



GENERAL  **ELECTRIC**
Monogram

NOVEMBER-DECEMBER 1979

Story of an Export

PLUS:

**Make way for ultrasound;
Interactions with China;
Finance program's 60th**

GENERAL ELECTRIC
Monogram

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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 1979, General Electric Company.

THE COMPANY

The story of an export

Sale of twin GE STAG[®] plants in Korea is a type of business the U.S. badly needs. But how is such business won?

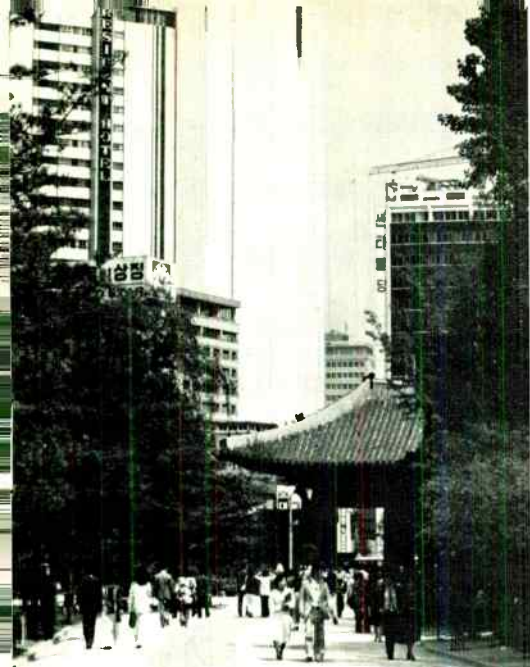
Here's a blow-by-blow account of what it took to secure this landmark order.

In the Republic of Korea, eight new General Electric MS7001B gas turbines and two new GE medium steam turbine-generators are now in service to help meet the burgeoning demands for electricity resulting from the country's impressive record of economic growth. The GE power producers are at two sites—Kunsan in the south and Yongwol in the northern mountains east of Seoul, the nation's capital.

At each site, four gas turbines have been harnessed with a medium steam turbine-generator to form a GE STAG[®] (steam and gas) 400 combined-cycle plant. The two STAG installations provide Korea Electric Co. (KECO) a total rated output of 633 megawatts and its most efficient generating stations.

Manufacture of the equipment for these two plants, valued at \$146 million, has meant more than an estimated 750 man-years of work for GE employees of the Gas Turbine Division in Schenectady, N.Y., the Industrial and Marine Steam Turbine Division (I&MST) in Lynn, Mass., and the International Construction Business Division in New York. What is now Export Sales and Services Division (ESSD) spearheaded the sales effort. Also, the Project Engineering Operation of Installation and Service Engineering Business Division in Schenectady developed the plant design, and I&SE people helped with the training of Koreans to operate the plant. All in all, Korea's twin STAGs have brought challenging work assignments to thousands of GE people in nearly a dozen GE plant communities.

The favorable effects on General Electric from winning this substantial order ripple outward.



Seoul's soaring skyline symbolizes growth needs met by GE STAG plant at Kunsan.

Good experience with GE people in carrying through these projects, and the favorable performance of the equipment, have been factors, GE international trade experts agree, in making sales of other GE apparatus in Korea.

Moreover, the high efficiencies demonstrated by Korea's STAG plants have brought this technology to the attention of many other countries.

On a national scale, the winning of these export orders against aggressive international competition takes on a still larger significance. To help offset the huge outpouring of U.S. dollars for imports, particularly for imported oil, success in export trade has become more critically important than ever. GE Chairman Reginald H. Jones views the challenge as so vital to U.S. economic health that he has agreed to serve as Chairman of the President's Export Council.

The GE Chairman has taken a strong lead in speaking out on the urgency of expanding the country's exports in order to reduce U.S. trade deficits. These deficits, he says, have been a major factor in the decline of the dollar against other currencies, and this decline, in turn, feeds U.S. inflation, since the Consumer Price Index goes up one-and-a-half percent for every ten percent devaluation of the dollar.

Similarly, he notes, failures in winning export orders mean big losses in job creation: "Every billion dollars' worth of exports creates about 40,000 jobs."

And there is, finally, the direct economic loss: "Each billion dollars of exports forgone represents a loss of \$2 billion in gross national prod-

uct and \$400 million in Federal tax revenues."

In view of all these vast layers of significance, how did General Electric succeed in wresting this big export order away from international competitors? How did GE convince KECO to go STAG? What was involved in organizing the GE proposal, negotiating the contract, arranging for financing, and, ultimately, following through on manufacture, delivery and startup?

To determine the answers, the *Monogram* talked with many of the central figures engaged in this project and asked them to reconstruct the sequence of events, the doubts and hopes and, eventually, the exuberant rush to success that characterized this "story of an export."

A dominant impression left by these conversations is how easily the chain of events could have been broken at several points, how often the cause seemed lost, what a near-miss the final success proved to be. A reporter's reaction, in retrospect, is to regard those two STAG plants as monuments to the tenacious drive of the GE people involved and the ingenuity they displayed.

It's hard to determine where the story begins. One starting point came in 1975, when the international-minded Industrial and Marine Steam Turbine Division established a manufacturing-associate arrangement with the Korean manufacturer, Hyundai, for joint production of ship propulsion apparatus. Subsequently, this GE-Hyundai association turned out to be of major importance, in the words of I&MST's Hughes W. Ogilvie, "because our established relationship with Hyundai assured KECO that

(continued next page)

we could meet their needs for local production.”

Momentum toward the eventual order began to pick up in 1975. At that time South Korea was well into its time of phenomenal economic growth and was facing the need to expand its electrical system to meet the projected increases in electrical demand. But the prospects for GE were not bright. The Company hadn't sold any power equipment there for years and had little “presence” in Korea in terms of informed people on the scene.

Nevertheless, the situation looked promising to some GE observers. The first response was a week-long visit to Korea by a GE group simply to look into the business opportunities there. The group was organized by R. Howard Annin, Jr., then president of GE-Japan and responsible for Korea (Annin is now VP-Northeast Regional Relations in Corporate Public Relations Operation), and included Frank D. Kittredge, then manager of Far Eastern Sales Operation for the International Sales Division (now VP and general manager of the Latin American Business Development Division), Costas Sfikas, then sales manager for the Tokyo-based Northeast Asia Region (now manager of the Africa/Middle East Sales Operation), Hughes Ogilvie, general manager—I&MST Marketing Department, and Raymond A. York, general manager—International Licensing Department.

Feeling that the Korean situation was ripe for combined-cycle generation, Sfikas dispatched a special team to Korea to press the case for GE's STAG system. The team reported back that “the Koreans were listening.”

“The KECO people were astute,” Kittredge recalls, “in sizing up a couple of special problems that STAG could help them solve. One was that their load growth was outrunning their generating capacity, so they needed extra generation—fast. The other problem was that they had no indigenous oil, and this made them interested in high-efficiency equipment that could produce the most power from the oil they imported.”

STAG had another major advantage, according to Kittredge. “That was, the gas turbines could be brought on line within a year of the receipt of the order. Then the heat recovery steam generators and steam turbines could be added to increase the system's efficiency and output. For every kilowatt of gas-turbine power generated, you can recover sufficient heat for one-half kilowatt of steam-turbine generation.”

The Koreans were interested, but it would be months before their interest led to a firm commitment. For GE, the problem of not having a

knowledgeable full-time representative on the scene was seen as hobbling the whole effort. “Fortunately,” Kittredge notes, “we were able to employ a former U.S. foreign service officer in the country, Thomas P. Crowley, who opened a GE liaison office in Seoul in March 1976. He guided us through the complexities of government and industry there. Incidentally, Crowley is now GE's manager of International Trade Policy Communications, working with Reg Jones on the President's Export Council.”

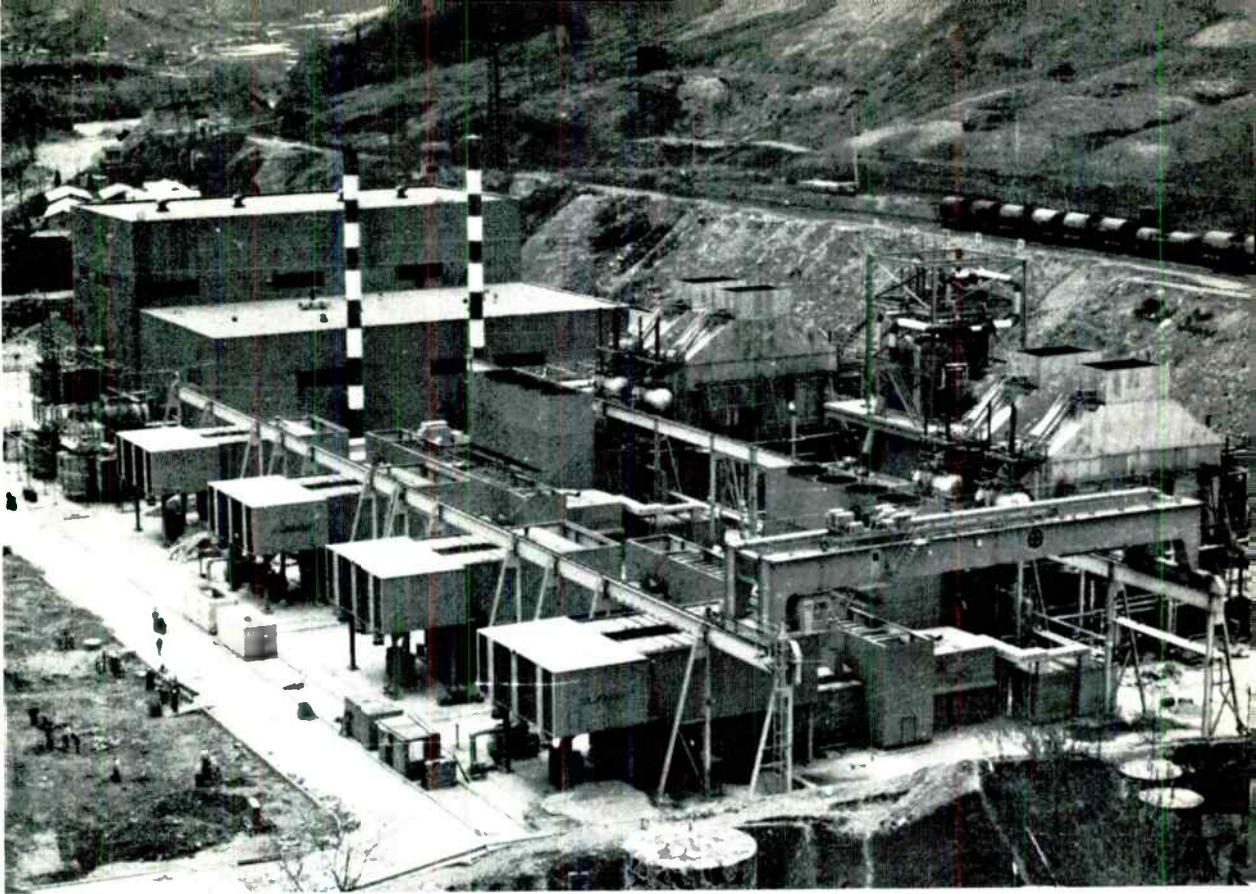
Another problem was that in urging STAG as a viable solution for Korea, the GE team was promoting a relatively new concept. Observes Douglas M. Todd, then with I&MST and now manager of STAG Market Development in the Gas Turbine Division: “Until 1974, we had decided that because this technology was considered so new and different, we had better concentrate on building plants in the U.S. before we launched any great marketing campaign overseas. Our first large plants went on stream in 1974 and really demonstrated their efficiency. We were ready to go overseas, but, understandably, it took the Koreans quite a while to be convinced.”

