement will therefore be sworn to by the person responsible for its preparation and marked as an exhibit. It will not be copied into the transcript. There will not be any examination of witnesses, except by counsel assisting the Board, and accordingly it is not expected that any witness will be represented by counsel. After the witnesses have given their evidence in this way, the witnesses and any other persons interested in these technical matters are invited to attend a conference at the Board's office where these statements may be discussed. The conference will commence at 2.15 p.m. on 26th April and be presided over by the Board's Director of Technical Services and will continue so long as is necessary to enable these matters to be fully discussed by those best qualified to do so. The Director will make a full report to the Board.

The Board believes that by adopting the procedure which I have outlined all interested persons will have the fullest opportunity of presenting their views in the most effective manner and the Board will obtain the greatest assistance in these difficult matters. The Board wishes to express its gratitude particularly to the Postmaster-General's Department and to manufacturers of electronic equipment for the very useful statements which they have submitted.

A letter setting out the procedure which I have outlined is being prepared and will be sent to all applicants and other interested parties as soon as possible. It may be added that only a very small number of applicants have expressed any views on this matter.

APPENDIX 3.
NINE CHANNEL PLAN WITH CHANNEL 4 OMITTED.

| Area. | Channel Numbers. | Power (kw) and Polarization Horizontal (H) Vertical (V). | Area. | Channel Numbers. | Power (kw) and Polarization Horizontal (H) Vertical (V). |
|--|------------------|--|-----------------------------------|------------------|--|
| <i>New South Wales.</i> | | | <i>New South Wales—continued.</i> | | |
| Sydney | 2 5 7 9 | 100 H | Gwydir River .. | 2 5 | 100 H |
| Newcastle—Hunter River | 6 8 | 100 H | Blue Mountains (West) | 3 6 | 1 H |
| <i>Illawarra</i> | | | <i>Victoria.</i> | | |
| Illawarra | 1 10 | 100 H | Melbourne | 2 5 7 9 | 100 H |
| Central Tablelands .. | 1 10 | 100 V | Ballarat | 6 8 | 100 H |
| Richmond—Tweed .. | 1 10 | 100 H | Latrobe Valley .. | 1 10 | 100 H |
| South Western Slopes | 5 8 | 100 V | Bendigo | 3 10 | 100 H |
| Eastern Riverina .. | 3 10 | 100 H | Goulburn Valley .. | 6 8 | 100 V |
| Macleay—Hastings .. | 2 5 | 100 H | Upper Murray .. | 1 9 | 100 V |
| Upper Namoi River .. | 3 9 | 100 V | Western District .. | 5 9 | 100 V |
| Australian Capital Territory | 2 7 | 100 V | Wimmera | 2 7 | 100 V |
| Southern Tablelands | 3 6 | 100 V | Mildura | 1 6 | 100 H |
| New England | 6 8 | 100 H | Murray Valley .. | 5 9 | 100 H |
| Clarence | 7 9 | 100 H | <i>Queensland.</i> | | |
| Manning River | 1 7 | 100 V | Brisbane | 2 5 7 9 | 100 H |
| Central Western Slopes | 2 7 | 100 H | Darling Downs .. | 6 8 | 100 H |
| Murrumbidgee Irrigation Areas (M.I.A.) | 2 7 | 100 H | Wide Bay | 1 10 | 100 H |
| Broken Hill | 5 9 | 100 H | | | |

APPENDIX 3—Continued.

| Area. | Channel Numbers. | Power (kw) and Polarization Horizontal (H) Vertical (V). | Area. | Channel Numbers. | Power (kw) and Polarization Horizontal (H) Vertical (V). |
|-------------------------------------|------------------|--|------------------------------|------------------|--|
| <i>Queensland—continued.</i> | | | <i>Western Australia.</i> | | |
| Rockhampton .. | 6 8 | 100 H | Perth | 2 5 7 9 | 100 H |
| Townsville .. | 6 8 | 100 H | Bunbury | 8 10 | 100 H |
| Cairns | 7 10 | 100 H | Kalgoorlie | 3 8 | 100 H |
| South Downs—North New England .. | 3 9 | 1 V | Albany | 2 7 | 100 H |
| Mackay | 7 10 | 100 H | Geraldton | 2 6 | 100 H |
| Bundaberg .. | 7 9 | 100 H | <i>Tasmania.</i> | | |
| <i>South Australia.</i> | | | Hobart | 1 2 6 8 | 100 H |
| Adelaide | 2 5 7 9 | 100 H | North-Eastern Tasmania .. | 7 9 | 100 H |
| Spencer Gulf (North) | 6 8 | 100 H | Burnie—Devonport .. | 5 10 | 100 H |
| South East .. | 6 8 | 100 H | | | |
| Renmark | 3 10 | 100 H | | | |

APPENDIX 4.

