

GENERAL  ELECTRIC
Monogram
JULY - AUGUST 1977



**Plain talk on
the U.S. energy
future**



PLUS: GE in East Europe; Off-hours artists; Radioactive lifesavers


Plain talk on the U.S. energy future

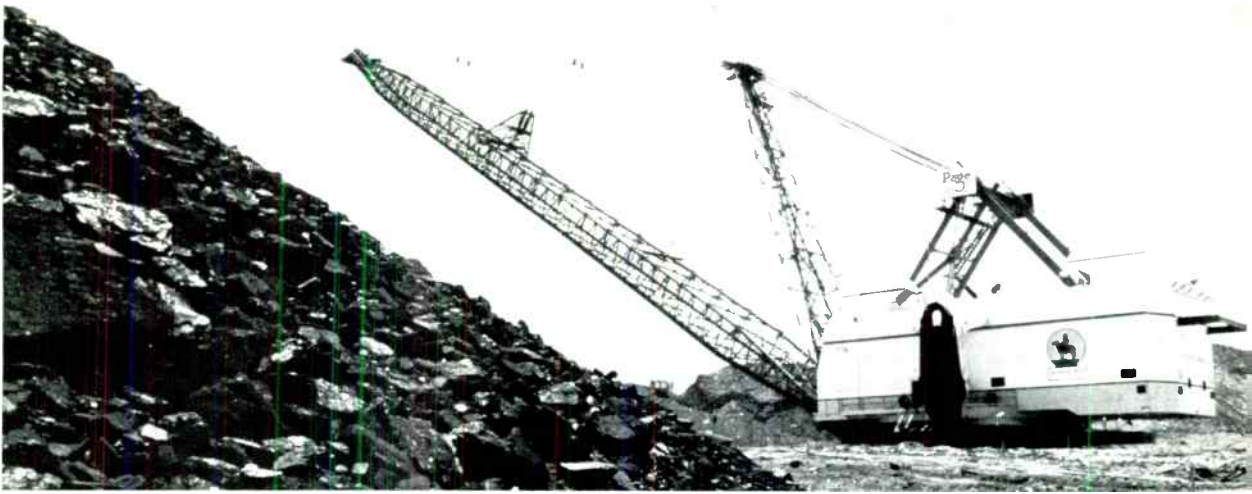
Are parts of the U.S. energy plan built on questionable assumptions? GE spokesmen think so—and are speaking up for realism.

“At the urging of President Carter, the subject of energy has finally begun to receive the attention it requires.”

Thus did Edward E. Hood, Jr., VP and Group Executive of the Power Generation Group, recently acknowledge the leadership role the President has taken on the energy front.

The complex energy package that Carter has presented to Congress and the public includes elements GE energy specialists endorse: the importance of energy conservation; recognition of the country’s need to manage a major shift away from imported oil to domestic coal and uranium; awareness that nuclear licensing cycles

	
July/August 1977	Volume 54, Number 4
Edward H. Morgan, Jr., <i>Editor</i> ; Linn A. Weiss, <i>Associate Editor</i> ; Donna R. Carpenter, <i>Editorial Assistant</i> ; Ron V. Taylor Associates, <i>Design</i>	
<p>On the cover: Coal and uranium—the two most abundant U.S. energy resources—are the victims of government sprawl. With some U.S. agencies beating the drums for big increases in the use of both, other agencies make attainment of these growth goals difficult if not impossible. It’s a situation calling for plain talk by GE experts, as reported in this issue’s lead story.</p>	<p style="text-align: center;">Contents</p> <p>THE COMPANY2-13 Plain talk on energy / Photo history: Clyde Wagoner / Handicapped employees / Honors / Spelling champs in Monographs</p> <p>PEOPLE14-17 GE art shows</p> <p>THE BUSINESSES18-23 Radioactive lifesavers / Fast food today, gourmet tomorrow</p> <p>INTERNATIONAL24-27 Seeking new business in Eastern Europe</p> <p>PRODUCTS28-29 New ideas keep coming</p> <p>PERSPECTIVES30-31 “Government doors are open”</p>
<p>The Monogram’s purpose is to keep its readers informed on General Electric activities so that they may more effectively represent the Company in its relationships with the public. It is published bi-monthly by Corporate Public Relations Operation—Douglas S. Moore, Vice President. Editorial supervision is by David W. Burke, Manager, Corporate Communications, and J. Hervie Haufler, Manager, Corporate Editorial Programs. Request permission to reprint articles from the Monogram Editor, Fairfield, Connecticut 06431. Copyright 1977, General Electric Company.</p>	



Scenes at Utah's new Trapper mine near Craig, Colo., strengthen optimism about coal's ability to meet U.S.

energy needs, while underscoring the large capital costs and time cycles required to open a new mine.



must be shortened and simplified; and a go-ahead for a new nuclear fuel enrichment facility.

At the same time, GE officials are concerned that other elements of the administration's proposals seem to be built on the sandy soil of too-easy assumptions. In these instances the Company's spokesmen are making themselves heard, with the objective of seeing new policies founded on the bedrock of realism.

Plenty of coal, if—

Policies relating to coal form an example. The Carter administration is *for* coal; the trouble is that U.S. policy makers are so much for it and assign it such a dominant role in the U.S. energy future that their projections lose sight of reality.

For an informed view, the *Monogram* visited the newest steam coal mine of Utah International Inc., GE's natural resources affiliate, and talked with Charles K. McArthur, Utah Senior VP and Manager of Utah's Mining Division.

McArthur sees coal as deserving plenty of

emphasis: "For a country that is now deriving 75% of its energy from fuels that represent only 8% of its known reserves, a massive shift to coal makes sense. The U.S. has at least 1½ trillion tons of mineable coal reserves, of which at least 434 billion tons are economically recoverable using existing technology. This means that recoverable coal reserves are some 660 times the volume of projected coal production this year. It's an energy reserve that's good for generations to come."

The extent of U.S. coal reserves is fact. Where lack of realism enters the picture is in government projections of the speed with which those reserves can be mined, transported and put to use. Says McArthur: "The administration has set a target of more than 1.25 billion tons of coal mined in 1985. The truth is, however, that the conditions simply aren't in place for a coal growth scenario like that to be realized. There have to be major policy changes in at least two areas."

(continued next page)

The first area, according to McArthur, is regulatory, including the multiple, conflicting, overlapping requirements that must be met in securing permits to open a new mine. "To achieve the government's objective of virtually doubling coal capacity by 1985 will require opening some 170 surface mines and 130 new underground mines. There's not a chance of that happening on the planned timetable unless drastic changes are made in the regulatory process."

If the industry is to grow rapidly, he feels, federal and state governments will have to agree on jurisdictions and help simplify the present chaos. "Our new Trapper mine near Craig, Colorado, is an example. It took four years to bring that mine into operation—and at least half of that cycle resulted from the regulatory approval process."

The second area of policy change McArthur sees as necessary is that relating to the infrastructure supporting coal mining. "Railroads and barge lines must expand capacity and improve existing facilities to carry the projected coal tonnage. However, in spite of increasingly profitable coal rates, carriers are hesitant to commit the huge amounts of capital required because of unresolved environmental and regulatory restrictions, affecting both producers and consumers. We've been through a long period when oil was cheap and when coal and its infrastructure were neglected. It's not a situation that can be turned around at the drop of a new policy."

McArthur sees other obstacles to a rapid buildup of coal production. Land use is becoming increasingly restricted, he points out, shrinking the number of places in which industry can

extract coal. Also, if coal is to be gasified, used for power generation or transported by slurry pipelines, a plentiful supply of water is indispensable. "Yet the fact is," he says, "that a considerable proportion of U.S. coal reserves are located far from water. Fortunately, Utah strategy has always emphasized coal rights near adequate water resources."

McArthur's conclusion: "Our most abundant natural resource can and probably will play the largest part in avoiding an energy disaster. But fundamental changes in national direction will be necessary for that to happen."

Nuclear: program for 'a healthy resumption'

When VP Ed Hood addressed electric utility executives at Kaiwah Island, S.C., on June 11, his talk came hard on the heels of a Ralph Nader assertion that in a meeting with President Carter's energy adviser, James R. Schlesinger, GE had threatened to get out of the nuclear business unless it received financial aid from Washington.

Hood set the record straight: "Let me say that at our meeting with Dr. Schlesinger we did *not* threaten to go out of the nuclear business. We have nearly 60 nuclear plants on order. We fully intend to meet these commitments and provide the continuing support necessary to assure that all of our plants operate reliably and safely. Also, for the record, we did *not* ask for financial aid from the government."

The GE officer's objective in Washington: "Simply to present Dr. Schlesinger with a candid appraisal of the situation so that U.S. energy planning could be based on realistic assumptions."



Utah's Charles McArthur: 'Coal's growth scenario is in need of drastic revisions.'



The main point of realism Hood wanted to register was that “the industrial capability required to sustain the nuclear option is in poor shape now and is likely to deteriorate further.”

Hood explained: “The U.S. nuclear market has been in a state of *de facto* moratorium for more than three years. Since mid-’74 there have been 19 new orders. During the same period 28 units have been cancelled and more than 100 deferred.” As for the outlook: “Few, if any, new nuclear plants will be committed in the foreseeable future.”

The chief cause for nuclear’s standstill status can only be resolved by government action: “The insurmountable obstacle is the present legal, political and regulatory climate. We fully understand that responsible utility executives are reluctant to order a nuclear plant when the costs can escalate by several hundred million dollars, and when the schedule for commercial operation can be delayed for many years because of factors over which the utility has no control.”

Hood underscored the effect of this lack of orders: “The health of the nuclear supplier industry is steadily deteriorating. Three years without new orders means a serious gap in future workload, even if the market recovers much sooner than appears likely.”