A third knotty problem was that of “localization.” Explains Richard M. Kleinhans, counsel then for ESSD and now for Latin American Operations: “The Korean government insisted that some part of the total order had to be produced in Korea. They wanted this local production in order to supply work for their people, to reduce the impact on their balance-of-payments and to improve their technology.”

This is where the past manufacturing-associate relationship with Hyundai saved the day. Says Kleinhans: “It was decided that Hyundai could be the subcontractor building the heat recovery steam generators and some of the gas turbine ancillary equipment. Hyundai, too, was looking toward the future and an association with General Electric in building steam turbines. Hyundai pulled off an amazing feat—they built both the factory *and* the equipment in a year's time. General Electric has since signed a licensing agreement with them that has already led to several orders for steam turbine units to be jointly manufactured.”

By February of 1976, KECO had decided that combined-cycle generation *was* their answer and invited bids.

Todd recalls: “We had heard how other governments, in contrast to the U.S. Government, pitch in to help their international traders. Now we saw it close-up. Competitors had their countries' diplomats, even their ambassadors, as



Korea's second STAG plant, at Yongwol, provides high-efficiency generation.

well as their leading bankers, in there working to influence the negotiations.”

In making its bid, the GE team had to integrate the offerings of several businesses. There were three GE operations involved—Gas Turbine, Industrial and Marine Steam Turbine, and the International Projects Department. To make the GE bid competitive, a risk-sharing arrangement was worked out—“setting the stage,” says L. Jaime Saldarriaga, manager of International Electric Utility Sales, “for what has now become a standard approach to selling multicomponent projects in the international market.”

Negotiations now were intense. Saldarriaga remembers that “after an all-day session, we moved into suites set up in a hotel and resumed negotiating with KECO at 6 p.m. Our session went on all night. By 7 a.m. we had reached sufficient agreement to submit a letter of intent for the approval of the KECO president. Even so, negotiations went on for another 12 hours before final agreement was reached.”

Financing was a special problem. Says Lee F. Caulfield, manager—ESSD’s Electric Utility Gas Turbine Sales: “We were competing against a firm that had the backing of Swiss banks, enjoying low Swiss interest rates and exchange-rate protection. Also, the U.S. Export-Import

Bank policies allowed the bank to finance only 40% of the total U.S. costs. Ultimately the financing package worked out by KECO with the aid of GE financial people involved not only the Ex-Im Bank but also a syndicate of 19 U.S. commercial banks.”

A letter of intent was received by General Electric in May 1976. “But this didn’t mean an end to the negotiations,” Ogilvie recalls. “The KECO people were like good businessmen everywhere—they didn’t want to sign a contract until they were assured a reasonable agreement on every major point.”

A special problem cropped up in the legal area, as described by Kleinhans: “The localization program made it necessary to define the tax liability situation between GE and the Korean government. Our solution to this was to form a GETSCO subsidiary. To name it, we took the first syllable from the site of each plant and formed Kun-Yong of Korea, Ltd. (KYL), a New York corporation.”

The contract was signed on July 14, 1976, and a management team was organized for the project. This was headed up by Frank S. Dioguardi of the International Projects Department, with a project manager representing each GE component—James L. Stafford for GTD, Virgil C.

(continued next page)

Strode for I&MST, and Raymond C. Arendt for IPD. In addition, a management steering committee, formed to backstop major problems, included William G. Taylor for GTD, John G. Weigel for I&MST, and Daniel J. Walsh for IPD.


Problems persisted. At the sites, construction by a local builder fell behind schedule. And the Korean firm chosen by KECO for transportation found that it lacked the facilities to handle some of the large equipment. Design changes were made to accommodate the available facilities.

Nevertheless, says John Weigel, "All of the GE equipment was shipped on time or ahead of time, and it not only met the performance guarantees but surpassed them."

Training of Korean operators had to be implemented as the installation work progressed. Says Gas Turbine's Jim Stafford: "Training programs were conducted both in the U.S. and on the sites in Korea. We gave them training in equipment operations and maintenance. One engineer was trained for ten months to be an architect-engineer, and two men received purchasing/contract training."

As the result of these efforts, the STAG plants today are in successful operation, feeding their output into KECO's grid. And Korea is a much busier scene for General Electric: the GE Korea Liaison Office in Seoul hums with proposal activity.

What do these successes in Korea mean in terms of future STAG orders? Doug Todd answers: "The Korean project showed that we can handle STAG projects halfway around the world. It added to our performance experience and has already been instrumental in winning additional business. Many countries today that must use gas or oil are prime candidates for combined-cycle generation for the same reasons that impelled Korea to go STAG—it's the most efficient way to use these fuels."

Tom Crowley, trained in Korean customs and traditions and, since 1976, deepening his experience with General Electric, sums up the retrospective view: "The GE team came out of this project with a greater comprehension of what it takes to be a successful competitor for large, complex Far East orders. The GE people gained invaluable experience in developing customer relations across very different cultural boundaries. And the experience sharpened our approach to managing large, multiproduct projects. Our experience with the Korean STAG plants helped, I feel sure, to move General Electric toward being a more effective international Company." 

WASHINGTON: 'Issue-oriented— it needs business viewpoint'

GE Constituent Relationship Program helps keep legislators apprised of vital business concerns through contacts by operation managers.

"The 96th Congress is issue-oriented, and legislators are increasingly motivated by single issues and the concerns of individual constituents at the grassroots level. Thus, it is very appropriate for business to present its positions on matters of major business importance." The speaker is VP Phillips S. Peter, head of General Electric's Washington Corporate Office. "New members of Congress are impatient, and they reject the old rule that to 'get along' on Capitol Hill, a new member should 'go along.' The erosion of the Congressional seniority system has fragmented the power, and this has given new members more freedom. As a result, Congress is more unpredictable, and business must communicate its side or get lost in the shuffle."

Interviewed by the *Monogram* at the fifth annual GE Constituent Relationship Managers' Meeting Oct. 18-19 at Washington's Capital Hilton Hotel, Peter stresses the importance for GE in declaring its point of view. "Congress is increasingly new, with about half of the House and Senate having been elected in the last four years. Further, the average age of the 77 new Representatives and 20 new Senators who were elected in 1978 is 41. So it is a younger Congress."

One result of this newer and younger Congress, Peter says, is that the members are more inexperienced, since only 12% of them have served 20 years or more. "Some of these newcomers have had little business experience. Given the independence of Congress today, the business community must bring its story on key issues to a much larger number of members than was the case when party discipline and powerful committee chairmen were in vogue."

The Constituent Relationship Program's purpose is to establish effective exchanges between GE managers and their Representatives and Senators from areas where the Company has—



GE Washington meeting speakers included (l to r): Sen. William V. Roth and Presidential Assistant Anne Wexler. At reception: relationship managers Edward G. Hartmayer (l) and Peter M. Lubin with Reg Jones.

from a Congressional member's perspective—a significant number of employees.

Peter continues: "The Company must carefully pick its issues, and then go forth with realistic arguments that are written in clear layman's language and backed up by credible details. Our approach is straightforward, legal and ethical. We ask our constituent relationship managers to meet with their Congressional contacts, listen to their views, and then tell the legislators of GE's successes and concerns in their districts or states. *Together*, they discuss the local effect on investment and jobs."

Board Chairman Reginald H. Jones addressed the constituent managers' dinner meeting on Oct. 18: "I'm terribly proud of you. We are making genuine progress in terms of building a better climate for private enterprise in Washington. The present inflation is a miserable problem, but it forces everybody to take economic issues seriously. We have seen a broad consensus developing in favor of fiscal restraint, tax cuts rather than Government spending, and incentives for capital investment."

Acknowledging Chairman Jones as "a leading national spokesman for business whom President Carter regularly turns to for advice," Presi-

dential Assistant Anne Wexler was one of several persons on the Washington scene who spoke at the GE constituent relationship meeting.

Pulitzer Prize-winning columnist David S. Broder of *The Washington Post*, commenting on Washington's fragmented political system, told the group that "Congress is finding it hard to assemble a majority coalition to move the country. The old merging and melding mechanisms are disappearing, and the prevalent attitude seems to be, 'you take care of yourself—I'll take care of myself.' We need a binding process of government in Washington, based on commitments firmly kept."

Chairman Jones, noting this new political environment in the nation's capital, has underscored before various audiences the need for "business to alert legislators well ahead of time to matters of interest to their constituents."

He emphasizes that "political sophistication is one of the important qualifications by which future business leaders will be selected. Constituent relations work is one of the most effective tools that the Company has. Its constituent relationship managers are on the 'forward edge' of General Electric management, helping GE and the business community urge responsible actions in the public interest." □

Other prominent speakers at GE constituent relationship meeting (l to r): Rep. James R. Jones, Rep. Dan Rostenkowski and *Washington Post* columnist David S. Broder.



The Utah Foundation: saying thanks 'Down Under'

"As a developer of Australia's natural resources, we can be only as effective as the society and environment in which we function. We derive benefits from Australia, so we intend to keep paying our way and helping to improve the quality of life."

The speaker: Timothy R. Winterer, VP and general manager of Utah Development Company, the Australian subsidiary of Utah International Inc., General Electric's natural resources affiliate (and a VP of Utah International). He notes: "In 1975 — as a response to the requests for financial aid which Utah was receiving from social, educational and charitable groups — we set up the Utah Foundation to support meritorious projects."

The Foundation, an autonomous trust with all resources detached from those of Utah Development Company, was formed during a difficult economic period for Australia. There had been government cutbacks on social services, and

inflation was creating problems for schools and community agencies. Says Foundation Chairman Sir Walter B. Campbell, a Queensland Supreme Court justice: "The Foundation's first-year budget of \$480,000 was distributed to a wide range of groups that urgently needed funds. A Board of Governors—Australian residents selected for their wide range of community interests and expertise in dispersing grants—made the awards."

With a current budget of \$840,000, the Utah Foundation is expanding its philanthropic activities. A sampling of programs supported includes (counterclockwise):

Medical research. A gas chromatograph-mass spectrometer, used in drug research for the treatment of migraine and nervous-system disorders, was purchased by Brisbane's University of Queensland, using a \$123,336 Foundation grant. Shown below: the department of medicine's Dr. Mervyn Eadie.

Scientific research. Until a \$15,200 Foundation grant helped establish the Eyre Bird Observatory, there were *no* bird observatories in Australia. Now, researchers are studying the many unusual birds of the Nullarbor Plain. Below, an observatory warden prepares a shrikethrush for banding.

