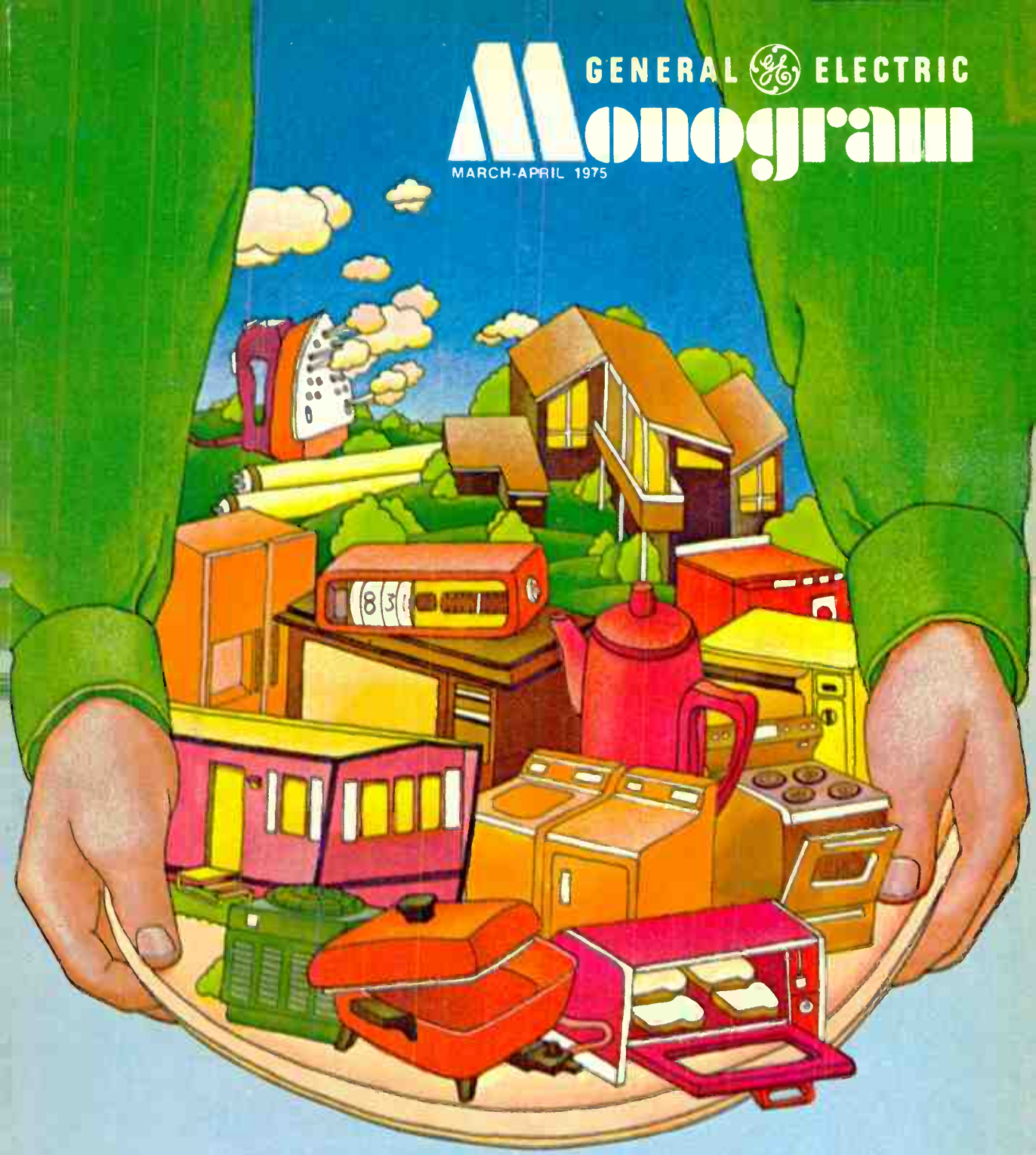




GENERAL  ELECTRIC

**Monogram**

MARCH-APRIL 1975



## WOOING THE CONSUMER

Plus: Managing for cash; Bicentennial preview;  
A working mother's story

# GENERAL ELECTRIC Monogram

MARCH-APRIL 1975

VOLUME 52, NUMBER 2

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, Public Relations Programs, and J. Hervie Haufler, Manager, Corporate Editorial Communications. Request permission to reprint articles from the Monogram Editor, Fairfield, Connecticut 06431. Copyright 1975, General Electric Company.

*Editor*

EDWARD H. MORGAN, JR.

*Associate Editor*

WARREN P. RUSSO

*Editorial Assistant*

CAROL A. OLCHA

*Design*

RON V. TAYLOR ASSOCIATES

Cover: GE values to help revitalize consumer markets, as interpreted by young Connecticut artist Creston Ely (pages 8-17).

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## THE COMPANY

# Cash: the new imperative

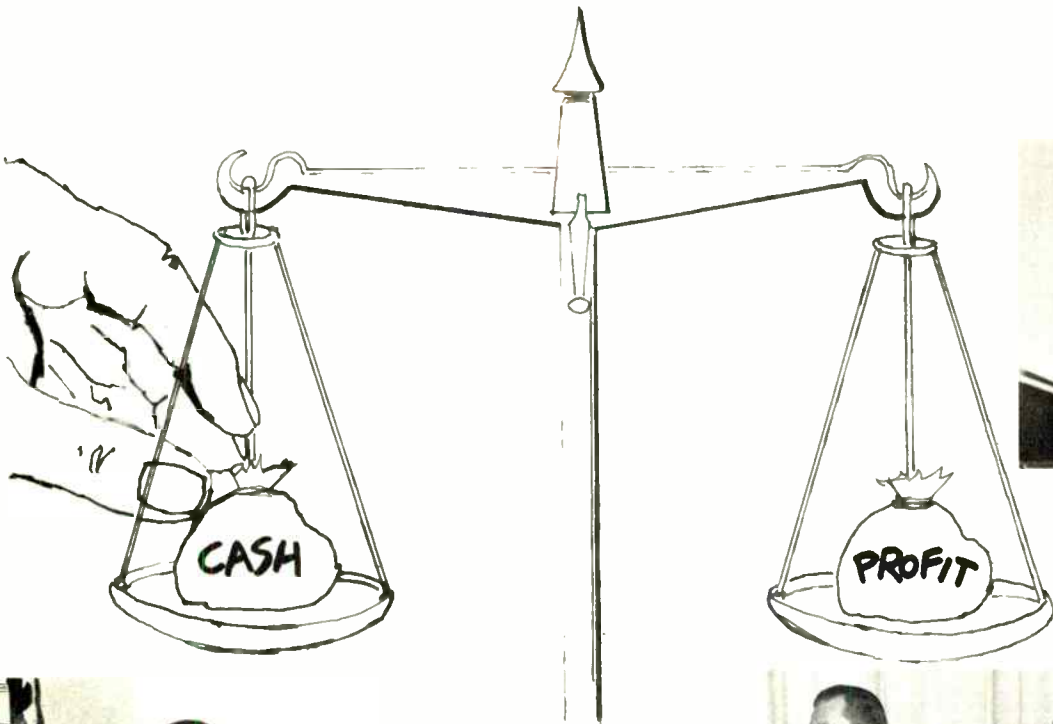
After years of emphasizing earnings and sales growth, Wall Street has come to the realization that these indicators do not suffice as measurements of corporate performance. Today, the new business imperative is cash.

"Growing earnings generally requires increasing sales, and this takes cash," points out Alva O. Way, VP-Finance. "While growth is still important, it must be accompanied by sound financing: a capital structure in which debt growth stays in balance with profit growth."

Way was among participants in a recent day-long "Cash Dynamics Conference" held at Fairfield by Corporate Consulting Services, in which discussion centered on the new "two-dimensional" business environment where both profit and cash flow are important. Some 50 general managers participated in the conference, organized by James H. Bockhaus, manager—Cash Flow Improvement Programs. The subject: trade-offs needed to balance overall growth with the Company's ability to finance growth.

"The days when the Company could provide a seemingly endless stream of cash to all our businesses are over," said Way. "Cash considerations are now part of the business equation of every operating component of the Company."

Achieving a proper balance will, in Way's view, require careful selections of growth opportunities and an avoidance of the Company's 1974 performance in which sales shot up 16% while income grew only 4%. For the long-term, he points out, income growth will still be important, but return on investment (R.O.I.) will move into the limelight.



Dynamics of cash got an intensive look from these Fairfield conference speakers: from left, Alva O. Way; James H. Bockhaus; cash conservation panelists Herman R. Hill, VP and general manager of the Steam Turbine-Generator Products Division, Robert J. Rodwell, VP and general manager of Motors and Drives Division, and Fred O. MacFee, Jr., Vice President, Group Strategic Planning Operation, Aircraft Engine Group. At upper right, Marion S. Kellogg, VP, Corporate Consulting Services, addresses conferees during luncheon.

“R.O.I., after all, combines income with investment, so it gives some reading of how effectively a company is making all the trade-offs,” he added. “The implication for us is that we’ve got to work on increasing our R.O.I.”

There are two major ways in which the Company can do this, he said: improving profit margins and increasing investment turnover.

It is in the latter area where the “multi-functional” efforts of all parts of a business can have enormous impact, according to Way. “For example, the turnover of receivables is dependent on many factors including terms, credit standards, billing timeliness, dispute settlements and collec-

tion effort. Inventories feel the impact of a vast number of factors, among them vendor relationships, purchasing patterns, worker productivity, plant layout, product design, field support, customer specifications and more. Probably every function in your business can have some effect on your inventory turnover.”

**The conference emphasized the need for today’s managers to scrutinize the balance sheet with the same fervor devoted to “the bottom line,” and for the Company to do some “trading off” between growth and cash generation.**

“There are a vast array of trade-offs to be made both among and within our businesses,” stated

*(continued next page)*

Way. "If we make these trade-offs wisely, we can greatly enhance the prospects of our businesses."

