UPDATE

DORAL: NEW DEAL IN THE CARDS FOR GEISCO

Informal exchanges were an important part of the Doral meeting. Here, Hud Huddleston (L), Phoenix, and Len Bullock (R), Los Angeles, share their thoughts with GEISCO president Greg Liemandt.

Some 200 field and headquarters support managers gathered at Doral-on-the-Ocean in Miami Beach recently to learn, to meet people, and to hear first-hand GEISCO's 1981 product plans and other future plans and strategies.

The theme of the meeting, which took place January 14-17, was the "New Deal", and it was designed to "provide field people with serious, well-thought out presentations, to give them honest information about what's available to sell near-term, and to show them that headquarters is really ready to serve their needs", according to Mike Emmi, Vice President and General Manager, National Sales Department.

On the first day of the meeting, GEISCO's president Greg Liemandt, outlined the challenges facing GEIS-CO: "If I had to pick the most significant challenge of the future for GEISCO" he told attendees, "it would be for this business to be comfortable with constant change". He continued, "the information services business is one of the fastest moving there is—and the players who win in this game are the ones who are light on their feet and can cope with change . . . the challenge of the future is clear: we must become

as expert at providing value added solutions as we are at providing raw power".

Several of the presentations at the meeting dealt with such value added solutions as GEFILE, our commercial

version of Crossfile, MIMS, MARK III® DDP, and Mark 3000℠ Service. Also covered was, as Liemandt put it "the biggest winner of them all—Mark III Service".

However, Liemandt didn't hesitate to add that "We will no longer depend on one delivery vehicle . . . for 90% of our action. Not only will we expand with new products, we will also enhance and instill greater value in our current products. Our service line will be expanded to appeal to a greater segment of a larger market. Our current products will be value added to retain and excite our present customers. Our pricing practices will become more aggressive and more responsive . . . we will accomplish two very critical objectives—broaden the customer base and expand our served market."

Mike Emmi closed the meeting with some words on what it will take to live up to these expectations—"re-establish within General Electric Information

JONES REPORTS ON 1980

GE SOURCE OF STRENGTH: DIVERSITY

In reporting on General Electric's preliminary and unaudited results of 1980 on January 22, Reginald H. Jones, GE's Chairman, pointed out that "This good performance in 1980, despite a generally adverse economic climate, is the result of the great diversity of GE's businesses, a source of strength in good times and bad, and the ability of our managers to anticipate and prepare for the downturn. Each Sector of the Company had higher revenues and earnings in 1980 than in 1979.

Mr. Jones said that the preliminary and unaudited results indicate that sales for the year were about $24.96 billion, up from $22.46 billion for 1979. Net earnings for 1980 were approximately $1.514 billion, an increase over the $1.409 billion reported for 1979.

Sales for the 1980 fourth quarter

were about $6.92 billion, up from the $6.13 billion for the same quarter of 1979. Earnings for the fourth quarter of 1980 were about $411 million. This was an increase from the $383 million for the last quarter of 1979.

Mr. Jones stated that these "positive results were not made at the expense of investments in the future. Our capital expenditures in 1980 were about $1.93 billion, some 53% greater than our previous high of $1.26 billion only last year.

"Research and development efforts also continued at high levels in 1980. Total R & D expenditures were about $1.6 billion compared with $1.4 billion in 1979, with Company-funded expenditures up 19%."

Mr. Jones stated that "Preliminary

CA STEPS UP COMMUNICATION EFFORTS AT YEAR-END

Two meetings of Custom Applications people from both U.S. and International offices were held in Rockville toward the end of 1980.

The International CA interchange, coordinated by John Roeder and held at the end of October, was designed to give CA representatives from many countries the opportunity to meet and share information. A meeting of new U.S. CA managers, in mid-December, was held to acquaint them with both each other and their responsibilities under the new U.S. CA organizational structure. Christine Morgan organized that session.