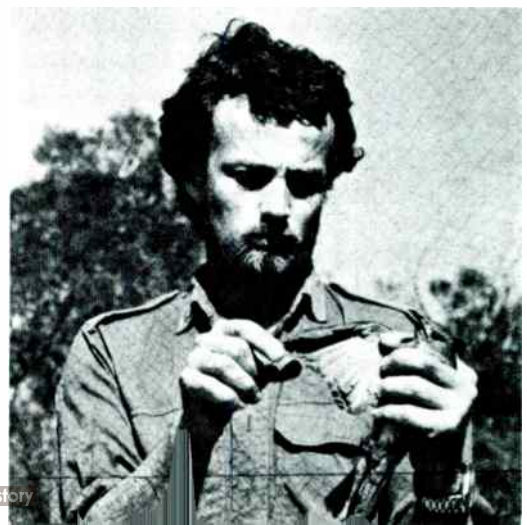
Environmental research. To study wind and ocean turbulences off the coast of northwest Australia, Victoria's Monash University needed a boat to transport crews and equipment to its floating lab. The Foundation provided \$22,400 for the vessel *Triton*, pictured here.

Visual arts. A traveling art exhibit can bring a great collection of paintings to Australia's far-flung reaches. To help the Australian Exhibitions Trust "tour" a number of art works from New Zealand, the Foundation made a \$33,600 grant. At far right: Queensland Art Gallery director Raoul Mellish inspects the art collection.

Medical research



Scientific research






Performing arts

Social welfare. The Royal Flying Doctor Service provides medical services to the sparse Australian "outback." In 1978, it appealed for donations to buy two airplanes and medical equipment. The Foundation launched a fund drive with a \$56,000 grant. Dr. Angela Sungaila (right, on ground) oversees the loading of a patient.



Social welfare

Performing arts. In 1976, to keep the financially pressed Australian Opera Company from its last curtain call, the Foundation gave \$56,000. This year, the Foundation granted \$56,000 to a program for high school students. Above, Dame Joan Sutherland is seen onstage in Verdi's "La Traviata." 

Visual arts

Environmental research



INTERACTIONS WITH CHINA



Improvement of relations between People's Republic of China and U.S. is opening up opportunities for U.S. business generally—and for GE specifically.

The newest chapter in a General Electric association with the Chinese people dating back some 73 years was opened this May with the naming of Hong Kong's Richard E. Kask to be the "GE country manager" for the People's Republic of China, responsible for coordinating all of the Company's activities in that country. The Company's business contacts with this remarkable nation of some 950 million people go back to 1906 during the Ch'ing Dynasty,

increased during the 1920s and 1930s, and resumed in 1973 after being interrupted by the Chinese revolution in the late 1940s.

For Dick Kask—who was born in Shanghai in 1931 and spent the first 15 years of his life there—this truly is a trip "home."

In 1921, Kask's father, a European emigrant who settled in China after World War I, was hired by Andersen, Meyer & Company, the wholly owned subsidiary of General Electric

in China. By that time, GE had a considerable business presence in the Middle Kingdom. In bustling Shanghai, for example, where Kask's father was employed as an engineer, the municipal electric department was using GE turbine-generators, transformers, switchboards, synchronous condensers, and induction regulators and motors to operate its Riverside electric power plant—the largest in the Far East. The locally based China General Edison Company was producing four-to-five million lamps a year.

When his family relocated to the U.S. in 1946 following the war years of Japanese occupation, Kask never expected to return. But in May 1973, following the renewal of ties between Beijing (Peking) and Washington, the Company asked him to lead the first GE trade delegation to the People's Republic. Numerous GE contacts with the PRC have taken place since then, with GE delegations travel-



Standing atop China's Great Wall during recent trip to the PRC, GE VP Jim Birle (second from right)—accompanied by GE's Dick Kask (second from left) and Ed Naylor—were hosted by Chiang Hua Cheng (l) and Li Teh Hsin. Below: GE Senior VP Robert Kurtz discusses manufacturing technology in Tientsin.



China's Minister Tang Ke (second from right) of the Ministry for Metallurgic Industry led a group to Salem's Drive Systems Department in March for meetings and a plant tour. VP Eugene J. Kovarik (on Minister's right), general manager—Motors and Drives Business Division, hosted the sessions.



ing to China, and vice versa.

“China’s ambitious economic plans are still evolving, but we know that the PRC is gathering itself for a prodigious boost in industrial output,” states Kask. **“For an American firm such as General Electric, which manufactures high-technology equipment, business events in China have long-term importance. The Company is therefore actively seeking contacts with this developing Far East giant.”**

Kask observes that the Four Modernizations—of agriculture, science and technology, industry and defense—remain the pillars of PRC national policy, but priorities are shifting: **“Instead of concentrating mainly on building up heavy industries, the Chinese leadership now wants to emphasize electric-power development, coal and oil production, transportation, home and school construction, and light manufacturing.”**

The PRC’s original economic goals, unveiled over a year ago, called for China to spend a staggering \$600 billion between 1978 and 1985. **“Imports were to have grown by at least 15% a year and to have totaled at least \$140 billion during this period,”** Kask remarks. **“Overall, 120 major projects, including new steel**

In charge of Beijing University’s radiology department, Dr. K. C. Lee (c) headed a Chinese delegation which attended summer seminar at Milwaukee’s Medical Systems Business Division.



plants, nonferrous metal complexes, oil and gas fields, power stations, railways, harbors and coal mines, would have been under way or finished by 1985.”

China recently determined that its “digestion rate” for the equipment and technology required to restructure its economy will require a more realistic timetable, Kask notes.

“Many exciting business opportunities with the People’s Republic of China are being explored by General Electric, and we continue to supply China with a number of GE products through original equipment manufacturers and direct sales,” says VP James R. Birle, who is general manager of Far East Area Division—and Dick Kask’s boss. **“Since 1973, when the PRC first invited us to Beijing for trade talks, we have exchanged numerous delegation visits. General Electric products have been displayed at the Canton Trade Fair.”**

He continues: **“The Company is now actively examining other areas of possible cooperation with China—through sales of plant engineering, production equipment and manufacturing know-how, licensing and technical agreements, etc.—that would include the transfers of technology needed to help improve China’s capability.”**

Among examples of recent Company contacts with the People’s Republic:

- **Offshore oil drilling.** Chinese oil production is receiving major emphasis. Helping do the job are GE drilling motors, marine AC generators, transformers and DC control systems that are operating or on order to power drill rigs in the South China and Yellow Seas.

The drilling motors are supplied by Erie’s Transportation Equipment Products Department; the AC generators by

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Cleveland’s Chen Chen: visiting Foo-Chow after 30 years

“I didn’t know what to expect. A friend who had visited there four years ago recommended I purchase packages for my relatives containing clothing, canned food and other items. When I arrived, they politely accepted the packages, but told me they didn’t need those things. What they really wanted was a color television set. My native city had changed that much in four years!”

The speaker is Cleveland’s Chen Y. Chen, a senior designer and project leader with Lighting Business Group. Shown with sons Dan (left) and Steve this summer on the Great Wall during his pilgrimage back to China after 30 years, Chen notes that he was able to mingle freely with the people. **“I took my sons to Foo-Chow, the coastal city where I grew up. My five half-sisters, four half-brothers and numerous cousins still live there, some of them in the house where I lived as a boy.”**

Chen remarks: **“China has come a long way. On one day of our stay in Foo-Chow, we visited my former high school. The school supplied my sons with an interpreter and let them sit in on a chemistry and math class. Dan and Steve later told me the subjects being taught were at the same level as in schools in the U.S.”**

Schenectady's Large Motor and Generator Department; the transformers by Ft. Wayne's Specialty Transformer Business Department; and the silicon-controlled rectifier units that provide DC power, by Salem's Drive Systems Department.

• *Coal and mineral production.* China's good earth contains abundant natural wealth. GE operations are exploring various business opportunities with the PRC, in such areas as mining and mining equipment, milling, mineral exploration and raw-materials acquisition.

Utah International Inc., GE's natural resources affiliate, has been approached by PRC representatives to provide technical assistance at one of China's mammoth new coal operations. Early this year, a delegation of PRC mining engineers, professors and political leaders toured Utah's Navajo coal mine near Farmington, N.M., and a Utah group has just returned from the PRC, where they toured mine, rail and port facilities.

Erie's DC Motor and Generator Department, since 1975, has been supplying the PRC with such mining equipment as GE electric drives to power rotary blast hole drills, and motor-generators and drive motors for draglines and loader shovels. Transportation Equipment Products has furnished motorized wheels for large trucks.

Detroit's Carboly Systems Department and Cleveland's Refractory Metals Products Department have sent people to the PRC with a view to technology transfer and assistance for China in producing tungsten powder and tungsten-carbide inserts—used in metal cutting, woodworking and drilling.

"A new GE advertising campaign for the China market, developed for Export Sales and Services Division, was launched

in the September issue of the Beijing-based *Modern Engineering Technology* magazine," states Kask. "The People's Republic of China is seeking information on the most current technologies and equipment available. General Electric messages point out the Company's 100-year commitment to technological leadership, its ranking as one of the world's largest industrial manufacturers, and its broad scope of capabilities."

Kask is optimistic about GE prospects for business cooperation with China—not only in the areas listed earlier, but also in transportation, power generation, high-voltage technology, wire and cable production, and others: "The PRC's medical diagnostic imaging market is burgeoning, and the Chinese are interested in Medical Systems Business Division's CT scanner system as well as its x-ray, dental, nuclear and other monitoring equipment.

"The PRC is economically astir and receptive to work with the West," Kask says. "Under a great national enterprise, comparable perhaps to the building of the Great Wall, China is extolling the value to its citizenry in achieving greater technological sophistication."

Comments Honolulu's Edward G. Naylor, manager-Far East Relations—People's Republic of China, who with Kask helped establish General Electric's first contacts with the PRC: "Certain U.S.-China concerns still must be ironed out—for example, Most Favored Nation economic status for China, and China's adoption of some sort of patent, copyright and tax laws—but progress is clearly taking place. We look forward to a long-term exchange of contacts with the People's Republic. Every Company Sector should be able to participate." 



New York's Ben Liu: 53 years later, home to Toi-Sun

For GE retiree Ben Y. Liu of Hartsdale, N.Y., last March marked a return to his roots, a renewal of family ties and a firsthand experience of life in today's China.

It was in 1926 that his father urged Liu—now a retired project manager with New York's Export Sales and Services Division—to leave his village of Toi-Sun near Canton and embark upon a trip to the U.S. to make his fortune. The elder Liu also had come to America to work, in the early 1900s, and had accumulated some money before returning home.

Ben Liu arrived in Seattle at age 13, later learned English, earned two university degrees, married and raised three children, and pursued a successful career as a GE electrical engineer. This March, after 53 years away, Liu went back home.

"It is no exaggeration to say the whole village was waiting to greet me when I arrived," remarks Liu. "The area's society of engineers and scientists asked me to discuss the state of U.S. engineering with them. People were very friendly."

Compared with Chen's relatives in urbanized Foo-Chow, Liu's relatives are less well off in this more rural China. "Basic foodstuffs and clothing are available, but not many luxuries," notes Liu. "Agriculture has prospered, though. There is much more land under cultivation today, and the irrigation systems are exceptionally good."