Other conference speakers covered the specifics of typical trade-offs that can be evaluated by operations:

- Marketing's role was covered by James M. McDonald, manager of Marketing Consulting for Corporate Consulting Services (CCS). His point: the heavy volume/share of market syndrome must yield to strategies oriented toward cash contributions of products, and segmentation by customer behavior should supersede product proliferation.
- The idea of better management of inventories as a means of freeing "locked-in cash" was explored by Alfred P. Taylor, manager of Manufacturing Management and Quality Control Consulting for CCS. He reviewed the PAR (Program for Area/Asset Responsibility) approach which is the subject of a five-day inventory management course now being given at Crotonville.
- Better utilization of facilities and more sophisticated purchasing of major machine tools were covered by William W. Beardslee, manager of Engineering Consulting and Manufacturing Engineering Consulting for CCS. Item: alert purchasing secured an \$860,000 boring mill for only \$210,000.

One of the outside speakers at the conference was Thomas J. Galligan, Chief Executive Officer of Boston Edison Company, who reported that cash demands were also placing serious strains on the nation's electric utility industry—one of the largest investors of capital in the United States. He ticked off the now-familiar causes: "Consumerism, high money costs, a chaotic fuel situation, a deteriorating regulatory climate, a near-collapse of financial markets, a 'tobogganing attitude' on the part of investors toward utilities, conservation and precipitous and sometimes unrealistic environmental demands."

Of particular interest to the General Electric conferees: Boston Edison's emphasis on quality equipment. "Edison in recent years has been willing to pay more money for a piece of equipment if it could be demonstrated that it would operate more efficiently and reliably," he said. "We have felt that quality pays off in the long run. You may be interested to know that seven out of the last eight turbine-generators in operation, under construction or in design are General Electric. This was because we were convinced that General Electric offered a more reliable unit." ▲



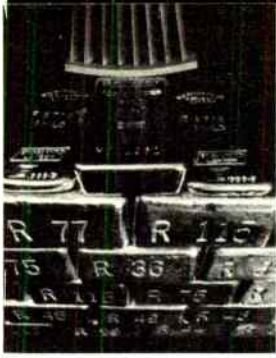
## GE's anti-gold rush

The so-called "gold rush of '75," in which Americans would scurry, lemming-like, to own their own caches of the precious metal as it became legal to do so, was a fizzle. While U. S. citizens reacted with a yawn, the price of gold, driven by international speculation, zoomed to record levels and has remained there. From \$65 an ounce in January of 1973, gold prices ballooned 185 percent to \$185 an ounce in December of last year.

For industrial users of gold—including GE—inflated prices have had a devastating impact, precipitating a vigorous effort to reduce consumption.

The *Monogram* asked William H. H. Chapman, Corporate Purchasing Manager-Nonferrous Metals in Material Resource and Traffic Operation, how much gold Company operations use: "Currently GE consumes some 10,000-20,000 troy ounces a year," he said, "an amount that would occupy one cubic foot or so if lumped together. Because gold has unique characteristics it is specified for such applications as printed circuit boards, micro-circuits, switch contacts, semiconductors, plating and brazing alloys."

Unpredictable gold prices can substantially affect the cost of these products, says Chapman. He feels that gold could be exceeding the \$200 per troy ounce level before the end of 1975 if worldwide inflation and lack of confidence in paper currencies should become more pronounced. On the other hand, with improvement in the world's eco-



Gold-saver Tom Berry, left, with an Evendale-built J65-21 jet engine containing 72 gold-brazed stator vane segments. Norm Fairbanks, right, an engineer in the metal forming unit, points out that vane segments represent the major opportunity for gold savings in the Group through use of new low-gold alloy formulation.



conomic climate and continued recovery of the various securities markets, gold could lose its appeal and fall from present levels. "However, even back in the days of \$35 gold, many manufacturers would have stopped using gold if it had been technically feasible," he adds.

Among the first GE components to issue the clarion call to "get the gold out," was the Aircraft Engine Group. Two years ago, engineers at the Hooksett, N.H., plant were using about three million dollars' worth of gold a year—primarily for a brazing alloy that was 82% gold. "This place was becoming a little Fort Knox," reports an AEG engineer, "so we started a program to reduce the gold content in our brazing alloys without reducing their quality."

The job went to a group headed by Thomas F. Berry, manager of Joining Development at Evendale. He points out that gold is specified because its qualities can't be duplicated in any other metal and it offers outstanding engineering and manufacturing characteristics.

"It flows and wets the base metal well, producing smooth fillets, and easily fills joints. It has high strength, resists oxidation and corrosion plus possessing high ductility," he explains. "It's tolerant of furnace and surface cleanliness and is amenable to high volume production. Gold brazing alloys have not caused component failure during engine operation and seldom cause defects in manufac-

ture." AEG engineers therefore specified the alloys for critical applications such as jet engine compressor vane sectors and engine frames.

"Our alloy development work included replacing a portion of the gold used with judicious amounts of nickel, silicon, boron, iron and chromium," says Berry. "The resultant alloy formulation is called Au-6 and it retains the desirable characteristics of the original alloy, but with significantly less gold. Also, since Au-6 is only half as dense, the same weight will braze twice as many parts." A U.S. patent covering the new alloy was issued to inventors Norman Fairbanks of Evendale and Raymond Barb and William Sutar of Lynn. Happily, the new Au-6 formulation also yields better joint strengths in addition to the cost savings.

Over 200,000 jet engine compressor vanes have been brazed with the new Au-6 alloy at Hooksett with what Berry describes as "virtually 100% successful yield." The new alloy is also being used on jet engine vane sectors and frames.

Best of all, the tally of savings contributed by the lowered volume of gold required for the alloy was worth over a million dollars in 1974. (The 560 pounds represented by this savings is displayed photographically on the back cover of this issue.) Total gold use in the Aircraft Engine Group has been reduced by more than half, declining from 6685 Troy ounces in 1973 to 3283 last year. **AW**

# MONOGRAPHS



**GE's model policeman**—Richard Clements, the Massachusetts State Police trooper who was immortalized by the September 30, 1958 *Saturday Evening Post* cover, Norman Rockwell's "The Runaway" (above), is now chief of plant protection for the Company's Transformer and Distribution Equipment and Plastics Divisions. A 21-year



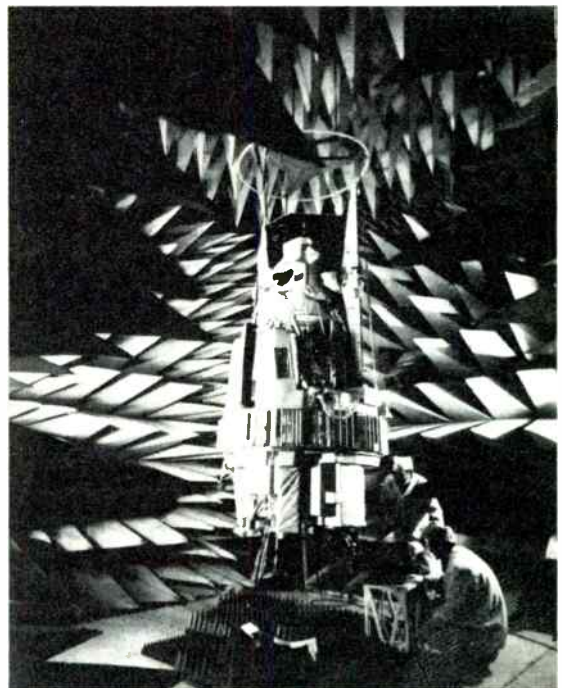
veteran of the state police, GE's newest plant protection chief (right, standing) has gained widespread recognition in ways other than as a model. Clements earned the Bay State's Outstanding Police Service Award and the Massachusetts Humane Society's Medal for Bravery for entering a burning house in which six children were believed trapped.

**Rediscovered in space**—The Space Division's Earth Resources Technology Satellite, fortified with a new name—LANDSAT, has recently captured the highest honor in American aeronautics and, in the best news of all for Valley Forge employees, has earned a new lease on life.

The honor is the Robert J. Collier Trophy for the outstanding aerospace event of 1974. The prestigious annual award, traditionally presented by the President of the United States, will be received on May 2 by GE Space Division VP and general manager Daniel J. Fink and Dr. John F. Clark, director of NASA's Goddard Space Flight Center. It has never before been won by an unmanned craft.

LANDSAT won a new lease on life when government funds were released for a 1977 launching. Honored by *Fortune* magazine for its contributions to world agriculture and other major disciplines, the satellite gathered enough friends in Washington to merit its renewal against considerable budget-trimming opposition.

Shown at right is LANDSAT-C before its early 1975 launching.



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**Oldest pensioner**—John Ryan, now in his 42nd year of retirement from Schenectady GE, recently celebrated his 105th birthday and thereby became the all-time oldest pensioner in the Company, topping 48,000 others. Born in 1870, the Irish immigrant joined GE in 1910 and retired as a machine repairman in 1933. His pension check is six times larger than the regular pay he received before retirement. A bachelor, he attributes his longevity to “hard work, good food and a good night’s sleep.”

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**Rich dish**—This year’s winner of the Microwave Cooking Award at the Pillsbury/GE Bake-Off was victorious despite a substantial handicap: Mrs. Gene Hungate of Sterling, Illinois, used a neighbor’s countertop microwave oven to perfect her Sherried Shrimp Rockefeller. Her main-dish supper earned \$5000, a trip to San Francisco for the main Bake-Off competition, a GE variable-speed stand mixer and a GE Versatronic<sup>®</sup> microwave cooking center range.

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**The MPC connection**—Four thousand graduates and six years after the first GE Management Practices Course class in 1969, Jackie Pinckney, right, manager of EO/MR Program Development for Corporate Employee Relations Operation, was invited back to celebrate the curriculum’s substantial contributions to first-time managers’ expertise at General Electric. The 4000th graduate, Mrs. Marion Carlo, left, manager of the Technical Publications Unit at Corporate Research and Development, was honored by Dr. Lindon E. Saline, center, manager of Corporate Educational Services. His advice to the current crop of graduates? “Always select outstanding people, but then do less ‘managing’ than you’re tempted to do.”


The MPC course is now a classic in American management education—more than 150 other companies and governments have paid GE to present it to their managers. Last year 61 MPC courses were given at 18 locations in 5 countries.