The reports printed here were filed with *Update* by Malcolm Davies, Technical Services Manager for the European Marketing and Services Department, and by Christine Morgan, Planning Specialist. □

16 Nations Represented At International Interchange

At the end of October, the Training Center saw a gathering of thirty five CA managers taking a small break from programming. For the first time, CA managers representing sixteen countries met to discuss their common problems.

Demonstrating that CA is now a cornerstone of our worldwide business, the International CA Interchange provided a meeting place for managers from Sydney to Helsinki to air their views and put faces to people who had previously been crossfile addresses.

The presentations and informal discussions (for which the common language chosen was English and not F77) on topics ranging from "Selling CA" through "Project Control" to "Software Design" showed the similarity of projects and problems worldwide.

Nearly every country in the MARK III® Service world now has a substantial and well-founded CA group able to undertake work for both our local and international customers—all part of the worldwide MARK III Service. Styles are different, however, and, despite a very successful interchange recently between London and San Francisco, the day of the plug compatible programmer has not yet arrived.

After two full days, the attendees departed, unanimous in their agreement on the usefulness of the interchange session, and demanding the date of the next meeting, tentatively scheduled for October of this year. □
By Malcolm Davies

New CA Branch Managers Meet In Rockville

An orientation was held December 15-16, 1980, to give new U.S. Custom Applications Branch Managers an opportunity to meet and participate in a program covering a wide range of topics related to their new responsibilities. Ned Heinbach, Manager of Custom Applications, discussed with attendees the rationale behind recent structure changes. According to Ned, the changes were designed to accommodate CA's continued anticipated growth and strengthen the group's organizational alignment with Sales through the creation of CA Districts and Branches. He added that the new structure also allows for the flow of functional expertise from centralized locations to CA Field offices when such specialities are required in individual regions.

Reports were given on CA Trends by Larry Snively, Manager of CA Financial Administration, and on the CA Cost Estimating Task Force by Ron Smith, Manager of CA Project Support. Phil Snyder, Sr. Applications Specialist, described recent enhancements to the CA Management Information System. While specific CA subjects started off the orientation, the agenda was complemented by other GEISCO managers emphasizing many of their interfaces with CA. These managers made time in their busy schedules to give presentations and answer questions about their interaction with Custom Applications.

New Custom Applications Branch managers attending the orientation were:

Bob Binkert	CA Dallas
John Boehlke	CA Western Region MARK 3000 Systems
Joe Burbine	CA Northern Region Systems Development
Steve Carlson	CA San Francisco
Ralph Choppy	CA Northern Region Manufacturing Systems
Dan Darnell	CA Industry Applications and Support MARK 3000 Applications Development
Susan Eng	CA Eastern Region Application Systems
Rudy Gawron	CA Philadelphia
Larry Greene	CA Southern Region GTF-TFAS Support
Tom Jared	CA Central Region MIMS
Lun Kwan	CA Western Region Systems Development
Karl McGuire	CA Western Region Banking/Finance Systems
Karen McNeal	CA Central Region Custom Manufacturing
Karen Peters	CA Central Region Order Service
Doug Risdon	CA Denver
Bob Sedgwick	CA Schenectady
Ellen Sutliff	CA Southern Region Systems Development

Two Custom Applications District Managers, Harty Ausel of Great Lakes District and Art Goetz of Atlanta District, were also in attendance. Wayne Mueller, Manager of Southern Region GTF-MARK Support Branch, was not able to attend. □
By Christine Morgan

Two new application guides head the list of 47 new and revised publications to help you start the new year.

The **TABOL III Inflation Accounting** application guide (5112.28) shows how TABOL can be used to prepare financial reports required by the new Financial Accounting Standards Board Statement Number 33 (FASB33).

The **DMS Personnel and Compliance Reporting** application guide (5610.74) demonstrates implementation of a practical computerized personnel and compliance reporting system. It is designed to respond to requirements of a human resource management information data base, with emphasis on government reporting capabilities.