'Centennial of Light' finale

Led by Lighting Business Group, a yearlong celebration of the 100th birthday of Edison's light bulb draws to a close.



With 2,000 persons watching on closed circuit TV, Madeline Edison Sloan and William C. Ford (c) reenact the light bulb invention, with the help of Greenfield Village's Robert Koolakian.



Oct. 21, 1979: Cleveland's Severance Hall was jammed. Intermission was over, but the Cleveland Orchestra was not on stage. Instead, a huge 24-foot television screen was lowered

from the fly space above the stage. The music hall was darkened. The screen flickered with images. The 2,000 people in the hall, employees and guests of General Electric's Lighting Business Group, began seeing a 1929 dramatization of Thomas A. Edison's invention of the incandescent light bulb, starring Edison, Henry Ford and President Herbert Hoover. Then, via closed-circuit TV, live reenactment of the invention from Greenfield Village, Mich., followed, featuring the great-granddaughter of Edison and the grandson of Henry Ford. The TV segments over, the orchestra filed back to its seats and resumed its concert, "Salute to 100 Years of Light."

The concert, and the reenactments of the Oct. 21, 1879, invention, were the culmination of an international yearlong celebration of "The Centennial of Light" which included GE, schools, the media and scientific organizations

around the world.

Spearheaded by Nela Park's Lighting Business Group (LBG), GE's celebration centered on efforts to rekindle in the hearts of America's youth the inventive spirit of Edison. Throughout the year, LBG sponsored and hosted many centennial observances including:

- A symposium at Nela Park where 102 Edison scholars talked and listened to outstanding scientific people, among them GE's Nobel Prize-winning biophysicist Dr. Ivar Giaever.
- A nationwide essay contest to find out "Why today's Edisons are needed in tomorrow's world." The winner, Ranae Ross of Conneaut, Ohio, answered: "The years of research for a better tomorrow must begin today. The world's existence depends upon the Edisons of today."
- Participation in the Edison Birthday Symposium at Disney World, where LBG sponsored 13 student-teacher teams.

A highlight of the centennial is still to occur: PBS Network's "Legacy of a Genius." The one-hour broadcast about Edison, set for Dec. 29 at 8 p.m. (ET), features an interview of GE Chairman Reginald H. Jones by Eric Sevareid.

Monographs



Quiet truck. With today's resurgence of interest in electric vehicles, Burlington's Plant Services Operation recently asked Schenectady's R&D Center if it could borrow the Center's "Q-T Van" (for quiet truck)—to be used as an experimental shuttle vehicle between GE's Burlington plants. The test van was built in 1970-72.

Pictured: employees Ray Piche (left) and Steve Blair.

Hooray for longevity. Celebrating his 50th year with GE, New York's George H. Smith takes gleeful note of one of the appurtenances of "George Smith Day" at his office—the renaming of Lexington Avenue in front of the GE building to "Smith Street" for the day. "When I left school to go to work for GE's international business arm, I hardly expected to spend 50 years there, but new opportunities kept arising!" says Smith, an Export Sales and Services Division manager.

A second GE employee, Joseph A. Cappello of Schenectady Utilities Operation's mailing component, also recently celebrated his golden anniversary with GE.

Smith and Cappello may be the last persons to achieve a



golden recognition with the Company by age 65.

Both men retire this fall.



Kudos for manufacturing. A new GE award that bestows recognition upon outstanding manufacturing people has been established by Corporate Consulting Services. One founder of the GE Manufacturing Awards, Schenectady's Dr. Jules A. Mirabal, notes: "The accomplishments of GE manufacturing people merit the creation of an honor which lauds their contributions in increasing the

Company's productivity."

Recently, at a Company-wide manufacturing productivity conference in San Diego, the five 1979 award winners were congratulated by Senior VP Robert B. Kurtz (right), Corporate Production and Operating Services. Recipients (l to r): James W. Morton, R. Steven Gross, Donald A. Hall, Felix C. Fabrizio and William J.G. Hawes.

Health fair. Detecting health problems early is crucial. That's why Auburn, N.Y.'s Semiconductor Products Department sponsored a "health fair" where free x-rays and blood-pressure, glaucoma and diabetes tests were offered to 800 employees and their families.

Were the exams worth it? One female employee was discovered to have a tumor and, soon afterward, had an operation. A male employee was found to have a rare eye problem and received prompt care.

Shown below: student nurse administering blood-pressure test to SPD's Emmett Russell.



Coping with inflation (COIN).

“To help General Electric succeed, you will have to understand inflation, realize how it distorts financial data, learn how to minimize its impact—even learn to take advantage of its opportunities.” So stated Board Chairman Reginald H. Jones this fall at Crotonville during the first Effectively Coping With Inflation (COIN) seminar for senior General Electric managers.

Praising COIN's objectives of “helping GE managers understand and respond to chronic, high inflation,” Jones told the 50-member seminar that “inflation has many distorting effects on business. It has so befogged conventional financial statements that managers have great difficulty in plotting their present positions, to say nothing of courses for the future.”

The Chairman reminded listeners that “the Financial Accounting Standards Board will require large companies to



provide supplementary statistics on an inflation-adjusted basis in their next annual

reports. I'm convinced that our success will depend increasingly on our understanding and use of the new measurements.”

At left, Jones receives a COIN memento from VP Terence E. McClary, Corporate Financial Administration. According to COIN course director Ted C. Doty, manager—Corporate Financial Planning and Analysis Staff, five more seminars are being held this fall in Crotonville, and there are plans to take COIN to major field locations in 1980.

Honors. VP Douglas S. Moore (right), Corporate Public Relations Operation, has received the Elfun Society's 1979 Gerard Swope Award, the highest honor bestowed upon a member.

- Senior VP Arthur M. Bueche, Corporate Technology, has been appointed Honorary Emeritus Member of the Metal Properties Council.
- VP Marion S. Kellogg, Corporate Consulting Services, has

received the Achievement Award of the Women's Equity Action League.

- John H. Moore, president of Utah International's Ladd Petroleum Corporation, has been elected to a one-year term as head of the Rocky Mountain Oil and Gas Association.
- The R&D Center's Dr. Robert L. Fleischer has received a NASA Award for his geological work in the lunar program.



A truckin' Governor. What was Mississippi Governor Clifford Finch doing driving a rig loaded with GE lamps?

It all started when some independent truckers challenged Gov. Finch to experience their truckers' woes when driving their rigs cross-country. Finch took up the gauntlet, got into

the cab of a truck loaded with fluorescent lamps from Lighting Business Group's Jackson lamp plant, and helped deliver them to Los Angeles.

Said Finch later: “I learned more about truckers' problems in 24 hours than I could have learned in 10 years of sitting behind a desk!”

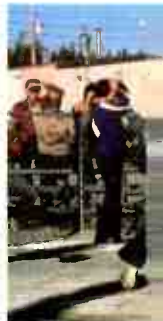
TV offerings. The Christmas opera, *Amahl and the Night Visitors*, written and composed by Gian Carlo Menotti, returns to television Dec. 22 as a GE Theater presentation. It will air at 8 p.m. (ET) on PBS. GE will also sponsor *The Barbara Walters Interview Special* on Dec. 5 at 9 p.m. (ET) on ABC.



Enormous hydroelectric generator rotor supplied by Canadian GE is lowered into place at La Grande 2 power station—world's largest underground hydro plant.

Located near James Bay in Québec, this facility, when finished next year, will include 16 turbine-generator units. One half of the units are being furnished by CGE and its subsidiary, Dominion Engineering.

Three other hydro stations—LG1, LG3 and LG4—are under construction or planned.



Biggest water power project

is contributing to Québec's 'Project of the Century,' with potential U.S. benefits.

While many General Electric people are becoming increasingly involved in developing small hydro resources (*Monogram*, September/October 1979), other employees are taking a major role in history's largest effort to generate environmentally clean electricity from the power of falling water.

This giant among hydroelectric endeavors—hailed as Québec's "Project of the Century"—aims at harnessing the power of the rivers of La Grande Complex, named for La Grande Rivière which flows westward into James Bay. The people of Canadian General Electric Ltd., and its subsidiary, Dominion Engineering Works Ltd., have major roles to play both as independent suppliers and as consortia members.

They saw their work given national recognition on October 27, when television cameras recorded the moment when Québec Premier René Lévesque pressed a button which activated the first turbine-generators of what will become this continent's largest hydro complex.

By any standard of measurement, Québec's "Project of the Century" lives up to its name. When Premier Lévesque pressed that button, he set in motion

the first in a long chain of hydro projects that will run until the end of the century. In 1985, when the first phase of La Grande Complex work is completed, three gigantic hydro power plants will be in operation. Totalling 10,269 megawatts of generating capacity, they will supply more than 62 billion kilowatthours of electricity a year—*nearly as much power as all other Québec hydro installations put together.*

At a time when rationing of electricity is appearing as a possibility elsewhere in North America, Québécois continue to enjoy ample electricity, and at rates 4.5 times lower than in the U.S. La Grande Complex is a major factor in the province's plan to double the share of Québec-produced sources of energy by 1990, while reducing oil imports by 20%.

Former Québec Premier Robert Bourassa, the man largely responsible for getting the James Bay project started, recently advocated that the province look at the feasibility of exporting its excess hydro power to Ontario and New York.

States CGE's Alton S. Cartwright, Board Chairman and Chief Executive Officer: "For the people of Québec, La

Grande Complex means a tremendous boost to the economy, employment and status of the province as a major force in electrical power production. It is a staggering undertaking, a matter of great pride, and a vital contribution as the largest and most important power project in Canada's history."

The world's largest underground hydroelectric power station—the 5,328-mw La Grande 2 plant located some 70 miles from the mouth of La Grande Rivière—was the site of the recent ceremonies. When all 16 of its turbine-generator units are in operation in 1980, *La Grande 2 will be the most powerful hydro plant in North America, and possibly the world.*

The physical dimensions of this facility boggle the mind. The rockfill dam is nearly two miles long at the crest. The powerhouse gallery, dug out of solid granite 450 feet below ground, is more than five football fields long and 15 stories tall. From the dam's crest to the river below, the water travels a mile. La Grande 2 will eventually produce nearly 36 billion kwh of electricity annually.

Canadian General Electric and its Dominion Engineering
(continued next page)



A workforce of 16,500 people plus their dependents at six work sites of Québec's La Grande Complex have required massive logistics efforts in terms of housing, transport and supply. The region's average year-round temperature is below freezing.





Dominion Engineering employee inspects hydro turbine runner being sent to La Grande 2.

are playing major roles in La Grande 2's project. In 1974, they joined with Marine Industries, another Québec supplier, in forming *Le Consortium La Grande*. This consortium later was awarded the supply and installation contract by *Société d'énergie de la Baie James* (SEBJ), a Québec government corporation responsible for the construction of La Grande Complex.

"The consortium can take great pride in the fact that it helped bring La Grande 2 on line four months early," observes CGE's D. Forrest Rankine, VP and division executive—Apparatus and Heavy Machinery Division. "This accomplishment required the utmost in determination and technical sophistication on the part of all employees concerned."