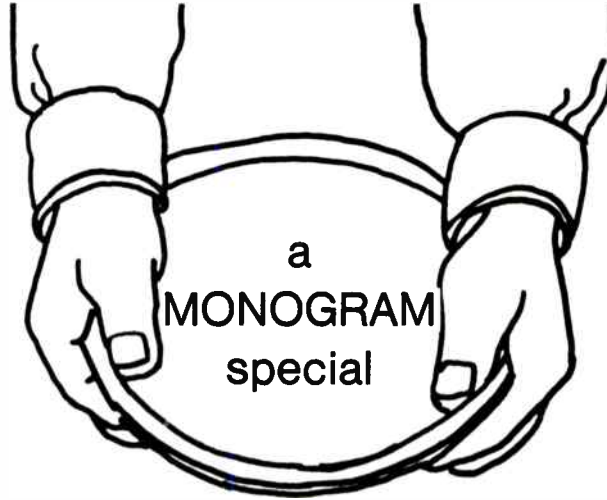


**The flyers take a lady**—For president, that is, of the Santa Clara County (Calif.) Airmen’s Association. GE secretary Kaylene Loos of the Housewares Business Division in San Jose, who has been a licensed pilot for three years, is the first of the fair sex to hold that title. The 25-year-old organization boasts some 250 family memberships.

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**R.S.V.P.**—The response to the *Monogram*’s coupon offer of reprints of GE’s 12-page booklet, “Answers to forty of the most commonly asked questions about electricity,” has been outstanding. Some 700 readers had requested more than 30,000 booklets at press time, and the orders are still flowing in.

Electric utilities have also responded to the free offer, and 109 of them have asked for a total of five million copies. The booklet originally appeared as an advertisement in the December 1974 *Reader’s Digest* magazine, which reaches more than 44 million readers worldwide. 



## Wooing the consumer

**With Mr. and Mrs. Consumer accounting for some two-thirds of the GNP, the economy can't get going again until the consumer marketplace comes alive. But this won't happen just as the result of hustle and hard sell—the consumer will come out of his shell only for real needs and solid values. Here's how GE operations are "getting back to the basics" of consumer appeal.**

The American consumer, whose approval underpins our whole economic system, feels he has been jilted by that system.

Late last year the Gallup Poll's measure of consumer confidence in the future skidded to a new low in the poll's 40-year history. GE's own surveys, directed by the public opinion research staff of Corporate Public Relations Operation, indicate that concern about the domestic economy and personal money worries overshadow all other issues by a wide margin.

And Reginald H. Jones, GE's Chairman of the Board, said recently in a CBS TV network interview, that "there's a very close relationship between the sales of all consumer goods and the level of consumer confidence . . . so if we're going to climb out of this recession, we've got to turn this confidence around."

The challenge to the Company's consumer businesses is an obvious one. The greatest marketplace rewards go to those who correctly judge what the wary consumer needs now. If the U.S. consumer's confidence is to be turned around, GE operations will have to play an important part.

The challenge is formidable. The so-called

middle class—households accounting for an estimated 75% of consumer purchases—has seen the purchasing power of its dollar shrink almost 20% in the last few years, while the value of savings and other assets declined 11.5% and the household debts rose 18.6%. The meaning is plain: people just have less disposable income to spend on non-food consumer goods.

Here in 1975, though, some things have begun to look better. Economists see disposable income beginning to increase again. More importantly, there has been a significant turnaround in consumer attitudes. Consumers now believe that some economic recovery may lie ahead. Last August, according to the Gallup Poll, only 13% of consumers thought the economic situation would improve in the next six months; by February, 30% saw improvement on the way. Consumers may not be professional economists. But they were right on target in early 1974 when they foresaw economic gloom and doom, even though most economists were predicting an upturn in the economy. And, hopefully, they are "right on" now in believing that things will improve.

Even though their outlook is brighter, however, consumers remain wary. Whatever their category—singles, young marrieds, families with young children, families with teen-agers, "empty nesters" whose children have grown and gone, and retired couples—all consumers, according to recent polls, indicate that "need," not "want," is their criterion for buying anything today.

As one person told a *Home Furnishings Daily* editor: "This year I'll think twice before buying, and anything I buy will have to be something I'll use often and something I really need."



**Back to the basics:** In this no-nonsense atmosphere, GE managers are aware they have to go beyond "business as usual." As Donald E. Perry, VP of the Home Entertainment Business Division, expresses it: "We believe that 1975 will be a year when success in the marketplace will depend largely on getting back to the basics of serving the consumer."

Perry is hopeful that the present situation may work in GE's favor: "American consumers have traditionally turned to trusted brand names during times of economic pressure."

The brand-name strength of the GE monogram is also acknowledged by John S. Chamberlin, VP for the Housewares Business Division, who reports that "five times as many consumers prefer the GE housewares brand name as the next leading brand name—a fact which will help us competitively in wooing the consumer back."

Chamberlin also cites as a hopeful influence the fact that the press of economic problems seems to have set up a positive trend in the housewares business: "Increased interest by

consumers in doing things at home—whether it is preparing a gourmet meal or styling their own hair—began with the energy crisis and has continued with the recession."

And at Major Appliance Business Group headquarters in Louisville, there is confidence that GE is ready for increased sales opportunities in multi-family dwellings and a new breed of mobile homes.

According to Stanley C. Gault, VP and Major Appliance Business Group Executive, "Wooing the consumer back into the marketplace once consumer confidence has turned around is primarily a matter of communicating the outstanding values major appliances still represent."

He adds that "fortunately, our industry has people who can rise to the challenge. It is, after all, the industry that replaced the ice box, the clothesline, the garbage pail, the dishpan and the laundry tub."

On the following pages, the *Monogram* presents more detail on the Company's perceptions of the challenge of wooing the consumer back to the marketplace.



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'sident of the United States

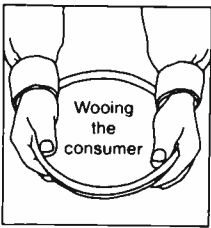
**Aiding consumers through political action:** Not content to watch television sales slump, an independent group of employees from the Television Receiver Products Department in Portsmouth, Va. recently decided to do something about it. Many were stirred by the job-restoring ideas presented in Manager of Manufacturing Thomas Burns' state-of-the-business report. So, James Dayton, a quality control specialist, hatched the idea of an open letter and personal presentation to the President and members of Congress, urging action on the economy.

The consensus, ultimately backed by more

than 2700 signatures, was delivered to Washington by four "ambassadors" and bore this message: "Reduce burdensome taxes, avoid high interest rates through money crunches, and cut excessive government spending."

In his Capitol Hill office, above, an impressed Senator Harry F. Byrd, Jr., (third from left), Independent of Virginia, responded to the three-foot canvas scrolls with a promise to bring the GE employee views to the attention of his fellow Senators.

The group also visited Senator William L. Scott and Congressman Robert W. Daniel.



## Offering incentives

One of the most direct ways that GE consumer operations are seeking to woo the consumer is by timely promotional thrusts.

Most widely publicized of these GE moves has been the use of \$2 to \$5 factory rebates by the Housewares Business Division. The Division offers these rebates on 39 small appliances, such as hair dryers, toaster-ovens, clocks and irons. The rebate program is scheduled to run through May 18.

But other GE operations are also offering inducements. Home Entertainment Business Division's "Great Sound Sale," for example, guaranteed rebates of \$3 on various models of digital clock-radios and tape recorders during February and March, while during April and May HEBD is sending cash rebates of \$3 to purchasers of any of nine weather-band radios.

The Major Appliance Group has launched its annual April-May promotion, "National Sales Days," about which Vice President William B. Clemmens, general manager of the Retail Sales Division, notes, "We think GE's reputation, the power saving features on many models and our nationwide service network will make the event more appealing than ever to a value-conscious public."

GE'ers can save even more than usual between April 21 and May 31, as Major Appliances plans to offer an extra 50% on the discount to employees purchasing any room air conditioner.

And, in celebration of Hotpoint's 70th anniversary, a new washer has been introduced and a 30-inch free-standing range with self-cleaning oven has been specially priced for the anniversary promotion.

## Reviving housing

Economists generally agree that housing will have to lead the way out of the consumer market doldrums. GE is working vigorously with contractors and builders to provide features and appliances to make housing more attractive to prospective tenants and buyers.

"There's a pent-up demand for housing," says John E. St. Lawrence, Manager of GE's Contract Support Operation in Louisville.

But high land and construction costs and astronomical interest rates brought the number of housing starts in December of 1974 down to a near-record low of 874,000 units, according to the U.S. Department of Commerce.

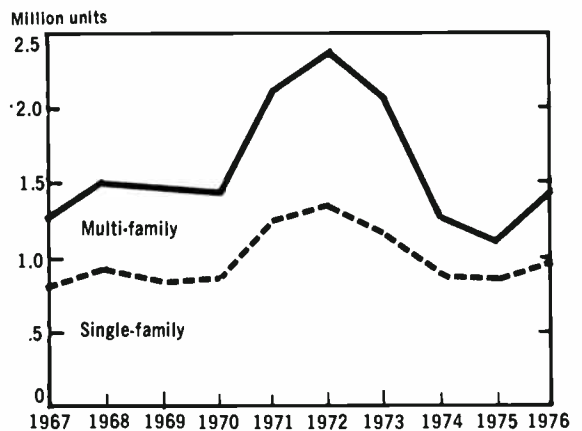
Now economic forecasters are more optimistic. Housing starts this February, while still low, showed some improvement over December. The maximum interest rate on government-backed loans recently dropped from 8½ to 8%, and inflation is subsiding so that costs are leveling off.

GE's stake in the recovery of the housing business is a high one.