It’s a situation, Hood told Dr. Schlesinger, that calls for fundamental changes. He concluded his meeting by outlining a course of action which could mean “a healthy resumption of the nuclear business”:

- Regulatory reform to eliminate such uncer-

tainties as the present overlapping control between federal agencies and similar overlaps between federal and state agencies. In addition, “Limitations must be placed on the role of intervenors so that a better balance is obtained between the legitimate need to raise objections and the opportunities for endless delays.”

- Clear policies relating to the “backend” of the fuel cycle: “Nuclear waste disposal has been one of the major targets of the opponents of nuclear power. To remove this as an issue, it is essential that the government face up to its responsibilities for the storage of high-level wastes, with or without reprocessing in the near term. What is needed is a policy that can be relied on for planning purposes.”

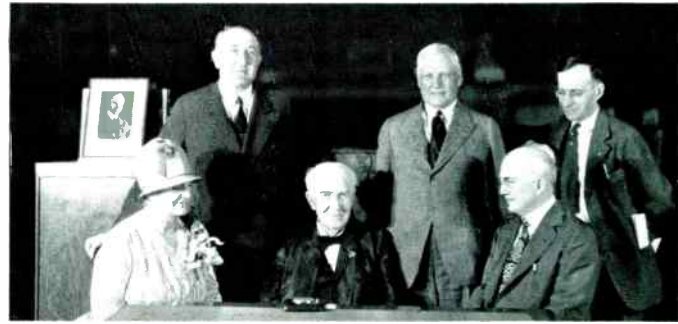
- Proliferation and export policy: “The uncertainties regarding nuclear exports must be resolved. The viability of U.S. manufacturers will, in part, be a function of their ability to participate in the export market. This is severely hampered at present by foreign concerns over government roadblocks to U.S. exports, particularly when contrasted with the more supportive policies of the governments of our French and German competitors.”

- The breeder reactor program: “We strongly urge that the breeder program be continued. As we see it, the breeder represents the only assured large new energy source for the 21st century.”

Ed Hood summed up: “We strongly believe that increased use of nuclear power is essential to the solution of the nation’s energy problem, and GE will make every reasonable effort to contribute to that end.”



VP Ed Hood:
how to overcome nuclear’s insurmountable obstacle.



BYRD'S VOICE LEAPS OVER 10,000 MILES FROM NEW ZEALAND

The Admiral Carries On a Two-Way Radio Conversation With Friends in Schenectady.

Wag: GE's great publicity stunt man

On the continent of Antarctica there is a peak whose official name is "Mt. Clyde Wagoner." The name was bestowed on the mountain by famed Antarctic explorer Richard E. Byrd as a measure of gratitude for the help that Wagoner gave the Admiral and his men in their Little America encampment.

Clyde D. Wagoner, or "Wag," as he was known by everyone, was the manager of General Electric's News Bureau back in the nineteen-twenties and thirties. It was he who conceived of using GE shortwave transmitters to establish regular radio contact with Admiral Byrd's Antarctic expedition and to enable Byrd's homesick men to chat with their families back in the GE WGY studios half a world away.

It was a humanitarian service

that Wag was pleased to provide. But he was also mindful of another benefit: listening in on the conversations with Little America were thousands of others in the radio audiences of the day, and the exchanges generated news stories throughout the world. And the name of General Electric was prominent throughout.

The broadcasts to Admiral Byrd were typical of the way Wag worked. He involved the Company in dramatic news events that kept the GE name in the public eye in ways that reflected credit. He was a stunt man with a purpose: to generate favorable publicity for General Electric.

In the mid-thirties, Wag saw another use for the GE short-wave facilities—to beam accurate news reports from America

to European populations that were beginning to be caught in Hitler's web. With the idea endorsed by President Roosevelt, Wag broadcast the first "American News Tower" to Europe in June 1937. The scheme was later adapted for wartime use and became the "Voice of America."

His pro-GE stunts were legion. He arranged tugs-of-war between electric and steam locomotives. He engineered the first radio drama and the first play-by-play broadcast of a football game. When a new WGY studio building was to be dedicated, he persuaded the Navy to send one of its giant dirigibles to Schenectady to transmit a beam of light that officially put the new facility on the air. He was the architect of the "shot heard 'round the world," when the



Clyde Wagoner—he wore his hat as he worked. Founder of GE's News Bureau, he hosted visiting celebrities, including Mr. and Mrs. Thomas Edison. He, designedly, let the nation listen in on his broadcasts to Byrd at the South Pole. His pro-GE publicity stunts were legion. Examples shown: beaming a signal from a Navy dirigible to open new WGY studios; getting GE products aboard explorer subs; hiring a cycling champ to demonstrate electricity's low cost.

GE Photographic History: Part XI

Governor of Massachusetts fired a Revolutionary War musket, and the sound, transmitted by cooperating shortwave stations, circled the globe. (Actually, the musket wouldn't fire, so GE VP Chester H. Lang fired a blank pistol instead.)

Once in the dead of winter Wag ran an ad in New York newspapers offering payment for a dozen live flies. Reporters, curious, assembled to find out whether he really thought he'd find live flies at that time of year and what he intended to do with them. "Be patient," he said. "Someone in New York City will come up with those flies." Shortly a boy arrived with a cage full—he raised them for a laboratory working on insect sprays. What did Wag want with them? GE was announcing a new radio mike so

sensitive, he said, it could pick up a fly's footsteps. His demonstration turned a routine new-product announcement into an event that drew press coverage far and wide.

Wag was quick to recognize a catchy phrase. When the noted war correspondent, Floyd Gibbons, remarked after a tour of the Schenectady laboratories that "this is a house of magic," Wag seized upon the comment and turned it into a label for GE research that caught on. Later, GE-sponsored "House of Magic" shows toured the nation with examples of legerdemain drawn from GE R&D.

He loved to apply his promotion talents to GE people. His favorite was Charles P. Steinmetz. In this gnome-like German immigrant with the brilliant mathematical mind, Wag

found a Horatio Alger scenario he never tired of publicizing, even long after Steinmetz' death. Again, the Steinmetz legend—ranking him as an electrical wizard on the level of Edison—did much to build public awareness of GE throughout the world.

The legacy Clyde Wagoner left when he died in Schenectady in 1961 at the age of 72 comprised more than flamboyant stunts and memorable promotions. He organized at GE a genuine news bureau that the press could count on for well-researched, accurate, newsworthy information. And he gave a strong push to the momentum that has carried General Electric into the front ranks of the best-known and most-respected business enterprises. ■

'Who's handicapped? Not us.'



"When you're handicapped, you've got to test and expand your limits," maintains International Patent Operation's George V. Eltgroth, Counsel-Patent Strategy and Utilization. "I have only peripheral vision, about 1 or 2% of normal. I read slowly, so I have to do a lot of preparatory work for patent negotiations."

Fortunately for GE, many gifted people with physical disabilities are contributing to Company businesses.

General Electric patent attorney George V. Eltgroth is both legally blind and crippled. When he was 33 he contracted polio. At 41, his vision dropped below the level of legal blindness.

Yet, despite these handicaps, GE in 1964 felt he was the right person to head up GE computer patent operations in Phoenix, Milan and Paris. In negotiating a large portion of GE's acquisition of Compagnie des Machines Bull (France) and of the Electronics Division of Olivetti (Italy), Eltgroth had 12 French lawyers working for him, only two of whom spoke English. He quickly had to learn French by ear, and learned to work in Spanish as well.

As other examples here and on the following pages show, General Electric is fortunate to have so many extraordinary handicapped people. The Company of Thomas A. Edison and Charles P. Steinmetz—both individuals with physical disabilities—is now working with various industry, labor, government and education groups to spotlight national problems and opportunities for employing handicapped people.

Exploring new ways to bring greater numbers of qualified deaf college graduates into business and industry, several GE components are now participating in a program with the National Technical Institute for the Deaf (NTID), located on the Rochester Institute of Technology campus.

While some 60 U.S. community colleges offer post-secondary training for hearing-impaired people, NTID is the only national institution offering sub-baccalaureate and baccalaureate degrees in engineering and technology.

Beginning in 1974, Pittsfield's Ordnance Systems Products Department has periodically employed NTID students as part of the school's



◀ Almost completely deaf in her right ear, Housewares and Audio Business Division's Terry Carrillo works as a GE switchboard operator in Ontario, Calif. "In one way my hearing loss is a blessing in disguise. Naturally I use my 'good' ear to handle the board, and background distractions are thereby screened out, allowing me to concentrate on calls."

co-op work-study program. Three students have gone to Pittsfield to date, with two of them each returning two times. All three were engineering majors, and worked in the environmental laboratory.

Notes Joseph K. Handler, Pittsfield Manager-Professional Relations: "The students made excellent employees. They performed a variety of engineering support functions, as well as doing circuit testing and mechanical designing. The biggest hurdle was convincing their co-workers not to give them special help, which they did not want or need."

Other NTID employment examples: Burlington's Armament Systems Products Department, which currently has a computer-science major working in data processing. Also, Binghamton's Aerospace Controls and Electrical Systems Products Department has an accounting student assigned to the cost accounting section. Auburn's Semiconductor Products Department has also participated by hiring an engineering undergrad to perform rating and evaluation work.

Preventing physical barricades to the handicapped from being incorporated into any new GE plant facilities is a major duty of Schenectady's John C. Horning, Manager-Engineering for Real Estate and Construction Operation.

Access ramps, special toilets, elevators, guard-
(continued next page)

In 1973, Ronald T. Dopki, now Manager-Document Control at Wilmington's Nuclear Energy Systems Division, learned that he had multiple sclerosis. ▶ "I was working for GE in Pennsylvania at the time, and there's lots of snow there. The Company helped me find a place where the elements were more favorable, but where there were still opportunities in my field."