Rankine notes that "the turbines and generators were supplied through the consortium, with Dominion Engineering of Lachine, Québec, providing eight of sixteen 333-mw turbines—and CGE's Power Generation Department in Lachine, and Peterborough, Ontario, producing eight of 16 generators."

Other CGE equipment was sold under direct contract. All 16 of the power station's bus ducts—sophisticated pipes which carry the electric current from the generators to the transformers—were supplied directly by CGE's Power Deliv-

ery Department at St-Augustin, Québec. Fourteen 233-mva step-up transformers were supplied directly by Power Delivery's Guelph, Ontario, plant.

Bigger than United Kingdom, La Grande Complex extends over more than 109,000 square miles. The territory, which begins more than 600 miles north of Montréal, is bounded on the east by Labrador and on the west by James Bay. The closest town of any size, Matagami, is hundreds of miles to the south. In winter, the mercury regularly drops to -58°F .

Observes CGE's Walter R. Fell, VP and general manager of the Power Generation Department: "By the mid-'80s, La Grande 2 powerhouse will be in full operation, as will La Grande 3 and 4. La Grande 1—originally slated to be built earlier—has now been shifted to the project's second phase. Ultimately, several more enormous hydro powerhouses may be built."

CGE's VP Max Drouin, president of Dominion Engineering, adds: "The 2,304-mw La Grande 3 station is now under construction 150 miles from the river mouth, and like La Grande 2, includes a major CGE contribution. Through another consortium with Marine Industries, *Le Consortium LG 3*, Dominion is supplying all twelve 192-mw turbines for this riverbank plant." Power Delivery Department is directly providing all ten 260-mva step-up transformers.

To be sure, before *any* hydroelectric construction could begin anywhere in this region, a monumental infrastructure had to be put in place. The extreme remoteness of the site, the rigors of the climate, the widely separated work areas, the imposing quantities of matériel to be transported, the need to lodge and supply some 20,000 men and women—all called for great

foresight and ingenuity.

Remarks CGE's Jacques G. Désilets, manager—Apparatus and Heavy Machinery Business Planning and Development Operation: "In 1971, the year the James Bay project was launched, La Grande Rivière region was accessible only by helicopter and hydroplane. Beginning at Matagami, SEBJ built a 400-mile road to help in the transport of matériel required at La Grande 2."

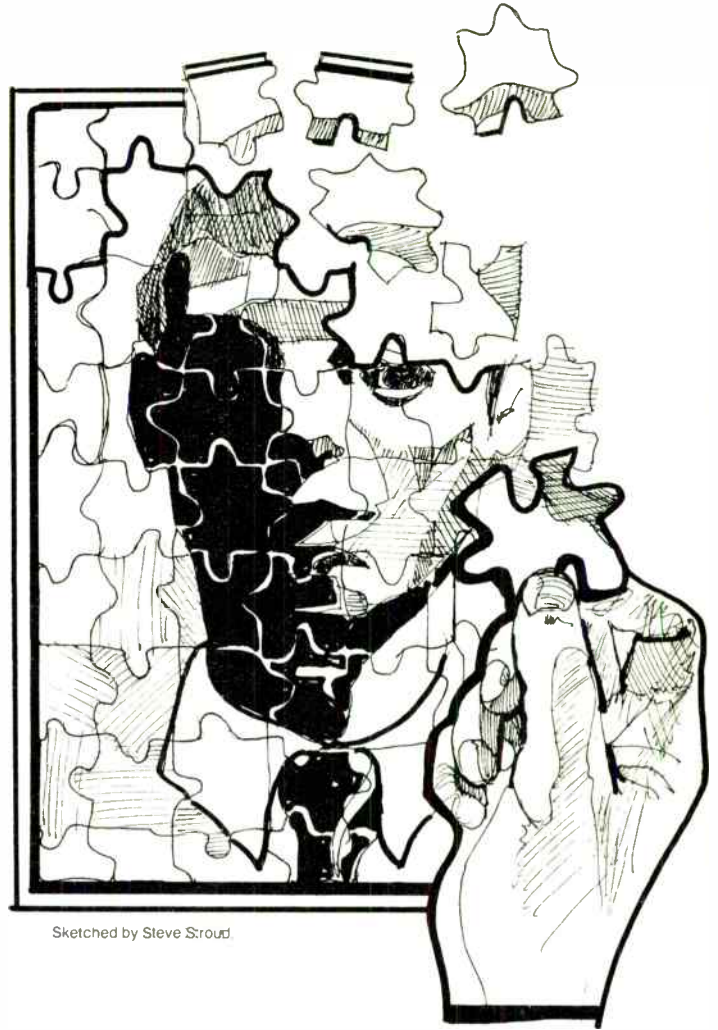
Some 3,200 miles of transmission lines are now being completed, which will carry electricity from the complex across the region's *taiga* and lakes to Québec's urban centers. CGE is a major supplier of transformer and switchgear equipment for this high-voltage transmission system, which ultimately will consist of five 735-kilovolt AC lines in three separate north-south corridors.

"Construction of this network got under way in 1978," notes CGE's John H. Churchman, general manager of Power Delivery Department. "The department's St-Augustin plant is supplying four 300-mvar static compensators, and its Guelph, Ontario, facility, fifteen 110-mvar shunt reactors."

As head of Canadian General Electric, Al Cartwright speaks with pride about the magnitude of La Grande Complex: "Québec's 'Project of the Century' is a colossal undertaking, yet it should be noted that *the ultimate size of this hydroelectric project may be considerably larger!* Naturally, we at Générale Électrique du Canada, with more than a century of Canadian manufacturing experience and our considerable technological and manpower resources, are firmly intent upon continuing to be a major contributor to this epic-sized hydroelectric undertaking." ■

Help for the troubled worker

GE counseling programs at several locations are assisting employees in piecing together solutions to personal problems.



Sketched by Steve Stroud

We all experience problems in our lives at some time or other—some serious, others relatively minor. Usually, we can confront them and deal with them effectively. But there can be times when we need professional help.

For employees at an increasing number of General Electric component locations, that can mean voluntarily contacting an in-plant Employee Assistance Program. It's a readily accessible, comprehensive and completely *confidential* counseling service that's available to all the operation's employees.

"We're here to help—whatever the problem," notes GE Erie counselor Michael Humenik. "We don't just deal with problems of alcohol or drug abuse. Actually, any number of personal difficulties—even everyday mundane problems—can affect a person's ability to function effectively at home and on the job."

While the Employee Assistance Program (EAP) movement is still in its infancy, its pioneers are ambitiously addressing the whole range of emotional problems—marital troubles, general depression, financial woes—that cause low productivity and employee misery.

"Access to EAP counseling is entirely volun-

tary," observes GE Louisville counselor Patrick Lampton. "A supervisor, union steward or fellow employee may encourage an employee to seek assistance, but the decision is the employee's own." He adds, "A request for help does not jeopardize job security or promotional opportunities. We're here simply to help people."

GE New York counselor Debra Bern comments: "We are professionally trained counselors, but we may not be equipped to handle every case. When such instances occur, the employees are referred—on a confidential basis—to social workers, psychiatrists, drug-addiction counselors, licensed consulting psychologists or an appropriate community agency."

A number of "success" stories have resulted from the Company's Employee Assistance Programs. In reporting several case histories, the *Monogram* was asked to maintain strict confidentiality—except in the case of Pittsfield's John Bradley, who wanted readers to share in his personal victory over alcoholism (page 20). Accordingly, the editors have used pseudonyms for volunteer subjects, who were interviewed via their counselors to preserve their anonymity.

(continued next page)

CASE: Will and his daughter had just returned from a Girl Scout meeting, and she wanted to go swimming. Will, who knew Susan was not a good swimmer, cautioned her to accompany someone. Susan's older sister, Linda, didn't care to swim, so Susan set off with two classmates. In a nearby lake, Susan collapsed. Her companions swimming ahead of her didn't notice her struggling. She drowned.



Will took his daughter's death badly. He blamed himself and was angry with everyone. His co-workers, concerned about Will, asked Louisville's EAP counselor to call the family at home. Eventually, the counselor also dropped by the home, and, by talking about Susan with the family, helped them start to come to terms with the death.

But Will couldn't sleep. Meeting with him, the counselor helped him give vent to his feelings. The counselor also referred him to Compassionate Friends, a group for parents whose children have died, and encouraged him to concentrate on soothing daughter Linda's grief.

Will still cannot accept Susan's death, but he recognizes the importance of not shutting himself off from his family, and has derived much comfort from Compassionate Friends.

CASE: Betty's financial woes, including an impending mortgage foreclosure on her home, led her to ask her supervisor about emergency financial aid. As a divorcee with children and

without ancillary income, she worried about her family, and her work suffered. Betty's boss suggested she contact Rome, Ga.'s EAP.

The EAP counselor referred her to a financial counselor who determined that she made enough money to handle her obligations, but that she had problems budgeting. The finance counselor helped her draw up a budget, then contacted the manager of the savings and loan association which held her mortgage.

An appointment was made for Betty, the counselor and the manager to discuss her problem. Because it was income tax time, Betty had computed that she was due a refund, and since she was conscientiously trying to meet her obligations, the manager accepted her income tax refund as collateral and worked out a new payment schedule for her mortgage. She's now current with her house payments.

CASE: The new job in Albuquerque was a fine promotion for George, but after he relocated his family there from New England, his wife became depressed. One of the children was doing poorly in school. The wife's parents were now thousands of miles away, and she was lonely and without friends.



George grew frantic. He began to show his distress at work, and decided to go to the Employee Assistance Program for counseling. The counselor subsequently met with the couple, and George came to realize that his wife's

Curing the billion-dollar hangover



Alcohol is a killer that stabs American industry with the cold-bloodedness of a stiletto.

Fact: 10 million people in the U.S. are problem drinkers.

Fact: Between 6 and 10% of the nation's workers are alcoholics.

Fact: Liquor-related absenteeism, tardiness and poor workmanship cost industry \$4 billion yearly.

Fact: GE is out to blunt the blade with various Company-wide Alcohol Recovery programs that treat alcoholism as a medical illness which can be held in check. A sampling of some programs:

- Evendale. With a recovery rate of 80%, this program relies on a "Code of Conduct" to enlist the cooperation of problem drinkers. Once in the program, alcoholics are given the drug Antibus, which causes violent nausea when mixed with liquor. They also must attend in-plant meetings of Alcoholics Anonymous. Supervisors and managers are given courses on alcohol problems. "We're trying to get the point across that GE is not out to punish drinkers," says Dr. Gordon Mindrum, Evendale medical director.

- Pittsfield. Dr. Harold Stein, medical services director, notes that all local plant supervisors, from foremen on up, are required

to take comprehensive training programs to help them spot problem drinkers. Referrals are made to Dr. Stein. Alcoholics are sent to a hospital for detoxification and concentrated rehabilitation, and then to an outside agency such as AA. A part-time counselor provides guidance on a one-to-one basis.



depression was normal—that he felt a loss, too, but had his work to replace it. The child’s difficulty, as well, could be traced to moving.

The counselor helped introduce George’s wife to the head of the local PTA, who had a daughter the same age as the child having readjustment problems. For both mother and child, this provided the entree into the community. At the counselor’s urging, George’s family also began pursuing more activities together, with the result that the relocation has heightened their awareness as a family.