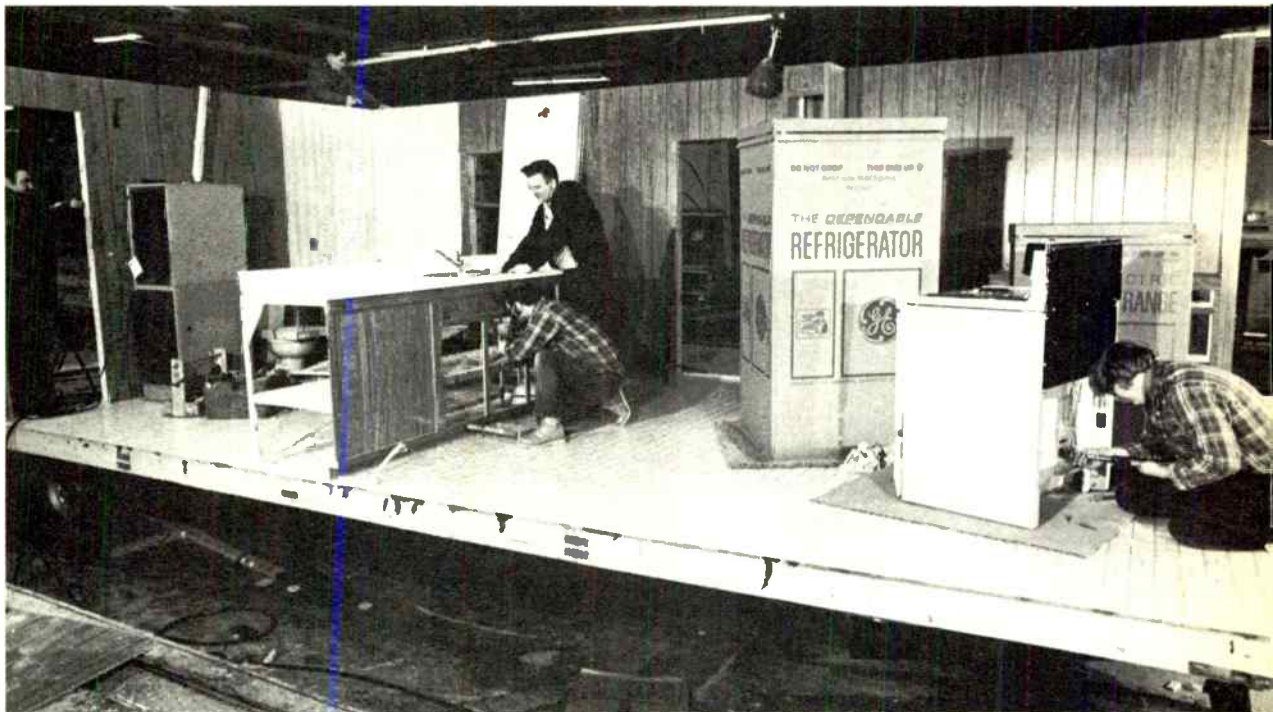
"Each apartment or condominium unit," St. Lawrence says, "has a potential need for 4.5 major appliances. This compares with 2.3 appliances for single-family dwellings, because buyers often bring some major items with them." St. Lawrence foresees that "our sales will grow proportionately" as the market reactivates.

GE will earn its participation in this eventual upturn by the services it provides the industry. The Contract Sales Division, for instance, has a Design Service which plans kitchens and laundries for builder-customers. This does more than merely help GE keep its competitive edge in the contract sales market; it also assures the home buyer or apartment tenant an attractive and well-planned GE kitchen and laundry.

"The story right now," St. Lawrence concludes, "is that housing *is* expected to lead the way out of the nation's recession."



*Projected gain in multi-family housing is a trend favorable to GE*



*Equipped with GE appliances right from the start, a deluxe double-wide mobile home takes shape at the Fleetwood Corporation's Ringtown, Pennsylvania plant.*

## Sparking an upturn in mobile homes

One special segment of the housing market in which GE takes a special interest is that of mobile homes.

"We've been the leading supplier of appliances for this type of housing for as long as there has been an active mobile home industry," says Arthur E. Andres, VP for the Contract Sales Division in Louisville.

The industry is already showing signs of an upturn. Increasing numbers of mobile homes are expected to start rolling through the doors of the nation's major manufacturers—a high percentage of them complete with kitchens designed and equipped by General Electric.

A primary reason for the popularity of the mobile home is, simply, value. Families in need of shelter today can find more of it at a lower price in a mobile home than elsewhere.

"More than 371,000 mobile homes, many with GE kitchens, were delivered in 1974," Andres says, "and we expect to furnish appliances and custom-designed kitchen plans for a wide variety of both coach-type and double-wide mobile homes again this year." Production of mobile

homes is expected to reach 410,000 units in 1975.

A new, good-quality mobile home can range from as low as \$5,000 to more than \$30,000 for the spacious double-wide models, including all furniture and appliances. Most manufacturers feature the same General Electric and Hotpoint appliances—ranges, refrigerators, washers, dryers, disposers, dishwashers, and even an occasional trash compactor—that are offered by builders of single-family houses and apartment buildings.

The "mobile" in mobile home is almost a misnomer today. In most instances, the new unit travels the distance between factory gate and the home buyer's concrete pad and never moves again.

"The trend is toward larger, double-wide models and buyer-owned lots," says Andres, "and away from mobile home parks." Double-wide mobile homes are constructed as two separate halves and individually towed to the owner's lot, where they are bolted together and secured to a foundation or pad.



## Making homes appealing through energy-saving

American families, wherever they live, have demonstrated that they are serious about conserving energy. Consequently, one way to stir consumer interest in the housing market is to demonstrate how new homes can be planned, built and equipped to be energy-savers. GE products and ideas are very much a part of this picture.

One good example is the energy-saving home designed and built recently as a cooperative venture of GE, the Women's Auxiliary of the National Association of Home Builders (NAHB), and *American Home* magazine.

Suggestions made by the 100-plus members of the NAHB Auxiliary—all of them builders' wives as well as homemakers—were incorporated into a house constructed by the Home and Apartment Builders Association of Metropolitan Dallas and displayed to members of the homebuilding industry attending the NAHB's 1975 meeting in the Texas city.

The house is featured in the March issue of *American Home* and local builders across the country plan to duplicate it.

GE contributions to the energy-saving house included heating and cooling equipment, the design of the fluorescent lighting system, housewares, Textolite® countertops and the kitchen and laundry appliances, many of them with energy-saving features. The kitchen was designed by William J. Ketcham, GE manager of Kitchen/Laundry and Store Design.

The basic concept was to produce a livable and enjoyable home that would not only save energy in the form of fuel but would also conserve the energy of the homeowner and family by incorporating the convenience of modern equipment and appliances.

And implementation of the concept began even beyond the outside walls of the house, with placement of the house on its site and tree plantings taking into consideration the prevail-

ing light and wind direction in order to make the most efficient use of heating and cooling equipment.

Recognizing the value of good insulation in making possible substantial reductions in fuel consumption, the builder incorporated four-inch insulation in the outside walls and six-inch ceiling insulation, and specified double-glazed insulating glass for all windows. And the wide roof overhangs, for protection against strong sunlight, will lead to lower air conditioning costs.

Inside the house, fluorescent lighting designed by General Electric for eight major locations—kitchen, utility room, family room, master bedroom, and four baths—demonstrates the versatility of fluorescent applications in residential construction.

Mrs. Nancy Christensen, GE lighting specialist, reports that "in each room where fluorescent is used, we compared electricity costs with a comparable incandescent system. Savings ranged from 29 to 66 percent for an overall average of 45 percent."

The rounded U-shape kitchen, efficiently planned by Bill Ketcham to save steps and time for the homeowner, includes a number of GE appliances with specific energy-saving features:

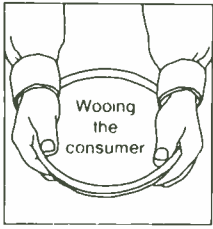
- a **refrigerator-freezer** with a Power Saver switch that can reduce power consumption;
- a **Potscrubber® dishwasher** with a Power Saver switch for drying without heat, substantially reducing the energy used in its operation;
- a **food waste disposer and trash compactor** that operate on about 9 KWH of electricity for an entire year;
- **two P-7® self-cleaning ovens**, with an improved insulation system that saves enough energy in baking and roasting to offset the energy used for self-cleaning.
- a **built-in microwave oven** which can reduce cooking time to a few minutes for many kinds of food, making quick meals easy to prepare and saving energy too;
- **and a Toast-R-Oven® toaster**, which provides a low-energy alternative for heating small portions of food.

The energy-saving house in Dallas demonstrates dramatically that proper building techniques and the judicious selection of appliances and lighting can result in energy conservation without the elimination of the conveniences compatible with the lifestyle of today's consumer.



Dallas energy-saving house features (clockwise from top left) efficient, built-in microwave oven; Potscrubber dishwasher with Power Saver switch; functionally designed kitchen; multi-purpose utility room with GE washer, dryer and featuring a lighted soffit which uses deluxe warm white fluorescent lamps to deliver generous amounts of light to work areas; living room with GE solid-state color TV set that consumes less power than comparable tube-type.





## If you can't build, remodel

With the average price of a single-family home hovering around the \$37,000 mark, with mortgage money scarce and with interest rates high, words likely to be heard from homeowners these days are "modernize" and "remodel."

In a different economic climate, these consumers would be out looking for a new house. But instead, they will be adding a room, enclosing a porch, installing a patio or, especially in older houses, revitalizing the kitchen.

Here, too, GE is taking steps—to appeal to home owners interested in kitchen remodeling, either as customers of professional contract remodelers or as do-it-yourselfers.

Updating the kitchen can be as simple as giving old cabinets a coat of paint and new hardware, putting up new wallpaper, putting down new floor covering, adding new accessories.

Or it can be as complicated as installing new appliances and re-designing the entire room.

"Do-it-yourselfers will do re-decorating, put in new appliances, even replace cabinets," according to C. Jean Mattingly, GE's manager of Home Modernization and a certified kitchen designer. "But if the job requires plumbing, electrical work or structural changes in the room, those segments of the work will most likely be sub-contracted to professionals."

The advantage of having a contractor remodel the kitchen, she points out, is that it is

done completely and all at one time. "Also, you have expert advice in planning the remodeled area, and you have accredited people doing the work. Naturally, you pay for that. But if a do-it-yourself project turns out badly, you may have to have it re-done anyway."

Miss Mattingly emphasizes the importance of good planning *before* the remodeling job is under way. She urges home owners to study their "old" kitchens carefully and decide what should be changed to make the room more efficient as a work center—what should be added (or subtracted) and why.

"Right now, because of the economy," Miss Mattingly says, "a lot more people are becoming do-it-yourselfers."

Responding to the upsurge in handymen (and women), home improvement centers are featuring pre-glued wallpaper, adhesive-backed floor tile, pre-built cabinets and other items created for do-it-yourselfers.