Five years ago, Clarence M. Baldwin of Corporate Public Opinion Research lost the sight of his left eye, and more recently, he's had two operations and three laser-beam treatments on his right eye. Now on recuperative leave, he remarks, "Thankfully, I had GE Long Term Disability Insurance, and can plan to be back at work shortly."





Because the polio vaccine discovery came 18 months too late for Information Services Business Division's Mike N. Lynch, an accounts payable clerk in Rockville, Md., Mike's legs were permanently disabled. Nevertheless, he's now playing bruising wheelchair basketball for a top U.S. wheelchair team. "I'm presently enrolled in LaSalle University's business management course, and hope to eventually gain a GE management position in finance."



Paralyzed from the waist down as a result of a car accident 10 years ago, Pittsfield's James E. Wilson, an engineer in Ordnance Systems Products Department, insists that his handicap poses no serious problem. "I drive my car using hand controls—not just to or from work, but wherever my job calls me during the day."

rails and lower drinking fountains are all items that Horning insures are included in the 10-20 new buildings that GE constructs each year.

He observes: "A GE task force in mid-1974 adopted a specific building code for new Company construction, based on the recommendation of Long Island's Human Resources Research and Training Institute, a handicap-assistance organization. We were one of the first companies to take such action."

On request, Horning also furnishes construction specifications to GE facilities personnel at existing plant locations: "A large number of components have already asked for them, even though the federal government and many states and municipalities haven't passed private-industry building codes for disabled persons."

Tackling the handicapped's job and life-style problems, a special White House Conference on Handicapped Individuals set up earlier this year by President Carter evaluated various national approaches to helping these disadvantaged citizens. GE Vice Chairman W. David Dance served on an Industry-Labor Council which developed recommendations for the Conference.

As GE liaison to the Council, Donald B. Powers, Program Manager-Compliance Practices and Programs, observes: "Some 14 million handicapped now live in the U.S. Only slightly more than 40% have jobs. At least 1.5 million who aren't working could work if given a chance."

He continues, "Most General Electric components had a good start on last September's revised regulations of the 1973 Vocational Rehabilitation Act. Their policies of hiring qualified handicapped people were already established and working by the time the revised federal program went into effect."

Consumer product design modifications are another way that GE is addressing the problems plaguing sight-impaired people.

At Louisville's Appliance Park, for example, GE now provides free braille knobs for any of its GE or Hotpoint brand ranges, as well as braille control panels for its home laundry equipment.

Also, appliance use-and-care manuals on all products now made by GE and Hotpoint are available on tape cassettes. They are obtainable from the Center for Consumer Products Recordings, Associated Blind of Kentucky, P.O. Box 306, Louisville, Ky. 40201. [A nominal charge of \$1.25 is required to cover the cost of the cassette and packaging for the mails.] **■**



The American Marketing Association's 1977 EFFIE award, presented to Housewares and Audio Business Division for its Home Sentry® smoke alarm ad campaign, is received by VP Paul W. Van Orden (center), Richard Block (left) and Vincent Novak.



For his portrayal of Thomas A. Edison in the recent Corporate history commercials, actor Pat Hingle was recently named CLIO winner for the best male performer. General Electric also garnered a CLIO for the best script.

The kudos keep coming

General Electric and GE employees continue to stay in the limelight.

The summer season produced an unusually large number of accolades and citations conferred upon numerous General Electric components and people. Some noteworthy examples:

- Top honors for investigative reporting awarded by the Radio-Television News Directors Association have gone to reporters Peter J. Webb and David R. Minshall of KOA-TV in Denver, a General Electric Broadcasting Company station. Entitled "The Sale of Privacy," the winning 14-part series revealed a private detective agency's practice of securing confidential medical records for attorneys and insurance companies.

- The Utah Power and Light Company paid tribute to GE in its 1976 Annual Report, thanking the Company for replacing in record time a huge turbine-generator destroyed in a 1976 accident (see *Monogram*, Jan/Feb. 1977).

- Recognizing the "significant impact the company has made on the development of minority business," the National Association of Black Manufacturers presented its annual Industrial Leadership plaque to GE at the opening of its 1977 convention in Tuskegee, Alabama.

- A second GE large steam turbine-generator has been designated a National Historic Mechanical Engineering Landmark by the American Society of Mechanical Engineers. The 208-megawatt unit began service in 1929 at State Line Power Station in Hammond, Ind., and still is in operation. The first GE-honored unit was the 5-megawatt Curtis steam turbine-generator built in 1903 for Commonwealth Edison.

- The Connecticut Art Directors Club recently

presented the *Monogram* with its 1977 Award of Excellence for best cover photography.

- Recognizing the National Academy of Engineering's role in raising the professional stature of engineering, Vice Chairman Jack S. Parker recently presented a check for one-half of a two-year \$100,000 pledge to the Academy. VP Arthur M. Bucche, Corporate Research and Development, was recently elected to a three-year term as an Academy Councillor.

- Dr. Ivar Giaever, Nobel Prize-winning R&D Center biophysicist, was recently doubly honored, receiving an honorary Doctor of Engineering degree from Worcester Polytechnic Institute, and the first Citizen Laureate Award of the University Foundation of Albany.

- The United States Trademark Association recently named Paul Hoffmann, Corporate Trademark Counsel, to its Board of Directors.

- Joseph H. Kehlbeck, Manager—Louisville Plant Operations for Range Manufacturing, recently became president of the American Institute of Industrial Engineers during the AIIE's annual conference in Dallas. H. Ford Dickie, Staff Executive at Corporate Consulting Services, was named a Fellow of the Institute.

- Dr. Eric A. Ash, R&D Center European consultant, has been elected a Fellow of The Royal Society of England, in recognition of research on microwave acoustic and optical devices.

- The American Society for Testing and Materials has elected William A. McAdams, Manager—Industry Standards, Corporate Technology Staff, to a one-year presidency. ■

Monographs



Radios to the rescue. In the Tennessee mountains, an elderly couple used to have to walk seven miles to the nearest hard-surfaced road to get transportation to a doctor's office.

No longer. Thanks to a GE two-way radio system operated by the Progress for People Human Resource Agency, in conjunction with the South-eastern Tennessee Rural Transportation System, this couple simply calls a van to their doorstep.

Supplied by Lynchburg's Mobile Radio Department, the GE two-way radios allow a control unit to relay transportation requests to one of 11 vans which provide rides for the elderly and handicapped to clinics, shopping malls, government agencies and senior centers.

The first radios were installed last November, and since then the number of rides has increased dramatically. In mid-1976, the agency averaged 7,000 requests per month, but by this April the number of monthly rides had jumped to 25,000.

Hessian 'roots'. If author Alex Haley has his Kunta Kinte, then Lamp Business Group's Mark Schwalm, a market researcher, has his great-great-great-grandfather, Johannes.

Haley spent 10 years researching his genealogy in Gambia before publishing *Roots*. With eight of his relatives, Schwalm also spent a decade seeking his roots, and the result is *Johannes Schwalm*



the Hessian, a book which he co-authored.

"History has given the Hessians a bad deal," Schwalm believes. "They were slaves of their German princes and were forced into service with the British forces." Schwalm remarks that his forebear eventually deserted the British army and settled in Pennsylvania—where he founded the New World branch of the Schwalm family.

In good company. A GE CF6 jet engine took its rightful place recently among the aviation and space history achievements that comprise the Smithsonian's National Air and Space Mu-

seum—joining the Wright brothers' plane, Lindbergh's "Spirit of St. Louis" and John Glenn's "Friendship 7."

Presented May 24 by VP Gerhard Neumann, Group Executive-Aircraft Engine Business Group (at podium), the new exhibit features simulated operation of a jet engine test cell—using a full-size cut-away CF6 high bypass turbofan engine, and a test cell operator and console. The CF6 is the powerplant for such planes as the McDonnell Douglas DC-10 and some versions of the Boeing 747.

In moving to the Smithsonian, the CF6 joins other GE



relatives on display: the Edison bi-polar dynamo used on the steamer *Columbia*; Wilhelm Roentgen's third x-ray tube; early consumer appliances; and the first diamond made by the GE Research Laboratory.



Spelling-bee champs. When 13-year-old John Paola of Glen-shaw, Pa. (left) recently won the National Spelling Bee by spelling “sesquipedalian” and “cambist” correctly, on hand to congratulate him was the contest’s first champion, Frank L. Neuhauser, GE Manager-Washington Patent Operation (right).

Neuhauser won the national contest in 1925 by correctly spelling “gladiolus.” Says Frank: “Evenings and week-ends, my father and I would practice. He had a stack of spelling books a half-foot high.” Both champs agree that the key to spelling isn’t in fancy techniques or methods, but in simple rote memorization.

Incidentally, after winning the 1925 spelling bee, Frank, then 11, was paraded through his native Louisville amid horns, firecrackers and confetti. He notes: “Through the years, my spelling ability has meant fewer trips to the dictionary, and has made me a crossword-

puzzle fan. But I’m no great Scrabble player, and I’ve never been paraded through town since.”

Latest in a legacy. What does new GE hiree John A. Kaiser have in common with Reginald H. Jones and Gerald L. Phil-



lippe? In June, the recent Georgetown University accounting graduate became the 10,000th recruit for the Company’s Financial Management Program—where the current and former GE Board Chairmen launched their careers.

Does John think he’ll follow in the footsteps of the FMP’s most illustrious grads? “Since 9,999 other FMP grads produced only two GE Chairmen, I’d say the odds [chuckle] definitely aren’t running in my favor.”

Back-to-school reminder.

With the costs of higher education moving up so rapidly, it’s a good time to remind GE men and women that included in the many Company programs are two educational loan plans for employees and their children.