CASE: Confronting marital problems at home, and faced with a young son who used drugs and was in trouble with the law, Tony began experiencing severe mood changes. Symptoms of paranoia appeared, and he began missing work. “Tony thought everyone had it in for him,” his foreman observed, who suggested he contact Erie’s EAP, where he was diagnosed as having a depressive reaction.

Soon, the counselor saw that Tony’s problem was more complicated, and decided that the first treatment must be to stabilize him. Tony volunteered to go to a mental health unit for observation, medication was administered, and a psychiatrist met with him frequently.

Back home, Tony continued to have trouble. The counselor invited Tony’s wife in for joint counseling—and Tony’s son, on juvenile probation, met with his probation officer, his father and the counselor. The son eventually was referred to a psychiatrist for treatment of drug and emotional problems.

Tony’s situation has now improved. He has returned to the mental health unit for more care and medication, he continues to see a psychiatrist, and has in-plant counseling once a month. He and his wife are working out their marital problems, and their son has avoided further trouble and is planning to enter military service.

CASE: When Dominick’s wife filed for divorce, he sought a reconciliation. He’d been raised in a close family relationship, so his wife and children were important to him. “I’d made mistakes, but I couldn’t stand the thought of losing my wife and kids,” he notes.

Dominick and his wife received Employee Assistance Program counseling in Erie, but it was evident the problems were serious and had led to a lack of trust. As divorce proceedings continued, Dominick’s feelings about losing his family grew violent, and counseling continued for a year while he worked through the various “modes” of grief, pity, depression, anger, resentment and apathy. “I couldn’t accept the finality of divorce. I kept thinking my wife would come back to me.”

With periodic counseling, Dominick is now building his life around new social activities, has a good relationship with his children, and gets along well with his former spouse, who has since remarried. “This wasn’t the way I’d hoped it would work out,” he says, “but maybe it’s the best thing for everyone.”



• Philadelphia. Dr. Stephen Mucha, medical services director, also begins his program with seminars for supervisors and managers. As with the other GE programs, it stresses confidentiality. When problem drinkers come to him, Dr. Mucha refers them to outside agencies and then closely monitors their recovery.

How are these programs and others like them helping? The following case histories provide an answer:

CASE: John Bradley (shown left) lived by the bottle for 27 years. “I was shy,” says the punch press operator for Pitts-

field’s Power Transformer Department. “Drinking made it easier for me to get along.”

But his drinking got worse. Bradley recalls: “I hid my liquor all over the house, in the backyard and under the front seat of my car. I drank before coming to work, at work and then in the evening at home. I wanted to stop. But I couldn’t.” An accident with his press brought charges against Bradley of drinking on the job. A possible suspension loomed. But associates stepped in and persuaded Bradley to get help. Dr. Stein’s program provided the means for Bradley to stop drinking.

Observes Bradley: “The Company gave me back my respect and self-confidence, and that’s half the battle.”

CASE: Liquor provided Marcia with a temporary reality. When her mother died and her brother fell seriously ill, she was full of self-guilt. She avoided facing circumstances through drinking.

Participating in an Albuquerque GE program, Marcia was able to reassess her own values, grow as a person, and then withstand, without a drop of alcohol, the most crucial test of her life—the sudden death of her husband. **AV**

'Loaned executives'

The expertise of GE people is in demand by groups as diverse as the U.S. Senate and United Way. 'On loan,' employees not only render service but broaden their horizons.



Thomas Fagan:
special Senatorial assistant

"The chance of a lifetime," is how Valley Forge, Pa.'s Thomas L. Fagan describes his designation as a Congressional science and engineering fellow for the Institute of Electrical and Electronic Engineers (IEEE). The Space Division market development manager begins a one-year term on Jan. 2 as special assistant to South Carolina Sen. Strom Thurmond, a member of the Senate Armed Services Committee.

Fagan, chairman of the Philadelphia IEEE chapter, notes that the fellowship program was created to give Congressional staffs expertise in sophisticated technical areas. He has been an engineer with GE since 1964. He expects to advise Senator Thurmond on legislative issues and undertake special studies for the Senate Armed Services Committee. Fagan's work at GE has dealt mostly with military systems and technology.



Shirley Moss:
champion of United Way

When San Jose's Shirley A. Moss was asked to be a "loaned executive" for United Way, her initial reaction was negative. "Where I'd lived before," says Moss, an Advanced Reactor Systems Department chemist, "social services were handled poorly, and I wasn't sure I believed in the concept of United Way." She later discovered that she had used the services of a number of United Way agencies, so she decided to repay them by volunteering as a "loaned executive" for three months. Her job: obtain commitments from 60 companies to conduct in-house campaigns.

Moss went on a tour of United Way agencies and discovered why the program works. "It's not a big government project," she points out. "It's people helping people take care of themselves." Moss's enthusiasm must be catching. Many of the companies she canvassed agreed to help United Way for the first time.



Robert Sutherland:
supporter of unskilled youth

A native Vermonter, Robert Sutherland (left) knows the needs of his state's disadvantaged youth. That's a chief reason why this manufacturing administration manager at Burlington's Armament Systems Department has been on loan as Vermont metro director to the National Alliance of Business. NAB's objective is to aid the unskilled.

Sutherland seeks to convince the private sector of the value of opening its doors to young persons who lack marketable skills. He has started a vocational exploration program that gives youth on-the-job introductions to careers. "We locate the problem youth in school," he explains, "and not in the breadline."

Notes Sutherland, shown here mapping plans with a Chamber of Commerce official: "Not only does it make economic sense to help these kids, but it reduces social problems later on in their lives."



John Bateman
redesigns sheltered workshop

United Cerebral Palsy in Philadelphia needed the aid of an industrial engineer. Its sheltered workshop, where the handicapped assemble hardware parts and prepare packets, needed to be redesigned. A call to the Re-Entry and Environmental Systems Division brought John Bateman, manufacturing staff engineer for the operations and evaluation department, on the run.

With 27 years at GE, Bateman had the savvy to streamline the assembly line, making it more efficient. "Some of the people worked in wheelchairs and some didn't," Bateman recalls. "It made assembly awkward." He arranged a new setup, initiating the proper sequence for preparing items, which he here explains to a workshop director.

A footnote: Bateman's son, David, is now serving as a volunteer in the same sheltered workshop his father redesigned.



Gina Vitale
studies Federal regulations

Are Government regulations slowing down U.S. technology? Gina Vitale, program engineer for the Metallurgical Business Division's Specialty Materials Department in Worthington, Ohio, spent a year in Washington searching for that answer as a consultant to the Department of Commerce.


One of three civilians "loaned" to the Government, Vitale helped prepare a White House Report, now in the hands of President Carter, dealing with "Industrial Innovation." It probed the effect of Government regulations on U.S. technology, and what changes are necessary to stimulate growth.

The answer: some aspects of regulations are slowing down technological innovation. A recommendation calls upon Government to set national technology goals but leave the means of achieving those goals up to industry.



Robert Rager: promoting
American agriculture

The greatest harvest in this country's history has just been gathered, and for Robert Rager it represents a tremendous opportunity to promote U.S. agriculture abroad. Under the auspices of the Presidential Executive Exchange Program, Rager, a former marketing manager for Plastics Business Division, is serving a one-year stint as Special Agriculture Undersecretary for International Affairs. He's proving that the same planning and marketing skills he brought to plastics can be applied to developing overseas markets for soybeans, corn and wheat.

Rager had nearly a dozen interviews before he found his niche in government. "The Agriculture Trade Act of 1978, calling for an aggressive trade program and loans for the purchase of U.S. crops, seemed to guarantee that a lot would be going on in the Agriculture Department. I wanted to be part of it." 

Organization Changes

CORPORATE

Thomas O. Thorsen, Senior VP—Finance

James J. Costello, VP and Comptroller,
Corporate Accounting Operation

Kristian H. Christiansen appointed Vice
President—Regional Relations; to be
appointed VP—Southeastern Regional
Relations (2/1/80)

William C. Lester elected Vice President—
Regional Relations; to be appointed VP—
East Central Regional Relations (1/1/80)

Iver J. Petersen elected Vice President—
Regional Relations; to be appointed VP—
Central Regional Relations (1/1/80)

CONSUMER PRODUCTS AND SERVICES SECTOR

Norman P. Blake, VP and General
Manager—Commercial and Industrial
Financing Division, GECC

INDUSTRIAL PRODUCTS AND COMPONENTS SECTOR

Thomas W. Tucker, General Manager—Food
Service Equipment Business Department

POWER SYSTEMS SECTOR

Herman R. Hill, Executive VP and Sector
Executive—Power Systems Sector

Joseph N. Williams, General Manager—
Gas Turbine Engineering and Manufacturing
Department

TECHNICAL SYSTEMS AND MATERIALS SECTOR

Robert C. Kroeger, Program General
Manager—Very Large Scale Integrated
Circuits Program, Aerospace Technology
Development Operation

Employing the principle of sonar, General Electric's new ultrasound imager beams sound waves into the body to enable accurate exams. For example, it can detect when a woman will have twins.



A General Electric ultrasound scan of a pregnant woman's pelvis reveals developing twins.

Gestational Sac 1 with fetus

Gestational Sac 2 with fetus

Bladder

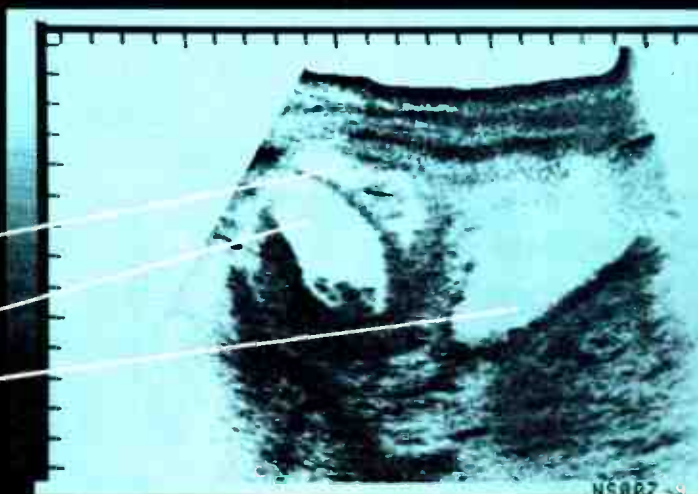


Photo courtesy of Nabil Maklad, M.D., Kansas University Medical Center

Make way for ultrasound

The new GE diagnostic imaging system that uses sound waves enters the health-care marketplace.

How to produce internal images of the human body? For decades the only answer was x-ray—and it's still the largest and most widely established method. But in recent years, General Electric's Medical Systems Business Division in Milwaukee has been offering other diagnostic imaging technologies, including nuclear medicine and computed tomography (CT), the latter an adaptation of x-ray and computers.

Now comes ultrasound, offering the big difference that its images don't involve high energy radiation to make a picture. With this technology, introduced in November by Medical Systems, imaging is done by high-frequency sound waves beamed into the body.