And General Electric has come to their aid with a number of appliances designed for installation by the home owner. Potscrubber dishwashers come with an installation module, connected to house electrical and plumbing connections. And GE and Hotpoint both offer kits which can be used by the home handyman to replace most built-in dishwashers.

There are GE and Hotpoint food waste disposers that come with simple-do-it-yourself installation instructions on the appliance cartons.

Many refrigerator models are equipped for the addition of an automatic icemaker, which can be purchased separately and installed by the do-it-yourselfer. (The icemaker then must be connected to the home water supply.)

The trash compactor is sized to replace a standard 15-inch base cabinet and requires no plumbing or special electrical connections.

And even a through-the-wall air conditioner can be installed by capable home handymen.

As Miss Mattingly points out, a *complete* kitchen remodeling "will cost maybe \$5,000 or even more," but it may be a good investment, even if you plan to sell the house eventually.

"We know that the kitchen helps to sell a house—new or old, and if you have a better kitchen to offer a prospective buyer, you'll probably get more money for the house than you would otherwise."





### Kitchen remodeling—one happy example

*Before-and-after photos show how the Robert B. Days created a "country kitchen" in a Chicago condominium. Day is Central Region Manager of GE's Corporate Market Development Operation.*

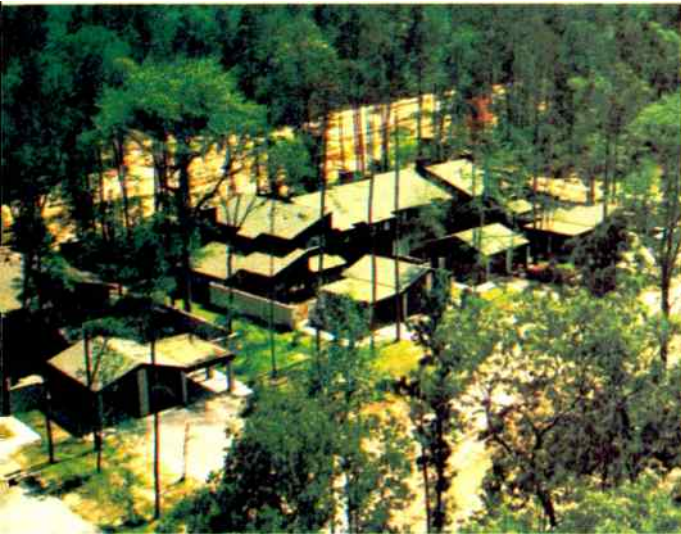
*Brick work is real brick, sliced thin and applied like tile. The added ceiling beams serve a very practical purpose: one takes the clothes dryer vent (laundry is behind the room divider) to an outside wall; the other encloses water and power lines for the GE appliances. GE Textolite® countertops are in a butcher block pattern.*

*And what's behind the red door? The fire escape.*





## THE WOODLANDS: new planned



**Ecological planning** has been stressed at new planned community of The Woodlands. Project's experts include both top community planners and environmental specialists. A third of the land remains open space.



**Energy saving GE Lucalox® lighting** was chosen to light entrance-ways, roadways and parking areas. The fact that these lights deliver more light with less energy fits in with the environmental emphasis.

A dozen years ago a Texas entrepreneur named George P. Mitchell had the vision of a community where people could live a different kind of life—more in harmony with nature, free of a lot of the tensions and frustrations of urban and suburban living, and rich in options for development of both mind and body. Today at The Woodlands, some 25 miles north of Houston, those powerful inducements are on display to help woo consumers back into the market for homes, town houses and apartments. GE products and technologies are important elements in The Woodlands' appeal.


A visitor to Mitchell's office atop the Mitchell Energy and Development Corp. facilities in downtown Houston finds a quick, enthusiastic man for whom The Woodlands is obviously a favorite topic. "In view of the economic downturn and high interest rates, we picked a difficult time to launch a new planned community," he admits, "but as the economic situation lets more people match their interest in this community with their dollars, we'll see a strong upsurge in commitments to The Woodlands."


The interest is definitely there. Ever since The Woodlands opened last October 19, throngs of visitors have been streaming through its con-

temporary-styled Information Center, boarding its tour buses and examining the life styles available amidst its 20,000 wooded acres.

They are seeing something different in new communities. "The Woodlands is a planned community that isn't just plans," Mitchell says. "Our philosophy was to build first and talk about it later. Our customers don't have to buy on faith—they can see everything from schools to swimming pools in place here and now."

The results of this follow-through are pictured here: The Woodlands' residents can begin immediately to form satisfying new life patterns. Says Mitchell: "We call it 'a new hometown'—a special blend of town and country that offers the conveniences of a large urban area in a beautiful wooded setting."

Grogan's Mill, the first of seven villages planned for The Woodlands, is open and operating. George Mitchell looks forward to the time when this new hometown will have its full complement of some 150,000 people. 

**Myriad options** for recreational, cultural, educational opportunities are already in place. School facilities are built. And recreational facilities cover the range from a championship golf course to riding trails. 



## community offers different life styles



**Community for all:** *Woodlands* avoids being just an upper class development, offering housing from estates to garden apartments.



**Everything nearby** allows use of bike and hike trails. Mothers are relieved of "chauffeur"ing—kids get to school and play on their own.



**Emphasis on electricity** includes GE-equipped electric cars, kitchens, power from good GE customer Gulf States Utilities.



**SCENES FROM REG JONES'  
PHILADELPHIA TOUR:**

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Restored room in Philadelphia's Independence Hall saw Benjamin Franklin and the other 55 members of the Second Continental Congress "put their John Hancocks" on the Declaration of Independence in July of 1776. Bust of Ben Franklin, right, was made from 80,000 pennies contributed by children. It stands in front of the Union Fire Company he organized in 1736—the first in the Colonies.



Betsy Ross, storied in U.S. history for her work on the first American flag, lived in this now-restored Philadelphia townhouse, at left. Above, rotunda of the Franklin Institute, the city's distinguished museum of science, where GE Chairman Jones joined in honoring Franklin's scientific contributions.

# Previewing the Bicentennial

When he went to Philadelphia to receive the 1975 Gold Medal Award of the Poor Richard Club (Jan./Feb. *Monogram*), GE Board Chairman Reginald H. Jones found that part of the day's ceremonies included a tour of the city's historic spots.

In effect, what the GE Chairman received was a preview of a number of the Revolutionary memorabilia that will be in the forefront of public attention when the United States celebrates its 200th anniversary in 1976. Highlights of the tour on these pages were photographed by the R&D Center's Walter B. Halstead and Russell F. Ley.

In his address accepting the Poor Richard Award on Benjamin Franklin's birthday, the GE Chairman applied the Franklin example to several contemporary themes.

One of these: whether individual action can be effective in the mass of modern society. "It is fashionable these days," Jones said, "to say that there's not much one individual can do to affect the grand, inexorable movement of history; that great forces are at work which determine the course of our so-

ciety, and no one person can do very much to change it. I suppose one of the main purposes of this celebration of Benjamin Franklin's birthday is to give the lie to that attitude of despair."

The Chairman recalled that this attitude is a very old one, stemming from the ancient philosophies of the East as well as from "the saddest book of the Bible, the Book of Ecclesiastes," which warns that "there is no new thing under the sun."

While acknowledging that there is wisdom in these warnings against excessive pride, Jones commented: "Yet the philosophical scientist Rene Dubos points out that, of all the characteristics that distinguish man from the other animals, the most distinctive is his capacity to take thought, make decisions and, if necessary, change the course of events. No other animal can do that."

He added: "If we need reassurance that one person can make himself felt—and I think we need that today, amid all the gloom—we might examine the heritage of that most versatile of the Founding Fathers, Benjamin Franklin." ■



The Liberty Bell, which rang out the news of the Declaration, was visited by the GE Chairman and his wife, Grace, on their tour of Philadelphia's historic shrines. At right, examining the Poor Richard Award: Poor Richard Club President Kermit W. Angstadt, Sr., and his wife, left, with the Joneses.

## THE BUSINESSES

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GESCO's network is based on 183 supply houses such as this one in Phoenix, Arizona. Each house is stocked differently to meet local electrical supply needs.



Sophisticated GE TermiNet 1200 network helps GESCO keep track of five million invoices per year.



Fast response to customer's order: wanted item is either on hand or is quickly located at another GESCO house.

# A profile of GESCO

**GESCO—the General Electric Supply Company—ranks high among the least-known major segments of General Electric. Here, in a few minutes' reading time, is the basic information about a business that is conducting operations in all 50 states, is now extending its sales abroad and is regarded by management, past and present, as "a fun business."**

E. Bert Pierce, manager of customer service, figures that he occupies the most remote outpost growing from a policy that has brought steady growth for the General Electric Supply Company. Pierce is in Fairbanks, Alaska, dealing with temperatures so frigid that, if his car's engine-block heater fails during the night, he is left with oil the consistency of congealed grease and a battery that is one large ice cube.

The GESCO policy that he represents is described by GESCO's VP Kertis P. Kuhlman in these words: "Zero in on geographical growth areas where something special is happening, and then put the specialized sales people and the goods right next to the action."

The action that Pierce and his associates are next to at Fairbanks is the \$6 billion Alyeska pipeline project, plus Alaskan electrical contractors and utilities.

That is GESCO's essential service: to supply the distribution channel by which some 85,000 different stocked items—wall plugs to transformers, products of other manufacturers as well as GE—reach electrical contractors and industrial and utility customers. These products are selected from the output of 46 different GE Departments and 3,000 non-GE manufacturers.

For competition, GESCO contends with several other nationwide electrical supply firms and regional chains. But the main competitors are the hundreds of local electrical distributors, who garner a large portion of the \$9-billion-plus annual electrical supplies market.

GESCO's competitive response can be summed up in one word: service. GESCO people work hard at making it extraordinarily convenient for the customer to do business with them. As an instance, at

a major refinery in Texas, an order for cable, typed into a computer terminal, prints out seconds later at the nearest GESCO supply house. Within minutes, often, the cable is on a truck bound for the refinery.

These policies have been successful for GESCO: the firm has been chalking up one of GE's better growth rates in the face of a general recession and a declining housing market. Another measure: the spread of the business. Fairbanks is the 183rd city to which the GESCO network extends.