Under the Guaranteed Educational Loan Program, begun in 1970, GE provides for guarantees of loans made to students by participating banks. Such loans, up to \$2500 per year for undergraduate study and up to \$5000 per year for graduate school (banks may have limits below those maximums), are guaranteed by United Student Aid Funds, Inc., based on GE deposits in USAF’s “special reserve.” Each dollar deposited backs the guarantee of ten times that amount in loans. The student to whom a loan is made is responsible for its repayment.

The GE Employees Educational Loan Program, now beginning its 21st consecutive year, provides loans of up to \$1500 per year per student. The loans are made by GE components to Company employees for use by the employees or their children. The employee is responsible for repaying the loan, usually through payroll deductions.

Noteworthy avocation. As a music composition major, the R&D Center’s Carol Sullivan, a photographic unit clerk, also composes and arranges music for her professional musician husband, Steve. A recent Whitney Club concert at the R&D Center heard Steve’s musical group perform, and several songs were arranged by Carol.

“Melodies are always in my

mind. It’s getting them out of my head and onto paper—that’s the hard part,” she observes. “When you get really good, you can write them down as they come to you. The ‘inner voicing’ usually comes later—the supporting lines under the melody.”

Carol hopes to publish two compositions shortly—a piano piece, “Lonely Child,” and “Ubiquitous” for woodwind quartet.



The GE art world: a time of recognition

Springtime brings special opportunities for off-hours artists to forsake their creative isolation with oils and canvas and break into the hurly-burly of competition.

That's what many General Electric artists did recently and, as the following pages show, a good number emerged as winners, and all had the pleasure of seeing their works viewed by thousands of gallery-walkers.

For example, Nela Park's *GE News* this spring accented GE Lampmakers' creative talents by challenging Cleveland area employees and retirees to participate in a "graphic arts only" show. The exhibit, May 23-27 at the Nela Camp Auditorium, included 79 entries covering a wide variety of media and subjects.

In Syracuse, the Cultural Resources Council each year sponsors an exhibit at the city's Everson Museum of Art, for painters representing local industries, banks and hospitals. This spring, 23 works by 18 GE artists were selected from among 106 GE creative projects submitted by 49 employees. The show took place June 3-19.

At Crotonville, the 9th annual International Elfun Art Show held May 22 featured some 450 exhibits by more than 100 artists representing more than 25 Elfun chapters. Overseas GE entries came from Italy, Spain, Colombia, Hong Kong and Singapore.

Crotonville art show chairman (and renowned GE artist) W. E. "Ned" Herrmann maintains: "Few paintings ever receive the tribute of greatness, but those that do reflect not the opinion of others, but the inner qualities of the artists who painted them. The artistic value of the painter's work depends in large measure on the extent to which the artist's personal values are incorporated in its creation."

Judging from the following examples, the GE art world definitely contains many fine artists.



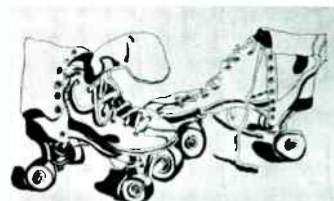
CLEVELAND'S graphic arts show, May 23-27 at Nela Park, brought together some 79 GE entries by various Lamp Business Group employees and retirees in the Cleveland area.

In the oil-painting category, the first-prize winner was retiree Victor A. Rajewski, for "Birches"; second, retiree Edward B. Noel, "Family Farm"; and third, employee Stanley Gulick, "Girl in the Meadow."

In the "Other" category, first prize went to employee David Buttram, for his untitled self-portrait done in silk screen; second, to employee Raymond J. Rognstad, for "Desert View" done in marking pen on a textured mount board; and third to employee Helen M. Walsh, for an untitled ink drawing of roller skates.



"Desert View," Raymond J. Rognstad



Untitled, Helen M. Walsh



Untitled, David Buttram



"Birches," Victor A. Rajewski



"Girl in the Meadow," Stanley Gulick



"Family Farm," Edward B. Noel

(continued next page)



“Peacock,” Thomas H. Carroll



SYRACUSE: Best GE showing ever at the city’s Everson Museum of Art took place this spring, when local judges selected 23 works by 18 area GE artists for display at the museum’s On My Own Time exhibit held June 3-19.

The Cultural Resources Council has sponsored the exhibit annually for the past four years.

The artwork shown here, selected at random, includes “Peacock,” a film negative of a pencil sketch produced by Thomas H. Carroll; a watercolor entitled “Hasting’s Barn” by Edwin J. Mets; “Daisy,” a pastel painting by John S. Kolwaite; “Shiloh Letter,” a pencil drawing by William J. LaMirande; and an acrylic painting, “Missing Window,” by Harry D. Rippen.



CROTONVILLE: Family winners were prominent among the more than 100 artists who entered the 9th annual International Elfyn Art Show on May 22. Two sets of ribbons were awarded, for popular as

well as professional judges’ ratings.

Among the numerous winners, Lisa Louis, daughter of Utica employee Edward J. Louis, won a first prize in both the popular and judges’ balloting for her pencil drawing, “The House.”

Marilyn Lehmann, wife of retiree William H. C. Lehmann, won two judges’ first prizes for her watercolor painting, “Oyster Baskets,” as well as a second prize in the popular ballot.

Mario Di Leonardo, son of Schenectady employee Germano Di Leonardo, won a first prize for his ink and watercolor wash, “Piazza della Signoria in Florence.”



“The House,” Lisa Louis



"Hasting's Barn," Edwin J. Mets



"Daisy," John S. Kolwaite



"Shiloh Letter," William LaMirande



"Missing Window," Harry Rippen



"Oyster Baskets," Marilyn Lehmann



"Pizza della Signoria in Florence," Mario Di Leonardo



12:10 P.M. Monday. Rushed to transcontinental air carrier, material is flown to Boston.



6:09 A.M. Monday. In California, GE technician readies canister of moly-99 radioisotope for shipment.

7:12 A.M. Monday. Moly-99 is lowered into cask for truck delivery to San Francisco airport.



2:46 A.M. Tuesday. Boston radiopharmaceutical worker prepares moly-99 for hospital diagnostic use.



Radioactive lifesavers

As world's largest medical radioisotope supplier, GE rushes material with short half-lives around the world.

During her routine self-examination, a young woman finds a small lump in her left breast. She immediately notifies her doctor who, in turn, confirms the finding and arranges breast x-rays and a tumor biopsy. Indeed, she does have a cancerous growth.

A few decades ago, the diagnosis at this point would have been complete. In all likelihood—because the physician couldn't tell if the malignancy had spread beyond the tumor area—a radical mastectomy would be ordered.

But thanks in large part to General Electric's Vallecitos Nuclear Center near Pleasanton, Calif., this major surgical step is no longer "automatic." Instead, this woman's doctor followed his first tests with skeletal and soft-tissue scintillation scans, using rapidly-supplied GE

medical radioisotopes. These tracer scans broadened the physician's diagnosis to the entire body, and favorable tests spared the woman both the personal trauma and physical pain of breast removal. Only minor surgery was needed.

As the world's largest supplier of radioactive materials to the pharmaceutical industry, Vallecitos today provides 12 primary radioisotopes to some 200 pharmaceutical firms and hospitals in some 20 countries. To be accredited, all U.S. hospitals must now offer radiodiagnostic services, and GE radioisotopes are used in most U.S. and Canadian hospitals. Vallecitos' GE Test Reactor (GETR) is the U.S.'s major supplier of molybdenum-99—the parent isotope of technetium-99m—which is the most frequently-used diagnostic isotope and the one employed



◀ 9:57 A.M. Tuesday. Moly-99 leaves for Massachusetts hospital. A day now elapses before material reaches warranted potency.

8:01 A.M. Wednesday. Patient undergoes scintillation scan to discover possible breast tumors, with help of radiodiagnostic tracer technetium-99m, the "daughter" radioisotope of moly-99.

(continued next page)

in detecting breast tumors as well as bone and brain tumors, strokes, liver diseases and pulmonary disorders.

In addition to moly-99, Vallecitos also produces a majority of this country's xenon-133 gas for detecting lung diseases, as well as cobalt-60 for cancer treatment, iron-59 for blood studies and selenium-75 for pancreas imaging.

"One out of every three patients admitted to U.S. hospitals today is given a radioactive tracer as part of his or her medical diagnosis," states Vallecitos' T. J. (Ted) Slosek, Marketing Manager—Irradiation Processing Product Operation. "Last year, more than five million patients benefited from GETR's moly-99—just one of the products that we produce."

A radioisotope's half-life (its decay time) is often brief, and many isotopes require rapid processing and air transport. For example, moly-99 has a 2.8-day half-life, which means that 50% of its initial radioactivity has dissipated after 2.8 days. Another 50% of the remainder will dissipate in the next 2.8 days, and so on until all radioactive traces are gone. Some radioisotopes' half-lives are a matter of hours.

Because of the urgency in shipping these vital products to firms that must in turn reprocess them and rush them to clinics, Vallecitos carefully schedules production, arranges transportation to the San Francisco Bay Area's three airports, monitors flight departures and subsequent arrivals, and often supervises deliv-



Hospital employee obtains radiodiagnostic tracer for use. Today, one of every three patients receives tracer as part of his or her medical diagnosis.

eries right to the buyers' doors.

GE radioisotopes with half-lives as brief as 67 hours are being shipped to pharmaceutical houses around the world.

Remarks Slosek: "Twice in the past, we've used helicopters to rush extremely short half-life isotopes to the University of California at Berkeley. The time span between the isotope's production and use was just 30 minutes. Needless to say, shelf inventory in this business is impossible!"

"Milking the cow" is hospital jargon for the process of leaching moly-99 for its valuable technetium-99m, a six-hour half-life radioisotope. Hospitals purchase "Molly cows" directly from suppliers in quantities sufficient to meet their "milk" needs over moly-99's one-week useful life.