ELEVEN CHANNEL PLAN—OMITTING CHANNEL 4 AND USING CHANNELS 94-101 MC/S, (3A) AND 101-108 MC/S, (3B)

| Area. | Channel Numbers. | Power (kw) and Polarization Horizontal (H) Vertical (V). | Area. | Channel Numbers. | Power (kw) and Polarization Horizontal (H) Vertical (V). |
|---------------------------------|------------------|--|-----------------------------------|------------------|--|
| <i>New South Wales.</i> | | | <i>New South Wales—continued.</i> | | |
| Sydney | 2 5 7 9 | 100 H | Manning River .. | 5 7 | 100 V |
| Newcastle—Hunter River | 3A 6 8 | 100 H | Central Western Slopes | 2 5 7 | 100 V |
| Illawarra | 1 3B 10 | 100 H | Murrumbidgee Irrigation Areas .. | 2 3 7 | 100 H |
| Central Tablelands .. | 1 3B 10 | 100 V | Broken Hill .. | 3 3B 10 | 100 H |
| Richmond-Tweed .. | 1 6 8 | 100 H | Gwydir River .. | 3 3B 9 | 100 H |
| | | | <i>Victoria.</i> | | |
| South Western Slopes | 5 9 | 100 V | Melbourne | 2 5 7 9 | 100 H |
| Blue Mountains (West) | 3 6 | 1 H | Ballarat | 3 3B 10 | 100 H |
| Eastern Riverina .. | 3A 6 | 100 H | Latrobe Valley .. | 1 3B 10 | 100 H |
| Macleay—Hastings .. | 3 3B 9 | 100 H | Bendigo | 1 6 8 | 100 V |
| Upper Namoi River | 1 2 10 | 100 H | Goulburn Valley .. | 3 3B 10 | 100 V |
| Australian Capital Territory .. | 2 3 7 | 100 V | Upper Murray .. | 1 8 | 100 H |
| Southern Tablelands | 3A 6 8 | 100 V | Western District .. | 3A 5 9 | 100 V |
| New England .. | 6 8 | 100 V | Mildura | 1 6 8 | 100 H |
| Clarence | 5 7 | 100 H | | | |

APPENDIX 4—Continued.

| Area. | Channel Numbers. | Power (kw) and Polarization Horizontal (H) Vertical (V). | Area. | Channel Numbers. | Power (kw) and Polarization Horizontal (H) Vertical (V). |
|--|------------------|--|-----------------------------------|------------------|--|
| <i>Victoria—continued.</i> | | | <i>South Australia—continued.</i> | | |
| Murray Valley | 3A 5 9 | 100 H | Spencer Gulf (North) | 1 6 8 | 100 H |
| Wimmera | 2 7 | 100 V | South East | 1 6 8 | 100 H |
| <i>Queensland.</i> | | | Renmark | 3 3B 10 | 100 H |
| Brisbane | 2 5 7 9 | 100 H | <i>Western Australia.</i> | | |
| Darling Downs | 3 3B 10 | 100 H | Perth | 2 5 7 9 | 100 H |
| Wide Bay | 3A 6 8 | 100 H | Bunbury | 1 6 8 | 100 H |
| Rockhampton | 2 5 7 | 100 H | Kalgoorlie | 3 3B 10 | 100 H |
| Townsville | 3B 9 10 | 100 H | Albany | 3A 5 10 | 100 H |
| Cairns | 3A 6 8 | 100 H | Geraldton | 1 6 8 | 100 H |
| South Downs—North New England | 3A 9 | 1 V | <i>Tasmania.</i> | | |
| Mackay | 3A 6 8 | 100 H | Hobart | 1 2 6 8 | 100 H |
| Bundaberg | 3B 10 | 100 H | North Tasmania | 3B 7 9 | 100 H |
| <i>South Australia.</i> | | | Burnie—Devonport | 3A 5 10 | 100 H |
| Adelaide | 2 5 7 9 | 100 H | | | |

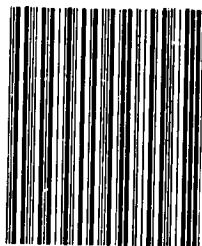
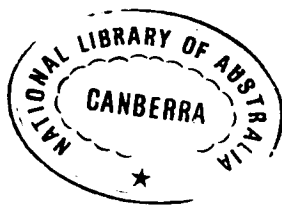
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