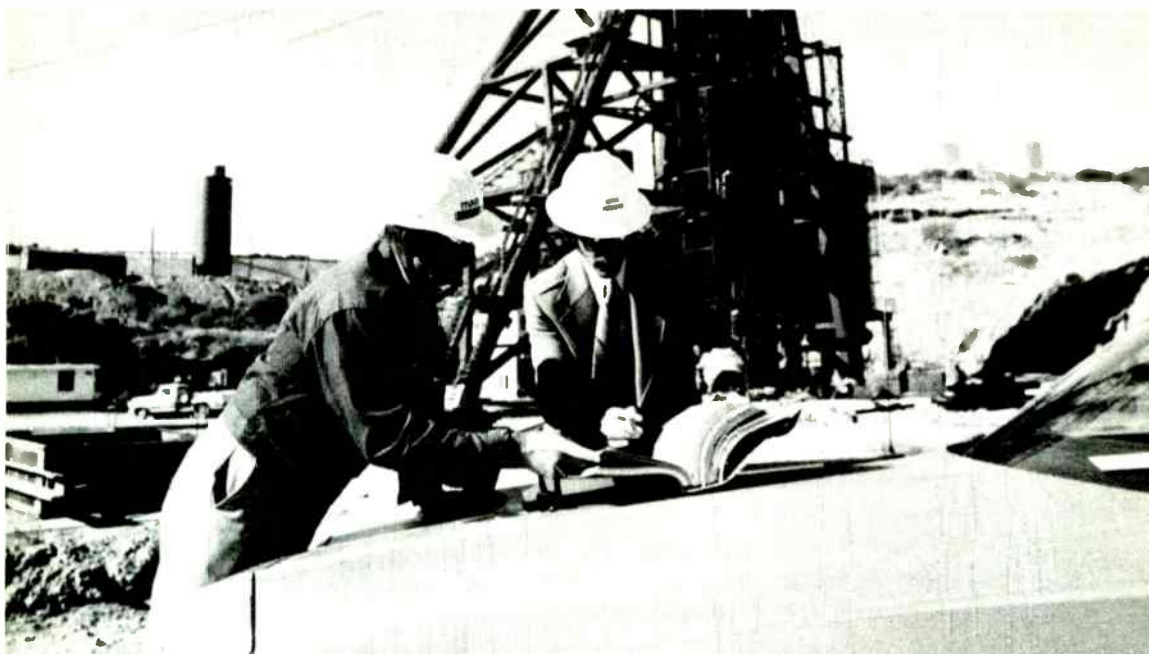
But GESCO's objective of offering convenience to its customers doesn't allow those 183 centers to be uniform. Says Kuhlman: "We have essentially 183 completely different businesses. No two GESCO houses are stocked exactly alike. In Baytown, Texas, we are heavy on explosion-proof switches and conduit; on Long Island, we carry lots of building trade items just like the local supplier down the street. Part of our competitive edge consists of how fast and efficiently our network can get the unusual items for you. That's important, even though the average GESCO house stocks 9,000 items."

Back in 1904 when General Electric Company first got into the supply business, there was a much

*(continued next page)*



**VP Kertis P. Kuhlman:**  
"Put the GESCO houses where the action is."



In the field, a customer's needs are reviewed with a GESCO sales representative. The scene here is outside the world's largest underground mine in San Manuel, Arizona.

more limited menu of electrical items. By October of 1929, it was clearer that there was considerable potential in the electrical distributing business and there were 87 outlets with the General Electric Supply name on the door. These were merged to form the General Electric Supply Company.

In January of 1956, GESCO became a division of the Company. In 1958 a young GE executive named Reginald H. Jones took over GESCO and embarked on a program of growth. Jones stayed in Bridgeport, Connecticut with GESCO until 1964.


In the estimation of Reg Jones, GESCO was "a fun business to run." Kert Kuhlman continues to think so: "It requires daily fingertip control and it responds immediately to changes. In that sense, it is a fun business because you don't have to wait until the end of a five-year plan to see if your policy was right. Also, because it is 'short cycle,' you can try several new things at one time."

Backing up GESCO's high growth rate, a strong money management program. Dr. Thomas A. Vanderslice, VP and Group Executive of the Special Systems and Products Group, of which GESCO is a part, notes with pleasure that sophisticated GESCO management has kept growth in inventory and receivables far below sales growth while at the same time improving customer service by closer attention to fast moving inventory items. A computerized system of asset management, using GE

TermiNet<sup>®</sup> 1200 computer terminals in 19 locations, feeding information back and forth from GESCO's computer center in Bridgeport, is one of the tools for the Division's money management.

The future action for GESCO is taking on an international flavor. A joint project with International Sales Division is already moving GESCO supplies to the construction site of a future showplace—Jeddah Airport in the Kingdom of Saudi Arabia. And Kuhlman expects more offshore opportunities for GESCO in the next few years.

GESCO business interfaces with other GE components in at least two ways. There are the 46 product departments which sell electrical products to GESCO for resale to outside customers. But then there are the GESCO outside salesmen who consider GE plants very good prospects for sales for their own electrical supply needs. GESCO people call on every GE plant for sales purposes and are working hard at that business.

Kuhlman sums up the key to the GESCO momentum: the 3300 people, less than 19 per GESCO house on the average, who make the business go. "We're emphasizing the people in our business," he says. "We know the success we've had as a business is based on their initiative and motivation. Many of them are 50 miles from their boss and in charge of hundreds of thousands of dollars worth of business. As long as we have that kind of people, I'm sure we'll continue our momentum." 

## New job for GE space chambers: restoring valuables

If you're ever so unfortunate as to have large amounts of books, business files, personal papers or other valuables soaked by flood or fire hoses, rush them to the nearest freezer. Then call Richard G. Shoulberg, applications engineer at the GE Space Center in Valley Forge, Pa. Because if waterlogged materials are frozen, Shoulberg and his associates can restore them to near perfection.

The means they use: the space simulation chambers originally built in the 1960's to test space hardware.

The story of this new use of the space chambers began during the summer of 1972, when a fire in a large university's law library was quenched by tons of water from high-pressure hoses. The building was saved but not, presumably, were the books—some 60,000 valuable volumes.

Rather than give up, however, the university checked with the Library of Congress, which advised the immediate freezing of the books. Freezing arrests mold, fungus and mildew, holding the books in a state of suspended deterioration until restoration funds are available and proper salvage techniques are determined.

Enter Valley Forge. After a few preliminary experiments, Dick Shoulberg concluded yes, it was possible to use one of the GE space simulation chambers to dry the books.

The process was simple. On racks resembling library bookshelves, the books were rolled into the chamber, 4000 at a crack. The chamber's pressure was lowered to one one-hundredth of an atmosphere. This in itself caused a rapid evaporation of the water. To speed up the process, the GE specialists also relied on small space heaters—making use of heaters that had originally been made for water-bed applications.


"We break the vacuum about every 24 hours," Shoulberg explains. "Then we pump hot Freon over the fins inside the chambers. This melts the ice that has formed as the result of the process. From a batch of 4000 books we're likely to pull off 300 gallons of water in two to four days."

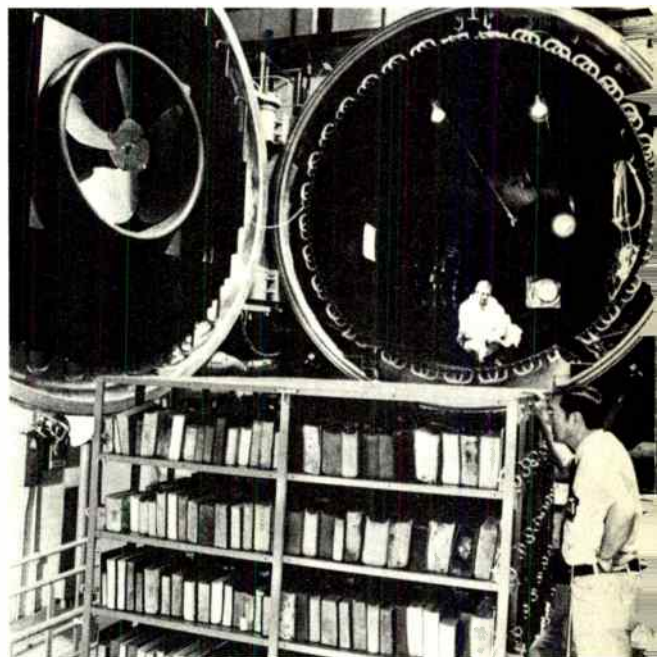
Previously, drying out wet books required interleaving pages with sheets of blotting paper by hand, followed by the slow process of air-drying, at a cost of some \$100 per volume. Shoulberg's space-age method takes far less time and costs only about \$2 per book.

With the university's library as a start, Valley Forge has gone on to other projects. One was the drying out of some 300 file drawers that had been under water for 14 hours. Valley Forge did the job without even removing the contents.

Still another memorable assignment for Shoulberg was to unstick a large collection of valuable stamps that had been stored in a safe and had become glued together when moisture got inside. This job was complicated by the fact that rare stamps lose value if their glue backing is lost. While the job was not completely successful, in Shoulberg's view, the Space Center did restore about 80% of the collection.

Any day now, the GE team expects to tackle another big drying job: several thousand historical documents saturated in a water main break in a Connecticut town. The documents have been frozen and officials are awaiting word from the insurance company.

"Frankly, it isn't a big business that we've got going here," Dick Shoulberg acknowledges. "But it's a business that is there for the bidding, and it is profitable. Beyond these pluses, though, is the satisfaction of knowing that we now have the capability to salvage irreplaceable valuables." 



## 1975 Phillippe winners: covering the range in social contributors

In honor of General Electric's late Board Chairman's leadership in public service, the Gerald L. Phillippe Awards recognize outstanding social contributions by GE employees. The five shown here cover the spectrum from aiding the

disadvantaged to developing new inventions that help the blind. Each receives the Phillippe medal and an opportunity to designate a charity or educational institution for a \$1000 grant from the General Electric Foundation.



◀ **Giving convicts a second chance** consumes much of the spare time of plumber-steamfitter William E. Emerson of the Marine Turbine & Gear Products Department in Lynn. At Norfolk State Prison, he helps the inmates prepare for and adjust to freedom. As a father with compassion for disadvantaged children, he also collects clothing and donations for charitable institutions.