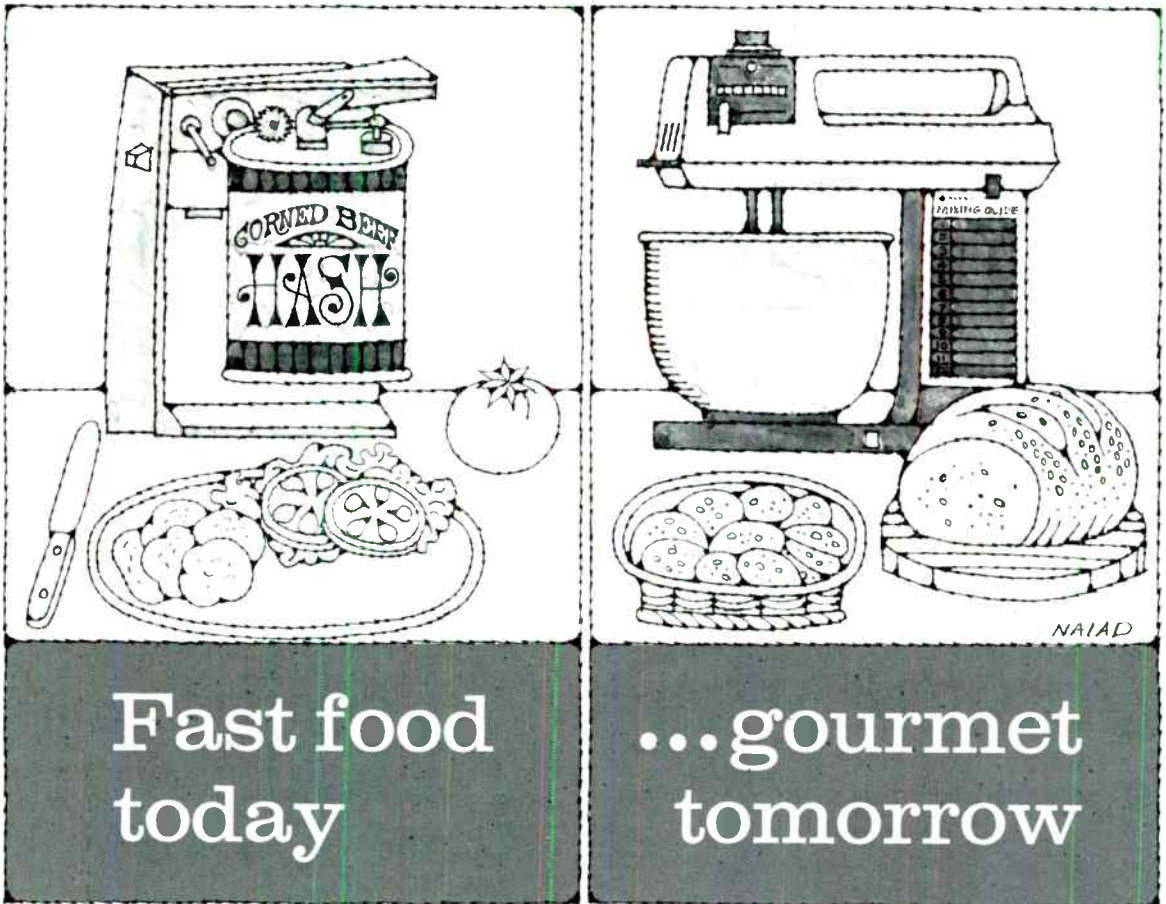
"The amount of radiation that a patient receives from a body scan is only 250 millirems—about the same as is received annually from natural radiation by a Denver, Colo., resident," notes Slosek. "Furthermore, most medical radioisotopes stay in the body for very short periods of time—usually less than 12 hours. Even if materials are not eliminated with normal body wastes, they will disappear as a result of their very short half-lives."

In May, Vallecitos celebrated its 20th anniversary as a GE business. It's the nation's largest privately financed nuclear facility of its kind, and produces a total of 30 radioisotopes for industrial and research as well as medical uses.

"Last year, we shipped approximately 10,000 packages of radioisotopes," says Slosek, "and we claim the distinction of dealing directly with as many foreign governments as any other GE business. For example, we sell to the British, French and Japanese governments, and we're purchasing part of the raw material for our neutron moly-99 from the Soviet Union."

He proudly states Vallecitos' *modus operandi*—"we try to never interrupt the supply of these materials to customers"—and he proudly recalls Vallecitos' transportation record—"no shipment has ever been lost or resulted in excess radiation exposure to shippers, airline crews or the public."

Concludes Slosek: "Nuclear medicine's life-saving contributions today cannot be over-emphasized. The number of licensed radioisotope users increases each year by 20%. Our sales have grown accordingly. We're intent on keeping our market share by supplying even more quality products with prompt service in the future." ▲



Fast food
today

...gourmet
tomorrow

GE Housewares is catering to the way many American homemakers are rearranging their week.

If it's Tuesday, it must be hamburgers for dinner. Or ready-made pizza slices. Or some other fast food that can be put on the table in jig time.

But if it's Saturday, it may well be beef bourguignon or coq au vin, with homemade bread—and perhaps crêpes suzette for dessert.

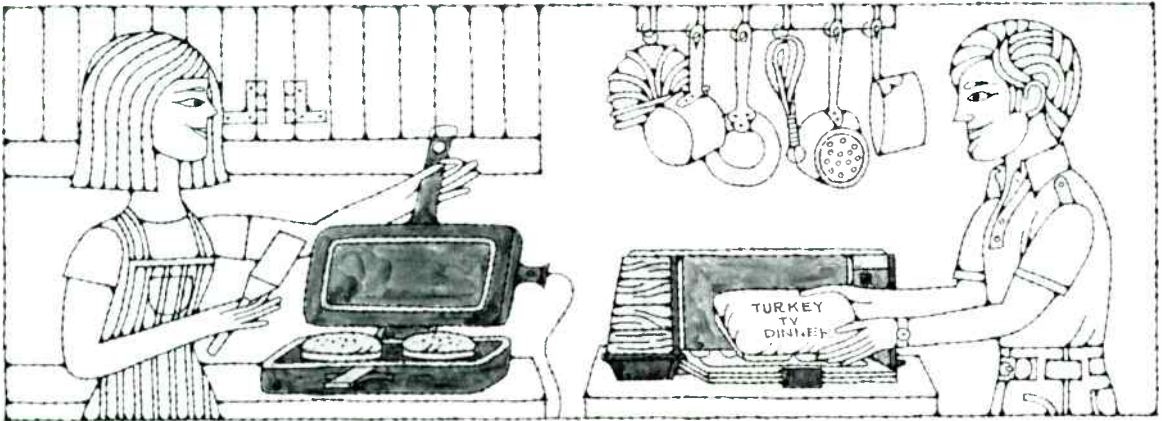
Minutes spent on dinners during the week, hours given to gourmet specialties on weekends—that's the sharp split in food preparation and eating habits in many working-couple households that shows up in surveys made by Housewares and Audio Business Division. The findings are important to the Division's new VP, Paul W. Van Orden, as he studies the potential impact of changing American lifestyles on the development and marketing of HABD products.

During the week, the growing number of two-career families, which Van Orden describes as "colleague lifestyle households," are primarily concerned with fast food action. "They want to be able to prepare and cook small amounts of food conveniently and quickly," Van Orden says.

"But come the weekend, these same people want to demonstrate—for themselves and their friends—their culinary talents in producing all those fine gourmet dishes featured in the home magazines. They want to bake their own bread and cook a wide variety of menu specialties 'from scratch.'"

So to meet these divergent needs, HABD's food preparation products run the gamut from appliances like the Frank-N-Burger® and the Toast-R-Oven® toaster for quick-and-easy meals

(continued next page)



Quick weekday meals are easy with Frank-N-Burger and Toast-R-Oven toaster.

to such products as the new Food Processor, the heavy-duty mixer with dough hooks and the brand-new Peeling Wand[®] electric peeler.

The Peeling Wand, an industry "first" which was introduced at the July Housewares Show, makes peeling vegetables and fruits less of a chore and takes the drudgery out of a food

the demand for convenience products. This means that many items, especially those in the food preparation and personal care categories which were formerly considered 'extras' or 'luxury items,' will become 'basic' or 'essential' in tomorrow's home."

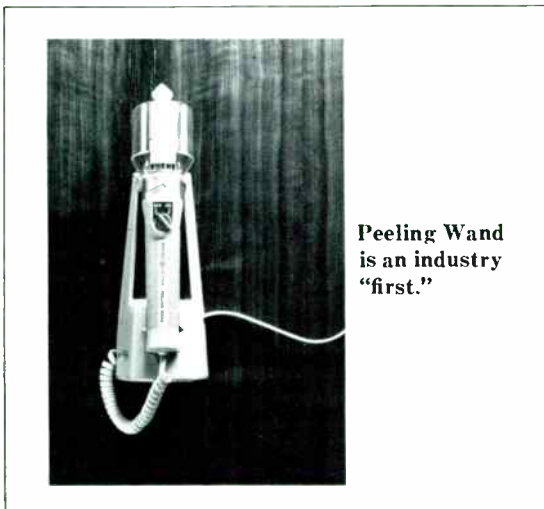
By 1990, market researchers say, 55% of the nation's women will be part of the labor force; 41% of the households will have annual incomes in excess of \$15,000 after taxes; and "colleague lifestyle households" with multiple incomes will reach 33% of the total, with a consequent rise in "effective affluence."