TABOL and DMS documentation was also supplemented, the former by a supplement to the **TABOL III** reference manual (5112.01-2) which describes extensions implemented since the commercial release of TABOL III. A supplement to the **DMS** user's guide (5610.47-2), describes enhancements to the latest version of DMS3, such as the DMS/F77 interface and the function of DMFORM***, a reformatting program for the DMS source language.

Other Foreground applications documented include GEFILE,™ ASTRA II, Statsystem II, and International Command.

The **GEFILE System** is documented via a GEFILE System advance release of the user's guide (3410.01) a four page summary of GEFILE Basic Commands (3410.02), sales brochure (3410.03), four-page GEFILE System pocket summary (3410.04), GEFILE wallet card (3410.05), and an internal GEFILE sales information summary (3410.06). Now in limited field test, GEFILE is aimed at secretaries, administrators, and others involved in sending and receiving messages.

The revised **ASTRA II Driver** user's guide (5602.49B) describes use of Foreground Service for input to Honeywell's resource allocation and management system. It has been revised to simplify the question-and-answer session for creating the JCL. The revision also includes instruction on the use of graphics capability and graphics hardware, use of standard response files, and use of the new on-line demonstration file.

The **Statsystem II** pocket-sized syntax summary (5707.14B) was revised as

NEARLY 50 NEW AND REVISED DOCUMENTS TO START THE YEAR

Personnel and Compliance Reporting

Serving People World-Wide   GENERAL ⊛ ELECTRIC
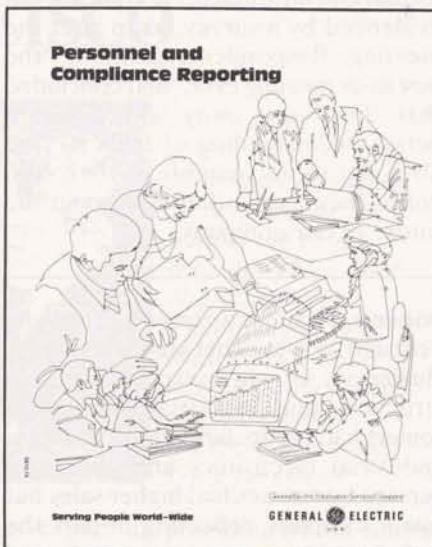
of December, 1980 to reflect changes in STATII*** software. The pocket-sized booklet is now more current than the Statsystem II user's guide (5707.12), which was last revised in 1977. Revised contents and differences between the two publications are marked by bars in the margins of the pocket summary.

International Command is documented in an advance release reference manual (5115.01) and advance release user's guide (5112.02). International Command, obtained by GEISCO from Citicorp, is in limited field test. International Command is a generalized interactive system to meet financial planning and reporting needs of multinational corporations and operates with multiple currencies using any required accounting conventions.

Also for Foreground users, a new **FORTRAN 77** documentation supplement (3106.20) contains information on new features that were implemented in the F77 compiler in 1980. This supplement also has information on enhancements and corrections to **FORTRAN 77** reference manual (3106.01C), **F77 Systems Routines** (3107.01C), and the **F77 Loading and Overlaying** manual (3106.03B)

The **Texas Instruments Omni 800 Model 820** terminal operations card (1102.01) was published, as was a supplement to the MARK III Service user's guide which provides information on **Terminet™ Terminals with 9610 Communications Controllers** (1106.63A-1).

New documentation for MARK 3000 Service users includes a user's guide supplement, new Project/2 publications, a revised General Ledger manual, and booklets describing plotting subroutines.

The **MARK 3000 Service** user's guide supplement (2051.07B-1) describes two new commands, a library procedure, and several system enhancements. The TSO commands RTC (Remote Terminal Control) and TEST are documented here, as is the PURGEM procedure, which allows High-Speed Service users operator-like control over their high-speed devices from low-speed TSO terminals. Enhancements noted here include information on the SHOW command, use of the DDP MARK-LINK™ terminal, new graphics software packages, and more.