What difference does that make? Imagine the case of Norma, four months pregnant and seemingly larger than she should be. Is her pregnancy normal, she worries? Is the baby she's carrying healthy? How can Norma have these critical questions answered with minimal risk to her and her baby? Ultrasound.

Unlike other diagnostic imaging systems, ultrasound uses sound waves to form a picture. Sound is generally considered to be safe enough to use for diagnostic purposes in pregnancy cases.

Norma goes to an outpatient clinic where a GE ultrasound system has just been installed. After a physical, she is ushered into a room marked "Ultrasound." A technician asks her to loosen her blouse and skirt

and get on the examining table. Her abdomen is coated with an oil called ultrasound couplant. It couples the transducer, which beams the sound waves into the body, to the skin. The lights are dimmed. The doctor lightly touches Norma's abdomen with the transducer. He moves it back and forth. An image flashes on a screen—an exact likeness of Norma's womb. She stares at the screen transfixed. She can see inside herself—see the muscles, tissues and organs.

The doctor stops moving the transducer and says, "Just breathe normally." Norma relaxes and then hears a clicking sound like that of a camera taking a picture. In fact, a photograph was taken of Norma's womb. The doctor brightens the lights and then studies the photograph.

"Two heartbeats." The doctor smiles, showing them to Norma. "You're perfectly healthy—and you're going to have twins!"

Many physicians agree that ultrasound can diagnose some problems before birth.

Dr. Kenneth Gottesfeld, associate clinical professor at the University of Colorado, Denver, says: "Ultrasound appears to be an excellent screening tool and can be used as an outpatient procedure. In certain cases, a doctor can make a diagnosis sitting in his office with the patient present."

The interesting feature about ultrasound is that it works on the principle of sonar. Used mainly to guide submarines or

chart water depths, sonar operates when sonic or ultrasonic pulses are transmitted, reflected from an object and received back. The time it takes the pulse to make its "round trip" is used as a measure of distance.

In ultrasound, an exact image is produced by tracking the echoes from a high-frequency sound wave transmitted into the body. Data from the sound wave is passed into a computer where it is analyzed, and then the results are projected on a screen. The image is not a photograph, but a video likeness that provides exceptionally fine clarity.

In addition to checking pregnancies, the GE ultrasound system can scrutinize the liver, pancreas, gall bladder, spleen and major blood vessels, and can pinpoint problem areas such as internal bleeding, tumors or cysts.

Ultrasound leadership in both technology and sales is the objective of Medical Systems. As Vice President and General Manager Walter L. Robb notes: "Our experience in the diagnostic imaging modalities, coupled with our basic research in ultrasound, positions us well to be a market leader."

No other company in the U.S. has been in the diagnostic imaging business for as long as General Electric.

GE first advertised a commercial x-ray unit as far back as 1896, just 10 months after German physicist Wilhelm Roentgen discovered the see-through effects of radiation. A

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series of GE advances in x-ray, including the invention of the "hot cathode" x-ray tube, followed. In the 1970s, GE entered two new diagnostic imaging businesses—nuclear medicine and computed tomography.

Nuclear imaging works when gamma rays, generated by low-energy radioisotopes injected into the bloodstream, are detected and recorded by sensitive cameras. It is valuable in cardiovascular examinations, because it can provide an image of the heart without catheterization.

GE is a leading supplier of the CT scanner, which, since its introduction in the early 1970s, has significantly improved the physician's ability to diagnose. Unlike conventional x-ray systems, which provide the physician with a "shadowgraph" of the patient, the CT projects an astonishing cross-sectional image.

"Our excellent reputation in CT, combined with our broad sales and service organization, will help enhance the introduction of ultrasound," states the general manager of Medical Systems' service department, Michael P. Moakley.

GE's ultrasound system is in production at a manufacturing facility in Rancho Cordova, Calif. "We geared up in November for a product introduction at a meeting of the Radiological Society of North America," says Edward F. Voboril, ultrasound programs manager. "This was the largest gathering of our customers, and the place where key buying decisions on equipment are made."

Voboril adds that ultrasound is a growing business opportunity, and that there is much confidence throughout the division that GE's product offering will soon be a leader in the marketplace. ■



Ultrasound for the heart, too

Prototype system being readied at R & D Center.

The abdomen is not the exclusive domain of ultrasound.

Schenectady's Research and Development Center people are developing an ultrasonic system that makes remarkable images of the heart. In fact, the images are considered among the best of their type.

Dr. Frank L. Lederman (left), the R&D Center's ultrasound program manager, reports that the GE system now being developed for heart scanning may fill an important diagnostic need in years ahead. Shown testing the prototype system with him: N. Clark Gittinger, electronics engineer.

"A large proportion of heart failure is caused by blockage in the coronary arteries," Lederman notes. Doctors diagnose this condition by cardiac catheterization—that is, by inserting a tiny, hollow tube into an artery and threading it into the heart chambers. Then they inject a "dye" which illuminates the arteries on an x-ray film, permitting a diagnosis to be made.

"The problem," explains Lederman, "is that catheterization is an invasive surgical procedure carrying a certain risk to the patient. It may be that ultrasound will reduce the need to perform such studies."

One of the notable aspects of the GE ultrasound image is its ability to clearly picture the beating human heart. Beams of sound waves are fired in rapid succession so that a cross-section of the heart appears on a screen in real time (30 to 60 frames per second). "You can actually see valves moving, muscles working and the heart beating," Lederman comments.

Two GE 'futurists' examine the '80s



Seeking to decipher next decade's events: Dale Hekhuis (l) and Ian Wilson.

With the 1970s fast drawing to a close, the Monogram asked a General Electric planner and forecaster—Fairfield's Dale J. Hekhuis, manager-Corporate Strategy Development, and Ian H. Wilson, consultant-Public Policy Research, to share their personal speculations about the 1980s. Their opinions are condensed below.

MONOGRAM. As you look ahead to the 1980s using the figurative "radar screen" you employ in making forecasts, what are some of the images appearing on the screen?

WILSON. Your radar analogy is very apt, first, because we have to scan the *total* horizon—in economic, political, social and geographic terms—and second, because we must *continuously* track the many images on the screen to sort out those with lasting significance from the "ghost" images. However, history reveals that the so-called "watershed" points rarely come at a decade's end, so new images don't appear at neat 10-year intervals.

HEKHUIS. I agree. One event that we continue to watch first gained prominence in the '70s—the "limits to growth" idea. Overall, you can make a strong case that limits will continue to be largely self-imposed. There's been no slowdown in the rate of scientific or technological discovery. On the contrary, we're now experiencing revolutions in technology in such areas as microprocessors and communications. Major progress has been made in materials such as fibers, ceramics, crystals and polymers.

MONOGRAM. What about regulatory constraints as a limit to growth?

HEKHUIS. As a nation, we *have* imposed certain constraints on ourselves, relating to the environment, etc. The point is—we've overdone it, and we're starting to swing back from much of this "overkill" regulation. This augurs well for expanding our R&D and applying our scientific discoveries more rapidly.

WILSON. I'm not quite as optimistic as Dale on this point. U.S. economic growth *has* to slow over the next decade, largely because of dramatically slower growth of the labor force. With smaller increments of labor input, and productivity a problem, there will be a definite limit or brake on economic growth. By the end of the 1980s, the U.S. economy should be growing around 2½-to-3% a year. By comparison, the 1960s



WILSON: *'High energy and material costs may become fillips to our Yankee ingenuity.'*

produced about a 4% annual growth rate.

HEKHUIS. I believe you have to differentiate the '80s. In the early part of the decade, there will be excellent opportunity for strong growth.

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One major trend that will distinguish the 1980s from the past 15 years is the remodernization of U.S. industry. To remain internationally competitive, American industry knows it must remodel its factories. That means stepping up rates of economic investment. U.S. industry, from an international viewpoint, went to sleep in the late 1960s. The U.S. market was huge, and we didn't see the international market as being that important. Meanwhile, the Japanese and West Germans, faced with small domestic markets, *had* to focus on the international arena. To compete effectively abroad, they *had* to construct new factories and achieve productivity gains.

WILSON. I, too, see substantial evidence for this "awakening," on the part of both industry and government. The new economic facts we're dealing with today—including high energy and raw-material costs—may turn out later, in retrospect, to be a fillip to our Yankee ingenuity. I mentioned



before that history's "watershed" points seldom coincide with ends of decades. In the year 2000, we may well look back at this period and decide that around 1977-78, with the Proposition 13 tax revolt and the microprocessor revolution, we entered a new era. The late '70s may have marked a turning point in U.S. political and economic thought—from the politics of *demand* management to that of *supply* management. That is, we have a new awareness of the need for developing energy supplies, increased productivity and capital formation.

MONOGRAM. How will U.S. industry fare against foreign competition in the next decade?

HEKHUIS. It's obvious that Government and business must form more of a partnership to achieve international trade goals. To remain competitive, production facilities will have to be

"rationalized" on a world basis—that is, be constructed and operated in those areas of the world that have particular comparative advantages. We already have world jetliners, where the fuselage is built in one country and the engines in another. World computers are here also, and a world car is close behind.

MONOGRAM. What will management be like in these "rationalized" corporations?

WILSON. Businesses are trending toward a "networking" form of management. The idea of networking—call it decentralization, devolution or whatever—is a predictable reaction to two forces. One is an increasing demand for differentiation. The second factor is the increasing uncertainty that characterizes our lives; today's economic and political systems are so interdependent that if you pull a thread here, you will get tugs on the pattern in totally unexpected places. Faced with such forces, it's logical for companies to say, "Look, it's getting harder to manage in a uniform way. What we need is a decentralized system that is more flexible and has more points of response."

MONOGRAM. Will this networking concept apply to government in the 1980s as well?

WILSON. Absolutely. We are going to move toward state and local, rather than national, solutions. A polemicist might argue that we won't need a U.S. energy policy—we'll need regional policies. The energy needs of the Northeast and Southwest are quite different. Regional governments are becoming much more active in energy matters . . .

MONOGRAM. Are you suggesting a growth in government?

WILSON. I mentioned the taxpayers' response to Proposition 13 a moment ago. Economic forecasters think that government *expenditures* are likely to level off as a percentage of the gross national product. However, government *actions* may well increase, as states and municipalities tackle their energy, urban and water problems.

MONOGRAM. Will there be a strong regional push for conservation?

HEKHUIS. All levels of government will be stepping up to more policy decisions, including more activist roles in conservation. One of the most fundamental efforts of the '80s will be the dramatic increase in the level of conservation achieved by industry and homeowners. Conservation shows promise of being our single most important weapon in coping with our energy

problems. It's going to be evident in the design of the family car, the home you buy, the factory and office equipment you use, and in a thousand other ways.

WILSON. I'd like to return to the networking idea again. Conservation represents a decentralized, flexible response to a problem—and all levels of government are pushing it. This official encouragement of multiple conservation efforts is a dramatic departure from the former "command and control" dictum—"Construct the building this way or else." A tremendously encouraging sign for the future can be found in this new pluralism. How much better it is not to insist on a single solution! Simply set goals, provide incentives and establish penalties.

MONOGRAM. Are government/business relationships going to improve because of this new problem-solving approach?