Looking down the road, Van Orden sees, in addition to the impact on food preparation products, two other positive effects of the projected rise in consumer affluence created by two-career households:

- An increase in the market for home safety and security products, such as the Home Sentry[®] smoke alarm and security light. Market research indicates, for example, that primary smoke alarm purchasers are 30-44 years of age, with incomes above \$15,000, and that most of them own their own homes.
- A burgeoning market for personal communication products. "The whole area of personal communication—CB radio is a current example—is still in its infancy," Van Orden says. "It has an enormously exciting future. For example, the concept of a multi-purpose home computer is probably closer to the reality of the mass market than many of us sometimes realize."

He believes that two-career families will shape the growth in consumer markets.

"These 'new consumers' are affluent, educated and discriminating. They tend to purchase what they *want*, and they are willing to pay the

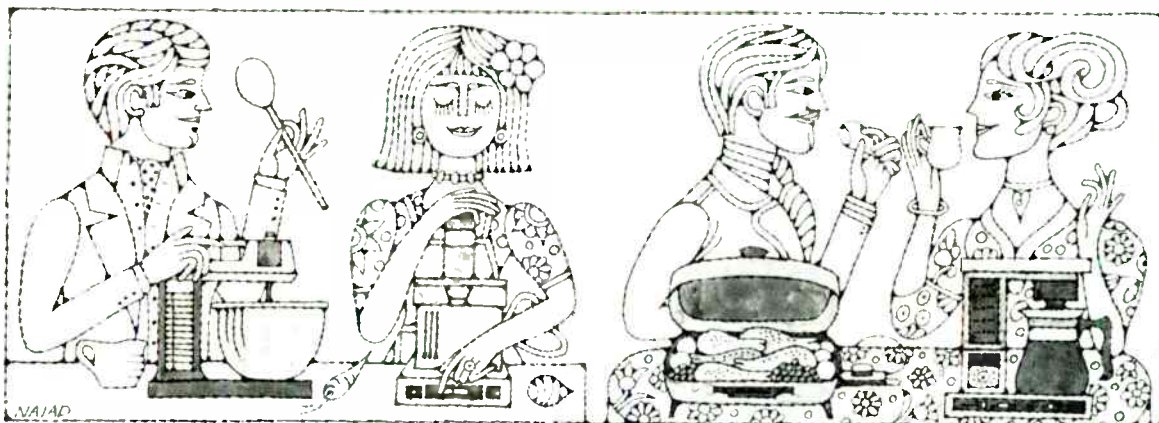


Peeling Wand is an industry "first."

preparation job which market researchers say is one of the most frequently performed tasks in the kitchen—and one of the most disliked.

"Sophisticated and intensive market research is extremely important to us," Van Orden says, "if we are to continue to introduce new products that meet real consumer needs and that are not just novelty items without basic value."

And he points out that the concept of "basic" is changing with the changing lifestyle: "Working wives—and households in which more than one wage-earner shares household tasks—fuel



In working-couple households, appliances help prepare weekend gourmet treats.

price for greater efficiency, availability and reliability. They are seeking self-fulfillment, self-expression and more meaningful interpersonal relationships. And they will be reaching for upgraded quality products—if those

products allow them to lead the kind of life they want.”

It’s a challenge that Van Orden looks forward to meeting with today’s—and tomorrow’s—housewares and audio products. AV

Consumers pick Bright Stik

When it came to fluorescent lighting, Lamp Marketing Department’s research surveys of consumer attitudes turned up both good news and bad news.

The *bad* news was that many homemakers were unhappy about traditional fluorescent units because of the unflattering color of the light, the weight and complexity of the fixtures, and the difficulty of installation and repair.

But the *good* news was that people were definitely aware of the energy cost savings of fluorescent light sources over incandescent, and that they *would* buy a fluorescent unit that solved the “bad news” problems.

Bright Stik® solved them. The one-piece, lightweight, 33-watt fluorescent unit with the warm, pleasing light color needs no separate fixture or wiring, installs in minutes, and is designed to be thrown away when it burns out after

about 5,000 hours of operation. It was test-marketed late in 1976 and went into national distribution this spring. And as the market research had indicated, people bought it—so rapidly, in fact, that 80% of the production originally scheduled for a full one-year period has already been shipped out, and re-orders from dealers across the country are pouring into Cleveland.

“The strength of our distribution and our ability to get the product to point-of-sale quickly accounts for the run-away success of Bright Stik,” according to Michael C. Finn, general manager of the Lamp Marketing Department.

All of which has inspired the Fluorescent Lamp Department to produce a second member of the Bright Stik family—the Bright Stik Gro & Sho® plant light, which was just introduced at the July Housewares Show and will be available to consumers in the fall.



INTERNATIONAL

Seeking new business in Eastern Europe



Viewing the GE Electro '77 exhibit are, l to r: Farangis De Munoz, International Sales Division; Helen Artemenko, Soviet technical liaison manager to USA; Dr. Charles

M. Huggins, R&D Center; Vice Chairman Jack S. Parker; Paul C. Laptev, GE Manager-Moscow Office; Maria Pawluk, R&D Center; and Mrs. Parker.

Moscow's Sheremetyevo Airport surely was never busier than this June when thousands of foreign scientists, engineers and marketing people arrived to attend the Electro '77 industrial trade fair (June 9-23)—as well as the World Electrotechnical Congress (June 21-25).

As an active participant both in the trade fair and at the Congress, General Electric manned its Monogram-emblazoned exhibit with marketing experts, and sent technical representatives to the Congress—18 of whom delivered papers.

Observes VP Richard W. Foxen, Europe Business Division: "Our trade-fair participation was

based on solid commercial objectives—to show our products and capabilities to technical personnel from throughout Eastern Europe. The fair offered a unique opportunity to develop 'live' contacts with knowledgeable people from the Soviet Union and other Comecon [the East European trade association] countries. As for the Congress, it afforded a valuable means of discussing world scientific progress."

Two of four American guests of honor invited to the fair and conference were Vice Chairman Jack S. Parker and VP Arthur M. Bueche, Corporate Research and Development.



As a Deputy Chairman of the International Organizing Committee at the Congress, VP Art Bueche addressed the closing plenary session.

Electro '77 and the World Electrotechnical Congress had strong Company presence.



Located at Sokolniki Park in northeast Moscow, the Electro '77 Soviet pavilion (top) housed by far the largest exhibits. Nineteen U.S. companies displayed equipment in the U.S. pavilion (below).

The GE Electro '77 exhibit carried the theme, "Wherever the World Needs Technology," and included a 30-seat air-conditioned auditorium for audio-visual presentations, a three-screen R&D slide show, panel displays, and two meeting rooms for technical and business discussions.

Electro '77—located at birch-forested Sokolniki Park, an international exhibit site ten minutes by subway from Red Square—comprised exhibits from 23 countries, and was organized by the USSR Chamber of Commerce and Industry, with the support of the USSR Ministry for Electrical Engineering Industries (MEEI).



(continued next page)



As a Congress Deputy Chairman of the International Organizing Committee, VP Art Bueche (center) coordinated with Professor Nikolai Sherechetchevsky (left) of the USSR Ministry for Electrical Engineering Industries (MEEI), assisted by translator (right).

During the two-week fair, some 40-50,000 visitors toured the pavilions daily.

Special GE emphasis was placed on such Company strengths as gas turbines for electric power generation, plastics, mobile radio systems, electrical systems for off-highway vehicles, combined-cycle power plants, medical systems, locomotives and transportation systems—as well as the GE international licensing capability.

Jan M. Garvin, Manager-Eastern Europe Operation, worked with participating Company components to develop the basic concept and funding support needed for such a major undertaking.

Design, construction and transport of the exhibit to Moscow—as well as arrangements for the necessary clearances and interpreters—were coordinated by Carl J. Ossenfort, GE Supervisor-International Exhibits (see accompanying story).

Fair planning and coordination were handled from Brussels by T. M. “Sam” Egbert, Manager-Europe Public Relations, who also managed the Moscow show with Brussels’ Bellamy Schmidt. Paul C. Laptev, GE Manager-Moscow Office, provided on-site assistance and liaison with the Soviet ministries.

Certainly the major event of the 1977 world engineering calendar, Moscow’s World Electro-technical Congress was the first such conference held since the Paris Congress in 1932. VP Art Bueche served as one of three Deputy Chairmen of the International Organizing Committee for the Congress—the only American so chosen.

Supervised by MEEI and the Soviet Academy of Science, with the assistance of the International Electrotechnical Commission, the Congress attracted nearly 2,800 official registrants, and more than 800 papers from 42 different countries were read.

Topical highlights included MHD (magneto-hydrodynamic) generators, ultra-high-voltage

‘Mr. International Exhibits’

GE’s man behind the scene at Moscow’s recent Electro ’77 was Carl J. Ossenfort, Supervisor-International Exhibits. It was he who expedited the design, assembly and delivery of the GE exhibit to Sokolniki Park.

“The U.S. Department of Commerce actually did a lot of the leg work for me in Russia,” notes Ossenfort. “They took temporary possession of the exhibit contents and helped with rapid clearances.”

Still, Murphy’s Law always seems to prevail. “The Moscow airport was so crowded that we had to fly the GE exhibit to Frankfurt, West Germany, and then truck it the rest of the way.


transmission, lasers, superconductivity, micro-electronics, plasma fusion, and electromedical equipment.

Meeting sites for the Congress were spread throughout Moscow, and all plenary sessions were held at the Kremlin. It was here at the closing plenary meeting that VP Art Bueche proposed considering the holding of another Congress in five years, perhaps in another country.

Throughout the fair and Congress, GE officials stressed that increased opportunities for technical exchanges and mutually beneficial trading links between the U.S. and Eastern European

countries have long been a GE goal.

As far back as 1932, the then world's largest hydroelectric generating station, the Dneproges Power Station on Russia's Dnieper River, began operation with five GE generators. That same year, GE also sold specially designed electric locomotives to the USSR for use on the Transcaucasian Sura Mountain Pass. These "Suram" locomotives became the product model of the USSR's giant Kirov locomotive plant.