Using Project/2® on MARK 3000 Service (7014.06) documents use of this software for integrated project scheduling and cost control. Directed to new users of this package, the booklet provides the fundamentals of PROJECT/2 job set-up, scheduling, processing, and output retrieval, and supplements licensed documentation. A sales information summary for **Project/2** (7014.04A) was also published.

Access guides for four MARK 3000 Service plotting software packages were written. These are **Nicolet ZETA® 4.7 and 5.3** (5111.11), **TEKTRONIX® 4010 and 4662** (5111.12), **Hewlett-Packard 7221A** (5111.13), and **Houston Instrument Complot** (5111.15) Plotting Subroutines.

The **MARK III DDP File Transfer Utility** user's guide (1300.59) describes how MARK III DDP users can use the new File Transfer Utility (FTU) to queue and execute file transfers from a MARKLINK terminal to Foreground and vice versa. There are sections on administrative functions and error processing, as well as an FTU primer.

Also ready for early 1981 use are new training course materials (instructor's guide/student guide/viewgraphs). **TABOL III Reporting Techniques** (5112.31/32/33), revised **Fundamentals**

DORAL

Services Company the entrepreneurial spirit . . .

"We must become a sales organization of entrepreneurs structured to rekindle and foster the spirit which created an industry and led its growth", he told his audience.

Mike added that the challenges that come with that spirit—and the GEISCO heritage—are "To broaden ourselves; to learn new skills; to serve new markets; to address a wider array of customer problems. To always take the most courageous view . . ."

According to Margaret Holt, Manager of Customer Service and meeting

coordinator, "we wanted to show field managers that GEISCO is really committed to the field organizations, and to let them know that 1981 means success for each of them individually and for GEISCO as a company. We also wanted to give them a chance to get to know GEISCO's top management, and to ask questions of headquarters people".

Attendees responded well to both formal and informal presentations—as evidenced by a survey taken after the meeting. Respondents called it "the best sales meeting ever," and concluded that they went away with a much better understanding of what we are all going to accomplish in 1981, and confidence and enthusiasm about the future of our company. □

JONES

data show that operating margin dollars for 1980 were up from 1979. Although the total year operating margin rate was lower than a year ago, the rate for the fourth quarter was the highest for any quarter during 1980 and was also better than the comparable quarter of a year ago. Good operating margins and rates reflect major continuing efforts throughout the Company to improve productivity and control inventories. Improved earnings for 1980 also reflect higher income from other sources, including General Electric Credit Corporation, as well as a somewhat lower effective tax rate."

Summarizing results of the various segments of the Company's operations for 1980, Mr. Jones reported:

• **Consumer Products and Services** earnings were slightly ahead of 1979, principally because of the continued strong growth of General Electric Credit Corporation. In the consumer products area, sales were modestly higher but earnings were down somewhat, principally because of lower unit shipments of most major appliance and air conditioning products. Productivity-improvement programs partially offset the effect of these declines. Earnings from lighting operations were down slightly. Other product operations reported earnings at least as good or better than last year.

• In **Industrial Products and Com-**

ponents, earnings were well ahead of a year ago on somewhat higher revenues. Businesses serving transportation, construction, and industrial motor customers had particularly strong earnings. Industrial electronics and apparatus service businesses had higher sales but lower earnings, reflecting in part the impact of new programs oriented toward development of products and services to better serve the nation's growing need for more productive manufacturing plants.

• **Power Systems** earnings were up substantially from a year ago on good increases in revenues. Higher earnings from sales of steam turbine-generators and the expanding installation and service engineering business made good contributions to the improved results. Gas turbine sales were higher than a year ago although earnings were down as stiff foreign competition restrained margins. The Power Delivery business continues to be depressed, with inadequate recovery of cost increases resulting in lower earnings. As planned, nuclear operations continued to incur a modest loss.

• **Technical Systems and Materials** earnings were somewhat higher than a year ago on good sales increases. Strong sales and earnings performances in aircraft engines and information and communications businesses offset the effect of weakness in automotive and other consumer-related markets for engineered materials. Aerospace and medical systems had higher sales and somewhat better earnings.