**To help the mentally retarded** get more out of life is the objective ▶ of Commercial and Industrial Finance sales representative Brady Ervin of GE Credit Corporation in Nashville. Through the Jaycees chapter he helped organize in his community, he has established a reputation as an initiator and leader of several successful programs to aid the mentally retarded, including a children's summer camp.



◀ **Benefiting the blind** through electronics is the special contribution of Armament Systems' design engineer Charles E. Leonard of Aircraft Equipment Division in Burlington, Vt. Having lost his own sight to diabetes ten years ago, Leonard continues at his regular job, but in addition has turned his abilities to the development of devices that permit blind persons to ski, sail, play billiards and perhaps one day to "see" again.

**Emergency medical treatment** is a personal passion for logistics ▶ specialist Tom C. Simons of Space Systems Division in Houston. One of the first to qualify as an emergency medical technician in his town of LaPorte, Texas, he spends 16 to 20 hours per week helping to treat medical emergencies in Gulf Coast Hospital's emergency room. Also a volunteer ambulance driver, he is credited with saving nine lives and delivering five babies.



◀ **Helping others help themselves** has become a way of life for machine operator Lewis Woods, Jr. of Distribution Transformer Products Department in Hickory, N.C. As president of the Catawba County NAACP for more than 20 years, as well as its state education chairman and head of Hickory's Family Guidance Center, he has successfully campaigned for school integration, job opportunities and voter registration. 



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## Magic Kingdom Club 1975: key to a Walt Disney World vacation

The fact that you are an employee or pensioner of General Electric has a special meaning if you plan to visit Walt Disney World near Orlando, Florida (and to see the new GE Carousel of Progress while you're there): you are entitled to special discount privileges, through membership in the Magic Kingdom Club.

The Club, open to all GE employees and pensioners, offers rates on accommodations and ticket books at considerably less than the average visitor would pay. The most popular benefits are five special family vacation plans highlighting the most fascinating aspects of the "Vacation Kingdom of the World":

- **Vacation Kingdom Holiday.** Deluxe accommodations at the futuristic Disney-run Contemporary Resort Hotel are featured in this package. There's a monorail stop right in the lobby of the hotel—and the ride is free. Also included are two Magic Kingdom Club ticket books, an additional general admission, a cruise to Treasure Island and three free activities in the park.

- **Golfing Vacation.** Two of Florida's finest golf courses—where the Walt Disney World Golf Classic is played—are combined with a spacious golfer's retreat, the Walt Disney World Golf Resort Hotel. Employees selecting this plan receive a free ticket book, 36 holes of golf, a cruise to Treasure Island, a Walt Disney World golf hat and one free activity or dinner.

- **Camping Jamboree.** If you have a tent, trailer or motor home you can nestle it among shady trees in the Fort Wilderness Campground with over 700 fully-equipped, selected campsites and a package plan similar to the two above.




- **Two Lake Buena Vista Motor Inn vacations.**

A three-night or five-night holiday plan offers accommodations at your choice of four hotels in nearby Lake Buena Vista, plus Theme Park ticket books, round trip shuttle bus coupons to the Magic Kingdom and a cruise to Treasure Island. If you choose not to use these plans, the Club card still entitles employees, pensioners and their families to a 10% discount at the four Motor Inn Plaza Hotels.

In addition to these benefits, Magic Kingdom Club membership entitles the bearer to similar discounts at Disneyland in Anaheim, California and participation in other group tours.

To obtain your free Magic Kingdom Club card, print your request with your name and home address on a post card and send it to: Georjanne Edmon, GE Carousel of Progress, Walt Disney World, Lake Buena Vista, Florida, 32830.

And this year, the Club has established a Magic Kingdom Club Travel Center through which members receive personalized assistance in planning independent vacation and travel experiences as well as Walt Disney World visits for the entire family. For reservations and further information about any of the Magic Kingdom exclusive family vacation plans, write to the Magic Kingdom Club Travel Center, P.O. Box 600, Lake Buena Vista, Florida, 32830. 

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# Dust in the bath tub

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By Joan Ahearn

In the United States, 54% of all the women between the ages of 18 and 55 are employed outside the home. And 39% of GE's workforce is female. That means that there are thousands of women working for General Electric who have the additional responsibility of running a household and raising children.

In last month's *Monogram*, Hellene Runtag's fine article on new scripts for women described some of the side effects, such as guilt and frustration, that we must face as we assume additional roles. But how do we make our husbands and/or children understand that we're part of a mass movement that will revolutionize society? Once they're convinced, how do we cope with the idea that adding eight or ten hours to a daily work schedule is "liberation?" And how do we do it without going bananas? It ain't easy.

A few weeks ago I got home after a particularly trying 10-hour day to find a house that closely rivalled San Francisco after the quake

as the greatest disaster area in history. My son and two of his friends had turned the living room into a basketball court because it was too cold to go outside. My oldest daughter, whose ambitions are torn between being the next Olga Korbut or 1985's Homemaker of the Year, was doing cartwheels around an oven containing her half-baked chocolate chip cookies. I didn't even ask how she managed to dirty four pots and three bowls preparing instant, frozen cookies because my number two daughter started yelling that the dog was throwing up on the new couch.

At this point the babysitter, who had beaten a hasty retreat the minute I arrived, mumbling something about a full moon, returned to tell me her car was stuck in the driveway. After extracting our garbage pail from her manifold system, I went back into the house just as my husband arrived home. "Tell me," he said, after an unusually long observation of his surroundings, "how do you manage to run the house, handle the children, and still have a career?" I handed him two milk-stained glasses to rinse out while I searched for the gin.

I'm sure every woman has had days like that. They are nature's way of letting you know that you, too, can be declared mentally incompetent. Unfortunately, they are not the rule. Yes, that's right, unfortunately.

You see, no one is *expected* to be able to



Joan Ahearn specializes in speechwriting as a Corporate Producer in the Stamford, Ct. office of Advertising and Sales Promotion Operation. She first joined GE in 1956, admits to having almost brought up three children since then, while writing everything from a play to CEO speeches.

cope with days like that. But we are supposed to be able to manage the daily conflicts and demands for our time that are a way of life for mothers who are employed.

It's gotten to be a matter of routine that someone is going to come down with the flu just when we're the busiest at the office. Or, on the one day when you absolutely have to be at work early, school gets called off because of snow or locusts or something.

The other day I got a frantic phone call from the babysitter who said Sheila and her girlfriend were going to pierce each other's ears and were in the process of freezing their lobes. I made some "emergency" excuse, hoped I looked frantic enough to give the impression that the house was on fire, and made it home before blood was drawn. I've also managed to live through such minor crises as a son who ran away from home because I couldn't be a den mother and a daughter who didn't talk to me for two days because I missed my turn at car-pooling five of her friends to the "Y" gymnastic class.

**But the real problem** is not the inability to be in two places at once, or even the feeling of futility that sweeps over you when three adolescents are looking to you for help and companionship and you're stretched so thin you feel like one of the cobwebs on the wall. The real problem is guilt.

A few years ago I was on the brink of quitting my job, convinced that I was neglecting both my family and my work. I didn't want to leave because, frankly, we needed the money. And secondly, I'm not a home person. I like my job very much and I probably would have punished my family even more if I had to give it up. So, instead, I decided to stop feeling guilty. And *that* was a long, slow agonizing process.

The first thing I did was get my three children more involved in my work. I talked to them about what I did, how much I enjoyed it, the people I met and even some of the problems of the job. And if I had a bad day, I told them about it so that they wouldn't feel responsible for my black mood.

I started making deals with them, too. If we all pitched in and did the laundry or changed the beds, then I would have time to help them with their homework or go out and buy sundaes (I never said I was above bribery). And once in a great while (honest!) I stay home from work and let the kids stay home from school and we have an "open day." That means, everyone gets

about three hours to do whatever he or she wants—but I draw the line at catching frogs.

I also decided to stop feeling guilty at work because I had family responsibilities. I stopped using dentist and doctor appointments as an excuse to go to school recitals. And my car doesn't break down nearly so much since I started telling the truth about late school buses and sore throats.

Above all, I had to develop a sense of humor about my situation. It's not the end of the world if, on a Saturday morning, when you're out of food, every stitch of clothing in the house is dirty, eight people are coming for dinner that night, you can't tell where the backyard ends and the kitchen floor begins, you get a call asking could you please, please, come to work for five or six hours. You laugh and do it because it's less painful than suicide.



**One night last week** I sent Jason upstairs to take a bath. Seconds later he was back to tell me he couldn't take a bath because there was dust in the bathtub (I hasten to add that we're normally a shower family). "I put that there on purpose," I told him. "It's a test to see if you really use water." On his way out to the kitchen to get the cleanser he said, "Nice try, Mom, I'll have to remember that one."

So if you're a mother working for GE, isn't it comforting to know that no matter how guilty and desolate you feel, you're not alone? Maybe we should form a club, but how would we find the time to meet?

There is one basic creed that I've adopted and it may help: It isn't the amount of time you spend with your children that counts, it's what you *do* with that time that really counts. ❧

# Farewell to a great scientist

Just 70 years ago a young assistant professor at MIT, with a Ph.D. from the University of Leipzig, decided to join General Electric's fledgling Research Laboratory. There he took up the search for an improved filament material for the incandescent lamp. Existing lamp filaments were brittle and short-lived. Dr. William D. Coolidge chose what seemed an especially difficult direction for his experiments: work with tungsten, itself a notoriously brittle metal.

He succeeded. In two years he had produced man's first ductile tungsten—a development that is still at the heart of the billions of incandescent lamps sold each year.

In 1913 his research sparked another revolution: the Coolidge x-ray tube that has remained the model for x-ray tubes ever since.

On February 3, 1975, Dr. Coolidge died at his Schenectady home. He was 101 years old. GE's Chairman Reginald H. Jones said of him: "No scientist in history has ever done more to bring light and better health to mankind."



Young Dr. Coolidge (far right, above) with the "ductile tungsten group" whose development gave incandescent electric lamps a tough, long-lived filament. At right: Dr. Coolidge on his 94th birthday, when he also celebrated the 50th anniversary of his first patent on x-ray tubes.