Notes Garvin: "Our participation at Electro '77 and the Congress was a step toward identifying more areas of mutual interest. We want to win a larger share of East European business, just as in any other market." 



The Commerce Department arranged for the freight handlers at the Russian end."

Ossenfort has handled GE exhibits since 1952, and has been handling international exhibits since 1969. Last year he circumnavigated the globe twice, and can't recall the number of countries he's visited: "It's somewhere between 50 and 60." He's on the road approximately one-fourth of the year.

"Where do I go for vacation? My wife usually lets me sit on the lake bank and fish. We've just completed a little chalet on Vermont's Lake Champlain, and I fish for smallmouth bass,

jack perch and walleye. That, plus skiing in winter."

Ossenfort's job is basically a one-man operation. He buys design and contact support work from Advertising & Sales Promotion Operations; secures product department space commitments and materials; negotiates trade-fair contracts; obtains exhibit construction stateside and offshore; and arranges consolidated shipments from central U.S. and foreign points.

On the road, he's met several famous people. "Last year Yugoslavia's Marshal Tito came over to me at the Athens marine exhibition and began

chatting. I met Prime Minister Callaghan last fall in Birmingham, England, and at Electro '72 in Moscow had several dinners with Texas heart surgeon Dr. Michael DeBakey."

An indication of GE's new East European trade-show thrust is the fact that Ossenfort has been on the go with recent exhibits at the Leipzig Fair (March 13-20) in East Germany, and Poland's Poznan International Fair (June 12-21).

What's ahead for later this year? "I'll soon be retracing my footsteps to Moscow for another fair, and also will be off to a place I've never been—Lagos, Nigeria."

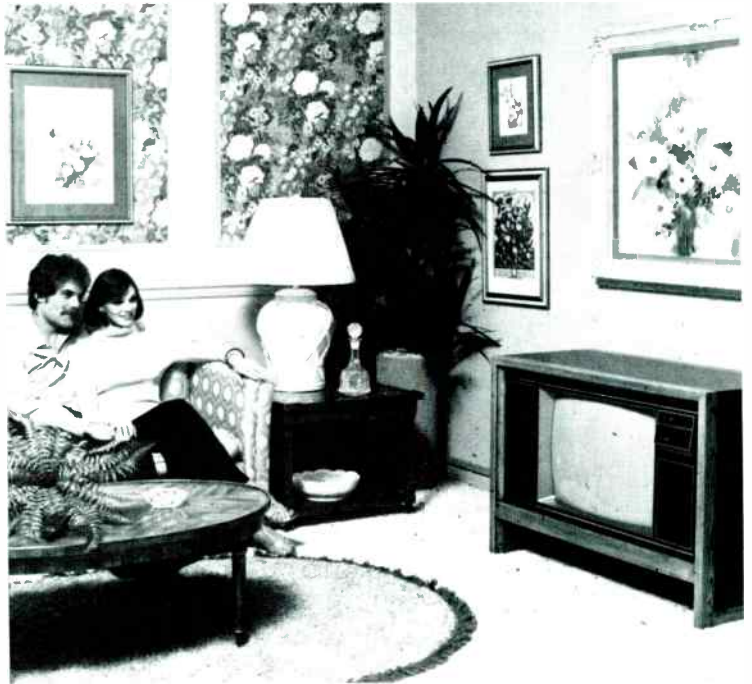
Just off the assembly line



Sit back, press a button
A new remote-control electronic television tuning system which uses invisible infrared light to trigger the TV set's functions is featured on eight 1978 GE Performance Television color sets.

The 15-key remote unit includes an 11-key pad for random-access channel selection. Four keys control "volume up," "volume down," on/off and sound-only off (mute) functions.

Also new in the 1978 line is a light-dependent resistor (LDR) system, which has been added to all 22 VIR "broadcast-controlled" color models. The LDR system automatically varies picture



brightness, contrast and color intensity according to room light-conditions.

Says Fred R. Wellner, General Manager of the Television Business Department: "With VIR 'broadcast-controlled' color, the

new LDR system and the infrared remote-tuning system, GE has combined all the elements for totally automatic color television viewing. All the viewer has to do is sit down in a favorite chair, press a button—and enjoy."



Decorating with distinction

Three new Textolite® high-pressure decorative laminates for vertical or horizontal surfacing have been introduced by the Laminated and Insulating Materials Business Department. The two new woodgrains, Zebra wood (far left) and Koruma (immediate left), suitable for commercial or industrial locations, bring to 27 the number of woodgrain patterns available to designers. McPhee Plaid, a multi-colored cross-plaid design, is easily coordinated with Textolite solid colors for residential or commercial uses.



Conservation-minded meter

To give customers the option of using heavy-load appliances—such as air conditioners, clothes dryers and water heaters—at off-peak rates where available, a new time-of-day meter from Meter and Instrument Business Department (GE Type IR-70) is being introduced this year, with three sets of kilowatt-hour dials to record peak, mid-peak and off-peak use during specific periods of the day, and days of the week.



Better trap for sun's energy

A new high-performance vacuum tube solar collector (Model TC-100) that supplies almost twice the energy provided by conventional flat plate collectors has been developed by Space Division. The individual, tubular-type collectors are connected in series and mounted on a reflective metallic surface to form a single unit, and trapped energy is conducted to a circulating heat-transfer fluid. Lamp Glass Products Department produces the glass tubing.

Keeping an eye on quality

Electronic Systems Products Division's new Optomation[®] Instrument System is designed to automatically inspect and measure parts in a wide range of automated industrial applications—through use of a remote solid-state automation camera that feeds visual information to an inspection decision module.



New heat pumps

Warm-weather air conditioning and cold-weather heating—for offices, schools, hospitals, hotels and motels—are now provided with Room Air Conditioner Department's new Zonline III[®] extended-range heat pumps. The thru-the-wall units come in three different cooling capacities. Also new is a series of high-efficiency two-to-five-ton capacity Executive Weathertron[®] heat pumps from Central Air Conditioning Business Department, which provide an 8-10% efficiency improvement over previous comparably-sized GE Weathertron models.



Fry by computer

A built-in frying computer control that automatically adjusts frying time to compensate for food-shortening temperature changes is featured on 18 new solid-state commercial fryers. Introduced by Food Service Equipment Business Department, the new line is also the first to incorporate advanced micro-processor control technology, which helps in achieving consistent frying quality and easy menu changing—as well as providing greater versatility and conserving energy.

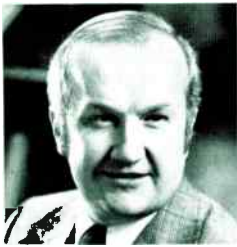


Tracks toxic gases

Designed to protect employees and meet government regulations, the new TVM-1 Toxic Vapor Monitor helps toxic-chemical manufacturers and users detect and track even minute concentrations of some 70 halogen-compound gases. Developed by Instrument Products Operation, at Lynn, and Corporate Research and Development, the unit can monitor areas up to 1000 feet away from its location, and sets off audible and visual alarms when gas levels reach user-selected limits.

'Government doors are more open than you think'

As a GE participant in the President's Executive Interchange Program, Robert M. Moliter, former Manager-Dental Systems Operation for the Medical Systems Business Division, is completing a year's service at the Pentagon. Aware of his earlier years as a GE communicator, the Monogram asked Bob to set down this report from the Potomac, emphasizing the Capital's receptivity to valid business information and viewpoints.



He was tanned, fit and well-groomed. I was pale, tired and needed a haircut. He was the thirty-eighth President of the United States. I wasn't president of anything.

Nevertheless, I sat next to Gerald R. Ford as he talked about his presidency with a group of Presidential Interchange Executives. And while I thought I'd become pretty sophisticated, even a bit cynical about politicians and bureaucrats, I couldn't disguise being charged up for this encounter.

In previous weeks, I had personally received the famous glare of George Meany for asking him about dwindling union membership; had a touchy discussion with then-Secretary of Commerce Elliot Richardson over his Department's Arab-boycott reporting requirements; gotten the Secretary-General of NATO to acknowledge that all other NATO countries contribute far less of their GNP to national defense than does the U.S.; and even discussed Watergate over coffee with *Washington Post* editor Ben Bradlee.

The experience of these and other encounters with government leaders and observers has given me a significantly changed perspective on our government, as well as a wealth of practical knowledge about how to deal with it. I've learned not only how things work, but why they often don't work. I've seen Presidents and Cabinet Secretaries become frustrated by "the sys-

tem," and at the same time have watched middle-management bureaucrats orchestrate this unwieldy federal structure to serve the public quite well.