• **Foreign Multi-industry** earnings and sales were also improved from 1979. The Foreign Multi-industry segment is only one part of General Electric's international activities which now account for approximately 40% of the Company's earnings. Export sales from the United States to external customers, one of the many important dimensions of our worldwide business, were about $3.8 billion, up $1 billion from 1979. This represents an important positive contribution to our country's balance of trade.

• In **Natural Resources**, earnings and revenues for 1980 were at record levels. Earnings improvements were paced by oil and gas, iron ore, copper and domestic coal operations. These more than offset lower earnings for Australian coking coal, shipments of which were slightly below those of 1979, primarily because of a third-quarter work stoppage involving an employee dispute over government tax policies. □

DOCUMENTATION

of **FORTRAN 77** (3106.07/08/09), **MARKLINK TPL and Utilities** (1300.54/55/56), and **MARK 3000 Orientation** (2051.34/35/36) were all released. These are listed in detail in the **Quarterly Instructor's Guide to Course Materials** (4001.10T).

And, finally, more feature profiles: The **Index** (304.13E) was revised this month, and incorporates titles and keywords from 10 recently issued profiles—Ernst & Whinney **Kostpak** (6144.00), CACI **Site Systems** (6152.00), Lochrie & Associates' **LASYSTEM** (6267.00), **Project/2** (7014.00), Seltrust Engineering's **ORPHEUS** (7027.00), and Battelle's **BASIC** (7028.00). Revised were those on **Speeds & Terminals** (1002.00F), **1200 Baud Service** (3905.00D), **High-Speed Service** (3910.00I), and **ASTRA** (5602.44B).□

UPDATE

On February 14, GEISCO customers in Bermuda, Bahrain, the Philippines, Israel, Portugal and New Zealand gained access to MARK III Service. The move brings to 32 the number of countries with access to the Service.

This is the first time availability in several new countries has been announced simultaneously. The announcement also marks the first time that GEISCO is using private data communications networks belonging to other organizations. The service for those countries will be carried on the "Telenet" network in the United States,

MARK III® Service Accessible In Six New Countries

in conjunction with data communications services provided by telecommunications authorities in the affected countries.

According to Harry Hooper, International Development Program manager in Rockville: "We feel that GEISCO's Mark III network is one of the best in the world, but in these smaller countries, the economics of extending our network to meet the demands of a limited number of customers—however important—were difficult to justify." He adds, "Although many people consider Telenet and similar services as competition domestically, this development shows how we can employ their resources to our benefit."

According to Harry, the introduction of this facility resulted from close international and inter-departmental cooperation within GEISCO. The original suggestion resulted from an international sales meeting in Paris in 1979, where GEISCO sales people servicing International Harvester around the world met and discussed the future of this major account.

Subsequent cooperation between Jim Magruder, Rich Walsh, and Jim Hines of Network Operations, Hugh Jackson and Harry Hooper of International Development; and Rich Hokaj and Ed Bacanskas of Quality Assurance, enabled these six countries to be connected to MARK III Service through a normal terminal, instead of the Telex service which was the only method previously available.

Network Operations leased and installed the equipment; QA conducted tests of service quality and persuaded Telenet to modify their system and reduce the response time by more than 50%. International Market Development made all the commercial arrangements to ensure that this new approach is understood and accepted by customers, distributors, and affiliates around the world.

Harry emphasized that "one of the most important factors for the field, internationally, is that none of the complex international validation procedures will be necessary and users

"INTERACTION" WELL RECEIVED
NEXT EDITION
PLANNED FOR APRIL

The first edition of GEISCO's videotape series for employees, "Interaction", was well received by employees from Rockville to Kingston-Upon-Thames.

Approximately 800 Headquarters employees viewed the tape in small groups during the week of January 12, and copies were sent to forty U.S. field locations equipped with video playback equipment. The United Kingdom, Sweden, Australia, Singapore, Holland and Hong Kong also received copies of the tape.