## ORGANIZATIONAL CHANGES

### CORPORATE

Paul L. Dawson, *Staff Executive—Strategic Business Planning Review.*

Charles J. Meloun, *Vice President—Central Regional Relations, Corporate Public Relations Operation.*

### CONSUMER PRODUCTS GROUP

William G. Gingrich, *General Manager—High Intensity and Quartz Lamp Department (Engineering and Manufacturing).*

### INDUSTRIAL AND POWER DELIVERY GROUP

Herbert T. Dike, *Division Counsel—Industrial Sales/Apparatus Distribution Sales Legal Operation.*

### INTERNATIONAL AND CANADIAN GROUP

Juan Ignacio Trillo y L. Mancisidor, *President*

*and Chief Executive Officer—General Electrica Española, S.A.*

John J. Barron, *Division Counsel—International Sales Legal Operation.*

### MAJOR APPLIANCE BUSINESS GROUP

Gary D. Jones, *General Manager—Dishwasher & Disposal Engineering Department.*

### POWER GENERATION BUSINESS GROUP

David S. Bennett, *General Manager—Medium Steam Turbine-Generator and Gear Engineering and Manufacturing Department.*

Hughes W. Ogilvie, *General Manager—Medium Steam Turbine-Generator and Gear Marketing Department.*

George H. Schofield, *General Manager—Mechanical Drive Turbine Products Department.*

### SPECIAL SYSTEMS AND PRODUCTS GROUP

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# CLEARANCE SALE: re-examinations rebut charges by critics of the SST, Lucalox and nuclear power

By a narrow vote in 1971, Congress grounded proposals for the GE-powered U.S. Supersonic Transport, in large part because of a storm of criticism generated by environmental opponents who claimed “scientific evidence” that SST flights would so fragment the ozone shield that it would no longer protect mankind against cancer-inducing ultraviolet rays . . .

In 1973 the press gave prominence to charges, based on studies by a U.S. Department of Agriculture scientist, that HPS (high-pressure-sodium)

lamps such as GE's Lucalox® kill urban trees by stimulating late dormancies and premature budding, leaving them vulnerable to winterkill . . .

Persistently over the years, critics of nuclear energy have built the impression that most leading scientists are united in their opposition to the spread of nuclear power plants . . .

In recent weeks all three of these sources of scare headlines have been found suspect, on the basis of more careful and thorough re-examinations. Here are the clearances, wholesale.



### 1. SST— 'victim of myths'

“It must, in retrospect, seem ludicrous that Congress after long and loud debate, should have halted the SST in midconstruction principally for reasons now proved to be myths.”

So begins a Washington report by Roscoe Drummond in the *Christian Science Monitor*. Basis for Drummond's re-appraisal: a three-year examination of flight in the stratosphere—the Climatic Impact Assessment Program—conducted by the U.S. Department of Transportation at the bidding of Congress.

The study took on the claims that supersonic flight menaces the environment and the health of mankind. It enlisted the participation of more than 1,000 scientists—“many of them critics of the original SST,” says Drummond.

A *Wall Street Journal* editorial points out that both the original critics of the SST and its proponents

claim to find support for their views in the study. “But the gist of the conclusions,” says WSJ, “is that operations of present SSTs and the approximately 30 French-British Concorde and Russian TU-144s scheduled to begin service ‘cause climate effects which are much smaller than minimally detectable.’”

Drummond's view: “The findings are authoritative, conclusive and reassuring . . . No present or prospective flights of supersonic planes . . . will adversely affect the environment . . . Potentially harmful effects from a large increase in SSTs are conceivable—but such effects ‘can be avoided’ . . .”

The study deals directly with the effect of SSTs on the ozone shield. Drummond: “The CIAP study disproves this claim.” While natural variations in the ozone level vary as much as 300% over the globe, and can vary 25% daily in any one place, “the impact of stratospheric flight on the average ozone level can be kept to only one-half of 1 percent.”

His conclusion: “The CIAP report makes it clear that the U.S. can proceed to manufacture SSTs whenever it is economically prudent and thus start to recapture the lost leadership in worldwide aircraft production which Congress imposed on the nation four years ago.”

(continued next page)



## 2. Lucalox—‘no detrimental influence on trees’

“Not one personal observation nor any telephone conversation comment indicated any harmful effect to trees by the light created by HPS. All indicators, to date, suggest that HPS has no detrimental influence on trees grown in cities of the eastern half of the United States in general and our Mid-west in particular. Based on the compiled data it would be safe to install HPS lamps of 150, 250, 400 or even 1000-watt output in the presence of transplant or mature trees.”

The words are those of Dr. John W. Andresen, Professor of Urban Forestry at the University of Toronto. They sum up the findings of a survey of 19 American cities using HPS street lights such as GE’s Lucalox® lamps. The study was conducted by Dr. Andresen for the Chicago Department of Streets and Sanitation.

In his 36-page report, Dr. Andresen states that, after making personal observations of more than 200 trees in Chicago, Cleveland and Milwaukee and conducting interviews with foresters, horticulturists, lighting engineers and public works directors in 16 other cities using sodium-vapor lights, he found no instance of any “harmful effects upon streetside plant life.”

He adds that “After conducting an inventory of trees and other outdoor plants growing in cities using HPS lamps for security and illumination purposes, I found no damage either to young transplant or older, established trees.” He noted that HPS lighting has been used near trees in the United States since at least 1968.

His advice to Chicago: “The superior display of safety illumination in conjunction with healthy trees can only enhance the cityscape of Chicago. I advise that additional HPS lamps be installed as soon as possible.”

In fact, the originator of the study that produced the newspaper headlines—Dr. H. Marc Cathey of the U.S. Department of Agriculture—says that he has been misquoted and many of his pertinent qualifying remarks have been omitted in the newspaper coverage. Light does affect the growth and performance of seedlings, his research indicates, but extrapolation of his test results with small seedlings to what might happen with larger three- to seven-year-old trees on city streets is tenuous, since the latter are less responsive to all environmental factors.



## 3. Nuclear energy: ‘no reasonable alternative’

Any hint that leading scientists form a monolithic opposition to nuclear power was shattered at a recent press conference in Washington, D.C. There, 34 eminent scientists, including 11 Nobel Prize winners, issued an “energy statement” that included these points:

“In the next three to five years, conservation is essentially the only energy option. We can and must use energy and existing energy sources more intelligently. But there must also be long-range realistic plans and we deplore the fact that they are developing so slowly. We also deplore the fact that the public is given unrealistic assurances that there are easy solutions. There are many interesting proposals for alternative energy sources which deserve vigorous research effort, but none of them is likely to

contribute significantly to our energy supply in this century.

"Conservation, while urgently necessary and highly desirable, also has its price. One man's conservation may be another man's loss of job . . .

"When we search for domestic energy sources to substitute for imported oil, we must look at the whole picture. If we look at each possible energy source separately, we can easily find fault with each of them, and rule out each one. Clearly, this would mean the end of our civilization as we know it . . .

"We shall have to make much greater use of solid fuels. Here coal and uranium are the most important options. This represents a profound change in the character of the American fuel economy. The nation has truly great reserves of these solid fuels in the earth. Our economically recoverable coal reserves are estimated to be 250 billion tons and exceed the energy of the world's total oil reserves. Our known uranium ores potentially equal the energy of 6 000 billion tons of coal; lower grade ore promises even more abundance.

"The U.S. choice is not coal or uranium; we need both. Coal is irreplaceable as the basis of new synthetic fuels to replace oil and natural gas.

"However, we see the primary use of solid fuels, especially of uranium, as a source of electricity. Uranium power, the culmination of basic discoveries in physics, is an engineered reality generating electricity today. Nuclear power has its critics, but we believe they lack perspective as to the feasibility of non-nuclear power sources and the gravity of the fuel crisis.

"All energy release involves risks and nuclear power is certainly no exception. The safety of civilian nuclear power has been under public surveillance without parallel in the history of technology. As in any new technology there is a learning period. Contrary to the scare publicity given to some mistakes that have occurred, no appreciable amount of radioactive material has escaped from any commercial U.S. power reactor. We have confidence that technical ingenuity and care in operation can continue to improve the safety in all phases of the nuclear power program, including the difficult areas of transportation and nuclear waste disposal. The separation of the Atomic Energy Commission into the Energy Research and Development Administration and the Nuclear Regulatory Commission provided added reassurance for realistic management of potential risks and benefits. On any scale the benefits of a clean, inexpensive and inexhaustible domestic fuel far outweigh the possible risks.

"We can see no reasonable alternative to an increased use of nuclear power to satisfy our energy needs."

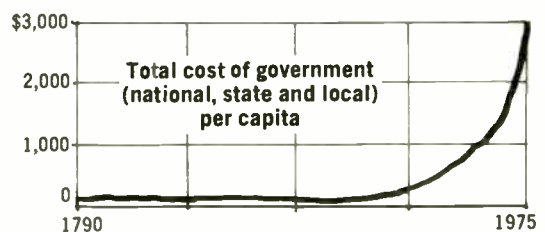
## LETTERS

### The cost of government



I have read with great interest news reports and the Nov.-Dec. *Monogram* about your efforts to change the role of government in business. While I agree that our present economic system is unable to supply the wealth that people expect and demand, I feel that unrestricted free enterprise would do much better.

Because you cannot have "half" socialism. Once you start, you must go the whole way. In 1961, when I retired, I compiled data on government spending—federal, state, county and city—beginning in 1791, and reduced to the per capita load on a citizen residing in Schenectady. Per capita expenditures grew from roughly \$3 in 1791 to \$1000 in 1960 [and] the per capita has now grown to \$2840!



In my belief, this curve expresses a "law" of human behavior. It may be put into words two ways:

1. When people demand more and more services from government, the cost eventually exceeds their ability to pay; or
2. When the wealth is there and the people don't resist, the politicians will take it all. Both situations have now been reached.

JOHN E. ERB  
Retiree  
Northville, N.Y.



This 560-pound cache of gold, photographed in the snug confines of New York's First National City Bank, represents the amount conserved in one year through development of a new low-gold brazing alloy used by the Aircraft Engine Group. Because gold offers unique properties, it is specified in certain stages of jet engine manufacture. The recent upward spiral of gold prices has stimulated efforts to reduce the amount of the precious metal required by Company operations. When this recent photograph was taken, the market value of the gold shown here was \$1,502,176. For the complete story on General Electric's use of gold, see page 4.