HEKHUIS. The adversary nature of the relationship definitely will be toned down as priorities become better defined. A sense of balance will appear as people differentiate between productive and nonproductive regulations. I'm a strong believer in cycles. For instance, I think America has completed its energy-awareness cycle, and will embark upon a vigorous problem-solving cycle in the 1980s.

MONOGRAM. Will we get inflation under control in the '80s?

HEKHUIS. A complex question. Probably the most we can hope for is 7-to-8% annual inflation in the '80s, scaled down to 6% by 1990. It's going to be a slow chipping-away type of progress.

WILSON. We'll definitely not see just a one-solution approach—for example, wage-price controls or a restrictive monetary policy. We're dealing with a systemic problem, so we must have a system of multiple solutions...

HEKHUIS. And these solutions must include plant modernizations, productivity boosts, expanded foreign markets, regulatory reforms...

WILSON. Right. Plus individual actions against various inflation-causing problems. As we achieve greater clarity and credibility concerning the problems, we will see a social mechanism brought into play—call it *esprit de corps* or social pressure. It's already happening with conservation.

MONOGRAM. What shifts in people's values and attitudes will we notice in the next decade? We read that an "inflation mentality" is emerging in this country, as people approach their lives in a different way.

WILSON. It's true there's a proliferation of personal coping strategies. But the jury is still out on the question of inflation's long-term social impact on consumer lifestyles. We're certainly not seeing the wide-scale practice of voluntary simplicity.

HEKHUIS. Ironically, inflation gives certain people more of a short-term orientation—and others, a long-term view. Some think it's advisable to "buy now-pay later," since prices are rising and they will be paying back in depreciated dollars. Others sharpen their long-range priorities, deciding that since Johnny's educa-



HEKHUIS: *'We already have world jetliners and computers, and a world car is close behind.'*

tion is critical, they will do without other things or plan a longer work career. Many wives have gone back to work—so many, in fact, that the American housewife is rapidly becoming an extinct species.

MONOGRAM. Let's shift gears for a minute and look at the "big picture" in terms of the 1980s' geopolitical climate. What's in store for America?

HEKHUIS. Without a doubt—increasing economic interdependence with the rest of the world. U.S. isolationism simply won't work. Let me quickly add that a recurring image has reappeared on the radar screen: *protectionism*. We're already seeing steps by non-oil-producing countries to cut their balance-of-payments deficits by imposing trade restrictions. Protectionism could become the "wild card" in the deck, if it gets out of hand.

WILSON. Indeed, given the present age's complexity, there could be other "jokers" in the deck as well. That bears out the importance of the radar-screen analogy, and the need for more people than just Dale and me to keep tracking the screen's images. We've got to get away from the idea of only one correct perception.

HEKHUIS. Business decision-making in the 1980s will become much more diffused, *ad hoc* and responsive to change. Business forecasters and planners know they're going to "blow it" a greater number of times, so the key question thus becomes, "What are those areas where we're most apt to be wrong?"



At some point during this century's teens, Ira D. LeFevre, a GE finance man in Schenectady, developed the idea of a business training course that would offer non-technical college graduates the same sort of career stimulus that had been available to technical graduates ever since the Engineering "Test" Course was started in 1896.

By 1919, LeFevre was the general auditor of the Company (he was later to become Comptroller) and was able to translate his idea into reality. Under his direction, the General Electric Business Training Course, or BTC, was launched. Billed as "an internship in business," it offered business, accounting and related courses along with practical working experience.

Recruitment that first year at selected Eastern and Midwestern colleges enlisted 11 BTC recruits, two of whom are still living: George F. Mosher, retired president of the GE Credit Corporation, and Herbert E. Neil, who completed his GE career as manager of Social Security Accounting.

The BTC took root in Schenectady, says Robert J. Canning, manager of Corporate Financial Manpower Operation and an unofficial historian of the BTC: "Dozens of young people reported each summer to the BTC office in Building 5. Assignments generally were in such divisions as receipts, disbursements and statistics, as they were then called. Recruits attended classes in Building 32 on Erie Boulevard, a former factory building which we called 'Flowmeter University,' honoring the product which had been manufactured there at one time."

The first branching-out came in the mid-1930s, when the BTC was offered at Bridgeport.

Finance program's 60th

The GE program that began in Schenectady in 1919 with 11 recruits, now—some 10,700 graduates later—extends to 35 U.S. locations and 13 countries abroad.

A golden era for the BTC began with the end of World War II. Spurred by GE's decentralization, the program expanded rapidly, and courses sprang up in Lynn, Syracuse and Pittsfield, and later in Philadelphia, Ft. Wayne and New York.

Looking back, Canning remarks: "The Company was expanding at a tremendous rate, and new departments were being created—it seemed almost weekly. Consequently, 250-to-350 recruits were being hired annually in the '50s. Our high water mark was 1956, when 367 recruits were selected."

While the program was still considered the finest in industry, competition for recruits was becoming tougher. The GE response is described by Canning: "In the early '60s, we took a look at our program with the help of several professors. This analysis resulted in a number of changes, including changing the name from the Business Training Course to

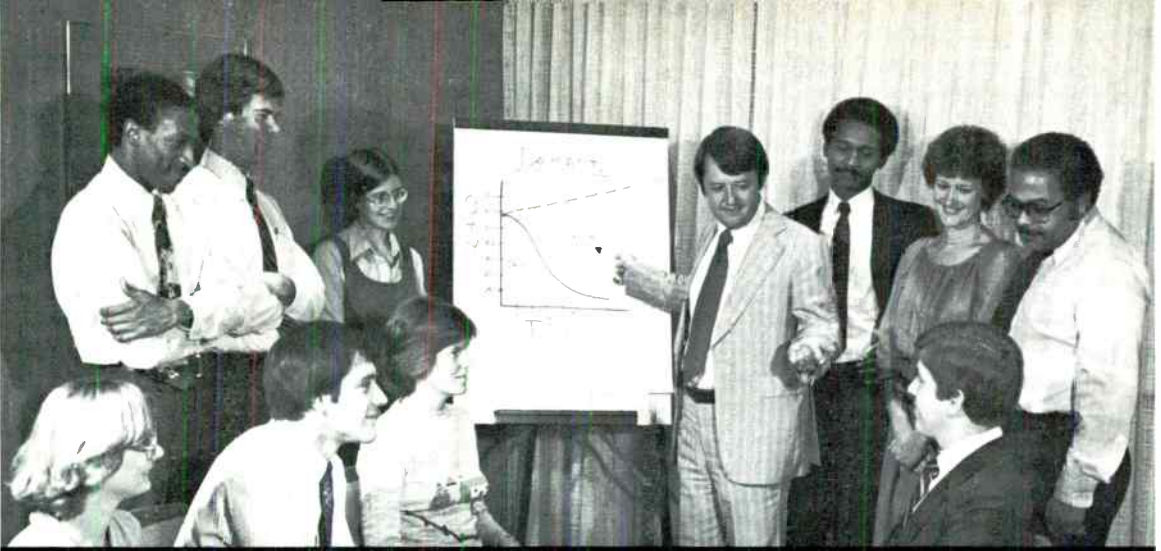
the Financial Management Program (FMP)."

Continuing its goal of training employees for key financial management responsibilities within the General Electric Company, the FMP is rolling along in excellent shape today, with 1,300 students currently enrolled. Of this total, 900 participants are in 35 U.S. locations, the others in 13 countries abroad.

"General Electric welcomes all qualified candidates to compete for career opportunities," indicates Alfred B. Caine, manager—Entry Level Recruiting and Referral Administration. "In recent years, the program has been enrolling 30-to-35% women and minority recruits each year."

John D. Swift, consultant, Financial Management Program and Career Development, describes today's FMP this way: "There are presently 350 instructors and personnel supporting the program and approximately 100 recruiters. In selecting individuals for the program, the recruiter considers academic achievement, personality and leadership ability—it's the 'total person' or 'total package' which is important." In 1979, recruitment has exceeded 190 individuals from 87 colleges. The selection process is very competitive, both for recruits from colleges and for those employees who are nominated into the program. Over 30% have nonbusiness or nonaccounting backgrounds.

Courses have expanded from basic accounting, finance and law to functional courses such as orientation, engineering, manufacturing, marketing, and employee and community relations. This year the program added a management and development skills course to its curriculum. The courses are



For 60 years a source of GE talent, the Financial Management Program today has 1,300 students. In Plainville, Conn., Greg Barmore (above) teaches information systems class while, in 1949, future GE Chairman Gerald L. Phillippe (r) leads Schenectady accounting class.



specially designed to help recruits learn and grow and gain the financial experience necessary to make the transition from college to a GE financial management career.

Rotation to a variety of six-month work assignments is a key factor in providing the opportunity for increased development and contribution. The FMP generally requires about two years, with formal job performance appraisals every six months. Promotions upon graduation depend on demonstrated performance.


In recent interviews, many of today's FMP participants recalled that in researching companies for possible jobs, they were strongly encouraged to join GE's program by their college professors and placement counselors, as well as by other non-GE people. A graduate of Dartmouth, John A. Gogolak of GE's Corporate Accounting Operation "was amazed that a company as

large as General Electric could offer so much personal help and individual attention. My placement officer at school, who had daily contact with hundreds of corporations, recommended: 'If I were in your shoes, John, and got a job offer from GE, I wouldn't refuse it!'"

Janis E. Crum, an alumna of the University of Massachusetts, presently with Industrial Products and Components Sector in Ft. Wayne, states: "GE's policy of rotational job assignments gives you the opportunity to gain exposure to its many businesses and get a flavor of different facets of finance. These rotations will make a big impact on my final career choice."

"One benefit I've gained from the program is the opportunity to develop both technical and interpersonal skills," says Greg A. Buchheit. A graduate of Indiana University, he is with Major Appliance Business Group in Louisville. "Textbooks

aren't enough. It's the simultaneous hands-on experience in the job that is important."

Another indication of the financial program's success is that virtually all of the Company's senior management positions in finance, including Senior Vice President-Finance, Comptroller and Treasurer, are held by FMP graduates, and they also fill 20-25% of the officer ranks in the Company. Chairman Reginald H. Jones, himself a graduate, expresses his enthusiasm for the program in these words: "The Financial Management Program continues to provide a strong foundation on which to build careers in financial management at General Electric. The program has proved itself flexible and responsive to changing business conditions and accounting procedures throughout its 60-year history. I anticipate it will continue to be a very valuable training experience for outstanding college graduates." 

GENERAL  ELECTRIC

General Electric Company
Fairfield, Connecticut 06431



ON THE ROAD. A General Electric service van, hugging the old Pali Road leading out of Honolulu, dramatizes how the Company is offering after-sale service wherever GE appliances are sold.

In spite of an ocean barrier between Honolulu and the Replacement Parts Center in San Jose, Calif., "Customer Care Service" is provided by General Electric's Major Appliance Product Service Department to its many Hawaiian clients. Repairs are

made on initial service calls nine out of ten times, because the vans are thoroughly equipped with tools, parts and motors.

Ten vans, like the one shown here with Diamond Head and the Honolulu skyline in the background, operate on the Island of Oahu. Customers on Hawaii's five other main islands, scattered over hundreds of miles of ocean, use GE-franchised independent servicers.