As of February 6, approximately 500 survey forms had been returned by employees. The survey showed that 95% of respondents either agreed or tended to agree that "senior management discussing . . . business and employee concerns in this manner is really worthwhile." 82% of respondents believed that participating employees felt free to speak up; and 74% felt that GEISCO president Greg Liemandt answered the questions completely and candidly.

More than three fourths of the respondents (79%) feel that such programs "will definitely increase feelings

of participation and involvement in GEISCO among employees;" and 92% saw the program as a sincere attempt to improve understanding between top management and employees.

Nearly all of the respondents—94% —said that they would like to see more video programs of this type. They will be getting their wish.

"Interaction" will be produced quarterly as part of an expanded employee communications program. The next edition is scheduled for taping on April 10, and for release the following week. Greg Liemandt's guests for that program will be Art Marks, vice president and general manager, Marketing Department; and Ray Marshall, vice president and general manager, Programs Department. Participating employees will be recommended by their Employee Relations managers.

According to Sam Kauffman, manager, Communications and Community Relations, the viewer survey provided "many constructive comments which will be helpful in planning future programs."

THREE NEW MARK 3000℠ SERVICE COURSES OFFERED

For those of you who don't need the detail of the three fundamental MARK 3000 Service courses (Introduction to MARK 3000, JCL & Utilities, Intermediate MARK 3000 Service), GEISCO is proud to announce the addition of two new courses, Orientation to MARK 3000 Service and MARK 3000 Service Features and Differences.

The one-day Orientation course is designed for either the inexperienced data processing user who needs to do simple data entry and/or run existing applications, or for the individual who merely wants to get an overview of the features of MARK 3000 Service. Upon completion of this course, even the student who has never used a terminal before will be able to create files, edit files and run canned procedures which execute programs and/or schedule batch jobs. The only prerequisite is the desire to enter the world of MARK 3000 Service.

The one and a half day Features and Differences Course is targeted toward the individual who is a seasoned IBM'er but needs to know how to adapt his/her experience to GEISCO's MARK 3000 Service. The topics presented include a general MARK 3000 Service overview, a detailed presentation of the QED editor, J/TIP commands for batch job scheduling, RACF security commands, tape handling and the Tape Management Software (TMS), and installation defined parameter values and defaults for JCL parameters. The prerequisite is prior experience in both TSO and JC.

With the addition of these two courses, we now meet your MARK 3000 Service training needs if: 1) you are new to data processing (Orientation), 2) you are experienced in programming but new to IBM (Introduction, JCL & Utilities, Intermediate) or 3) you are experienced in IBM technology but new to MARK 3000 Service (Features and Differences). All three courses are offered regularly throughout the United States. Locations and schedules are listed in the Course Quarterly. □

PHILLIPPE AWARD NOMINEE SLEDGE HAMMERS AT CRIME

The last ten years or so have often been referred to as the "me generation." It has been said that apathy reigns and that the idea of helping others is old fashioned and outdated.

GEISCO's own Al Sledge, manager of Operations Support, Documentation, along with 70 others in General Electric Company, are hard at work disproving that theory. The 71 are nominees for the Gerald L. Phillippe Award for Distinguished Public Service. This year, as in previous years, five awards will be made by the General Electric Foundation. The Phillippe Award program, established in 1970 was designed to encourage General Electric employees to follow the example of former GE Board Chairman Gerald L. Phillippe as a leader in the field of Public Service.

And Al Sledge is doing just that. Al is the founder and chief motivator of the Montgomery County (Maryland) Crime Solvers program, and has been nominated by Marketing Department General Manager Art Marks and GEISCO president Greg Liemandt for this year's Phillippe award. Award winners receive Corporate-wide recognition, and the General Electric Foundation donates $1,000 to the charity or educational organizations of their choice.

Montgomery County Crime Solvers is an incorporated, nonprofit organization of the state of Maryland. The program is set up to receive information about felony (major) crimes in the county on a special "hotline". If a caller's information leads to arrest and indictment of the perpetrator of the crime, he or she becomes entitled to a reward, ranging from $100 to $1000. Special arrangements enable the callers to remain anonymous.