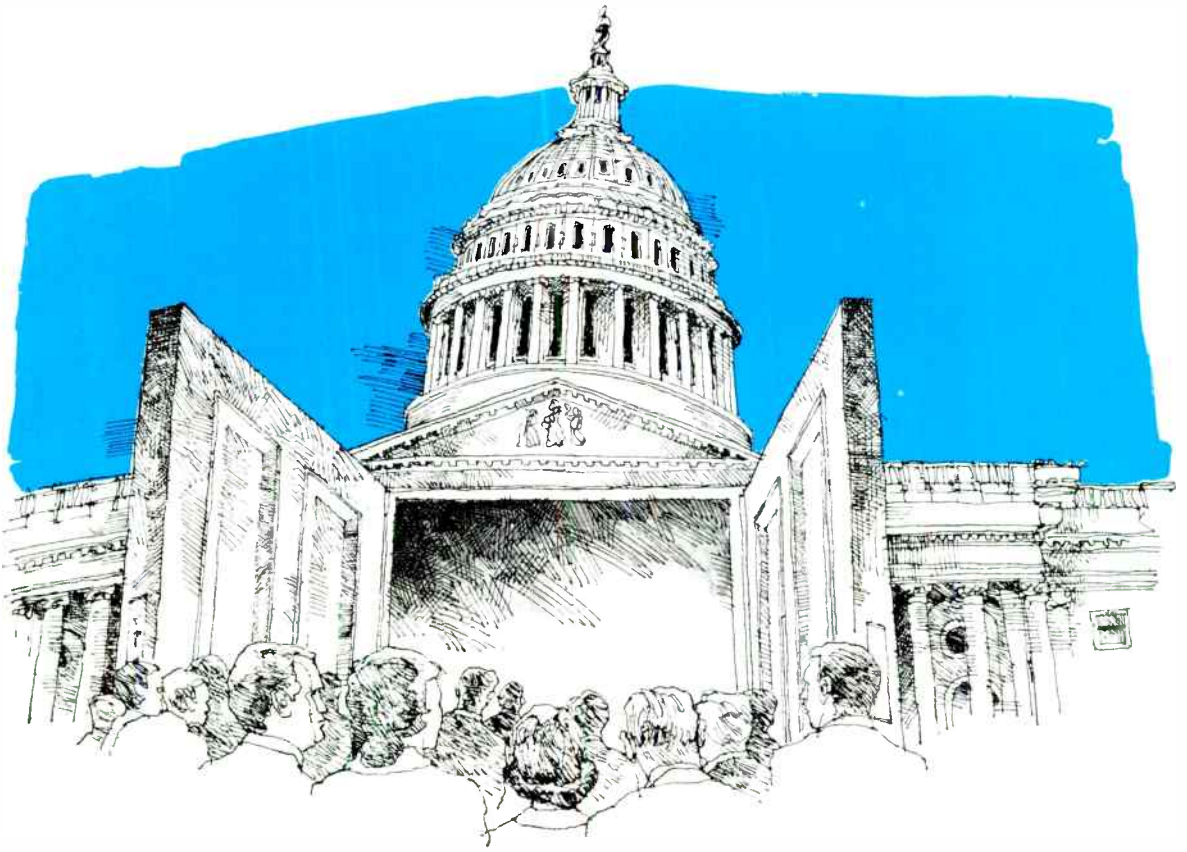
Since government has become an integral partner in all of our businesses—defining our markets for us, specifying product quality, establishing our warranties, regulating factory emissions, reviewing our advertising claims—it is absolutely essential that we learn how to work with, and communicate with, this very active partner.

The consensus in Washington is that businessmen don't do this job very well. Congressmen, agency heads, regulatory commissioners, and congressional staff chiefs invariably comment that businessmen view Washington as the "enemy camp," venturing in only to do battle, and then only with a protective phalanx of attorneys and lobbyists. Thus, businessman/government encounters are almost invariably negative occasions, to be kept as brief and infrequent as possible.

There are exceptions of course, and General Electric—conspicuously at the top level—is one. GE Chairman Reg Jones is one of the most active business spokesmen on the Washington scene. I was especially proud of our Company and Chairman when I observed the extensive documentation which Jones provided in support of his recent economic stimulus recommendations to the congressional budget committees. The fact that those recommendations have quietly seeped into many areas of the nation's economic planning is the best testimony to their effectiveness.

Here are a few pertinent observations on our federal government and its receptivity to information and ideas from business:

- Federal bureaucrats in general are bright and hard-working, hardly the paper-shuffling stereotypes. The higher their position, the harder they work. (Does that sound familiar?)
- Government executives are faced with the same kinds of management tasks, interorganiza-



tional constraints, information gaps and frustrations that confront businessmen.

- Government workers at all levels, in the legislative as well as the executive branch, have a natural bias toward government activism. While you should remember this bias, don't let it inhibit you from suggesting nongovernmental solutions, as this is precisely the perspective that is most needed.

- Helpful information and problem-solving ideas are as welcome in government offices as anywhere. If you can help complete a task, overcome a constraint or fill an information need, you'll be welcomed into almost any government "inner sanctum."

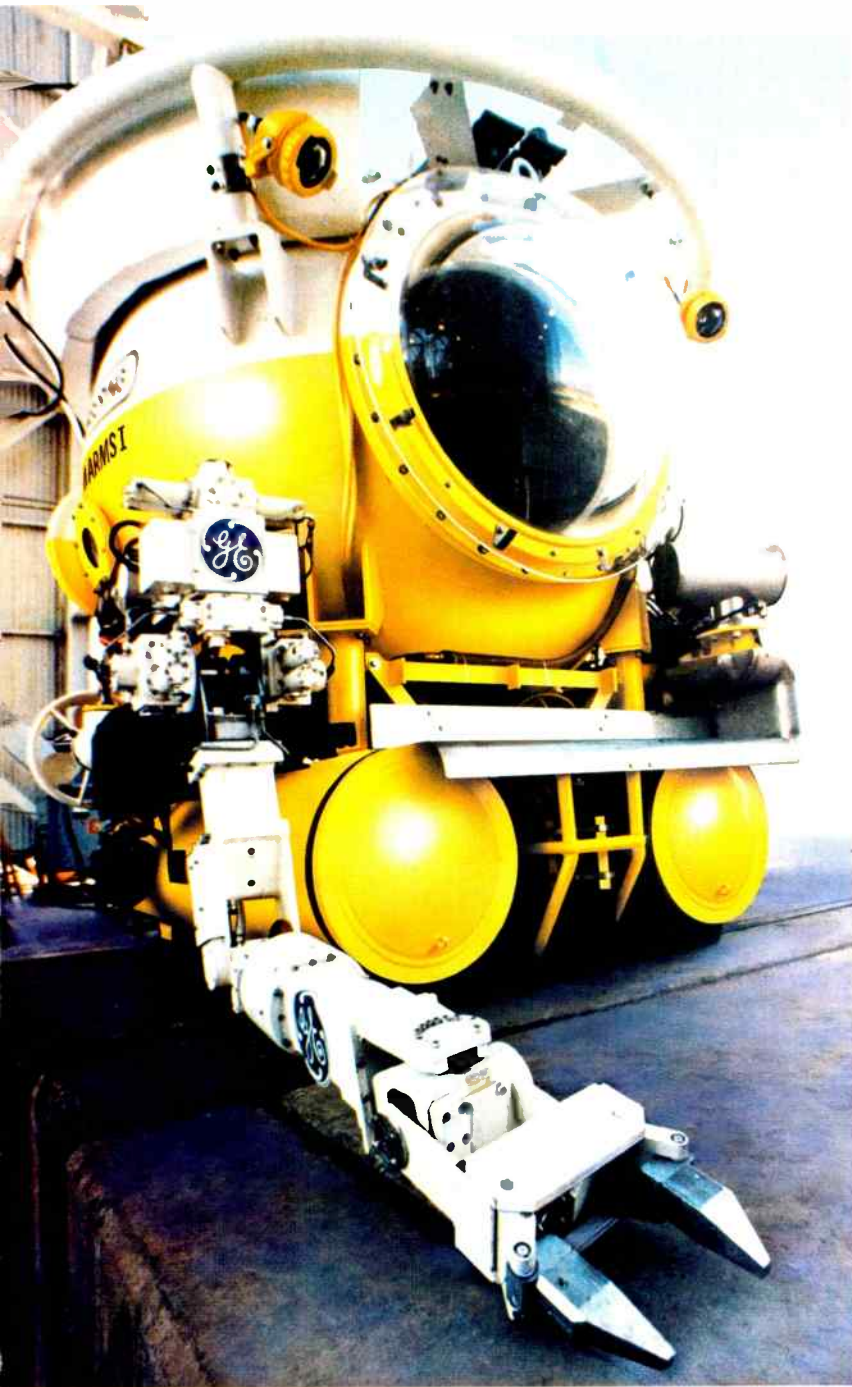
- Similarly, government executives will willingly trade information and ideas with you. Very little federal information is restricted (less today than ever before). When you find the person best able to answer your questions, you've inaugurated the useful process of information-sharing, and promoted understanding and mutual respect.

- Find your way to the right "inner sanctum" by working the telephone. Start with the latest

United States Government Manual and the *Congressional Directory* (both available from the Superintendent of Documents, Government Printing Office, Washington, D. C. 20402) and start calling what *appears* to be the appropriate office. It won't be, but by the second or third call you'll be referred to the right place. (Don't get discouraged. How often do you get calls asking for other parts of GE?) Once you've found the right office, go there and meet with them in person.

Surprisingly, no one knows how the government really works. The federal system has become a terribly large and complex entity. No one person in or out of government knows how the conflicts of legislative power, executive authority, regulatory procedure and judicial review will work their way to a solution on any given issue.

The right idea, the best solution, can generate its own power and seek its own route through the bureaucratic maze. When you think you may have that right idea, try it out. Inject it into the governmental process. You'll be helping your partner, the government, work the way it should. **W**



UNDERSEA "HUMAN ARM." Difficult deep-water tasks can now be performed using this new diving bell, which includes the GE Diver Equivalent Manipulator System (DEMS) "arm" built by Re-entry & Environmental Systems Products Division.

As part of this Atmospheric Roving Manipulator System (ARMS) bell developed by Ocean-eering International, Inc., DEMS consists of a master-control arm located inside the two-man submersible, and a "slave" or task-performing arm mounted outside. The slave arm duplicates the operator's hand and arm motions.

Targeted for offshore oil and gas drilling, as well as salvage and rescue missions, DEMS can perform virtually all tasks that a diver can, including opening and closing valves, drilling and cutting cable. Six motions can be simultaneously coordinated, and the arm reaches more than five feet and can handle a 65-pound load.

The ARMS diving bell is the deepest-rated commercial diving bell ever built in the U.S. (3,000 feet). The first ARMS unit will be installed aboard a North Sea drillship now being built and scheduled for delivery in early 1978.