Each week, detectives in the county police department collaborate to select a particular crime for which other leads have proven fruitless. That crime is dubbed the "crime of the week", and is publicized through radio, television, and newspapers.

The program works through collaboration between the Montgomery County Police Department, the media, and a citizen board of directors consisting of 25 people active in the community. Board members perform planning and investigatory functions, give presentations on the program to civic groups, raise funds for the reward, and hear case descriptions to establish reward payments.

In mid-1978, Al was asked by Montgomery County Police to help set up the program based on the original "Crime Stoppers" program in Albuquerque, New Mexico. Working with officers George Ludington and George Heinrich, Al coordinated all community operations of the program. He then obtained tax exempt status for the organization, produced initial promo-

tional material and fund raising literature, and, as board chairman, presides over meeting activities. He also acts as spokesman with county and state officials.
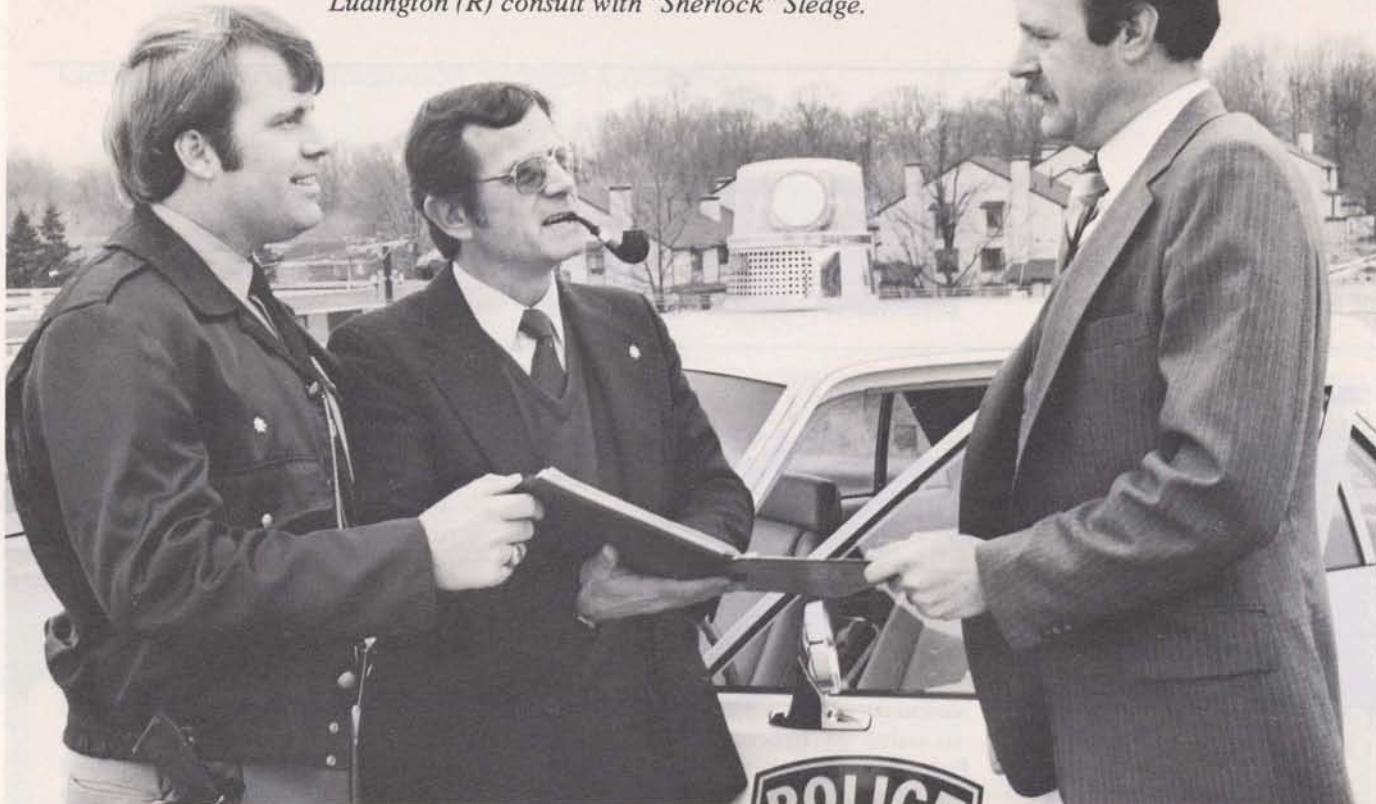
Although Al's contributions are the largest, he is not the only GEISCO employee involved in Crime Solvers. Officer Ludington's wife, Judy, works in GEISCO's Finance Operation; and Special Services Coordinator Per Saether recently joined the Crime Solvers' Board.

In practice, the crime solvers program works like this: Callers with information on any felony crime may dial a special telephone number connected to the Crime Solvers desk at the police department. If the caller prefers to remain anonymous, he or she is given a code number, and relevant information about the crime is noted in detail by the police officer who takes the call. Although "crimes of the week" pay up to $1,000 for information leading to arrest and indictment, information on other crimes may pay from $100 to $1000. The board of directors decides the appropriate reward.

Anonymous callers are contacted through the media, which can request that the original caller, identified by the code number, re-contact the Crime Solvers' number. A member of Crime Solvers then makes the payment to the informant in a public place.

As of October 31 of last year, the Montgomery County program had resulted in 271 case closures, and the arrests of 47 adults and 37 juveniles. Ten "crimes of the week" were solved. $17,550 was paid out in rewards, and recovered property and drugs were valued at $396,322.

Eight other crime solvers programs, modeled after Montgomery County's, are now in operation in Maryland, Virginia, and Missouri. All were set up with Al's assistance.

Funds for reward money are solicited from community businesses, organizations and individuals, so the program is virtually free to the taxpayer. Al is also instrumental in the fund raising activities.

In a letter to GEISCO's President Greg Liemandt, Montgomery County Police Chief Bernard Crooke noted that Al has also "devoted numerous hours of his time publicizing the program by both written correspondence and public speaking engagements. . . " He continued "Under his able leadership the program has obtained national recognition . . . I feel you are indeed fortunate to have such a capable and caring individual associated with your company."

Al's efforts toward solving crime have not always been purely administrative. On occasion, he has had to act as "bag man" to pay off an anonymous tipster, often in a grocery store.

One of Crime Solvers' most recent accomplishments showed how the group's reputation is growing in the Washington, D.C. area. In January, shortly before the inauguration of U.S. President Ronald Reagan, three valuable Alaskan huskies, which had been flown to Washington specifically to participate in the inaugural parade, were stolen from their Montgomery County kennels. Although there was very little time left, the Alaskan inaugural delegation wanted desperately to retrieve the dogs, and called Crime Solvers for assistance. Using its fairly extensive media network, and offering a reward, Crime Solvers got involved. An anonymous tip was received, and the dogs were returned in time for the parade.

According to Al "that was probably our most unusual request, but we felt that, under the circumstances, we should do everything we could."

Last July, Maryland State Delegate Joel Chasnoff introduced a resolution in the Maryland House of Delegates calling for statewide involvement and development of a state commission to expand the concept of Crime Solvers into all Maryland counties. The resolution was passed and signed by Maryland governor Harry Hughes.

Phillippe award winners will be named in early March. But whether or not he wins, we salute Al Sledge—the Sherlock Holmes of GEISCO. □

SIX
NEW
COUNTRIES

Portugal

Bermuda

Israel

Bahrain

Philippines

New Zealand

MARK III SERVICE

Continued from page 1

will be able to access from any of these countries with existing user numbers . . . and, of course, full revenue will be credited to the account representative who makes the sale."

He added, "As Mr. Liemandt said recently, it is GEISCO policy to expand our business by offering new products and services.

"To continue to develop the service in pace with technological and market developments is in keeping with this policy, and benefits our customers by providing them with additional facilities and capabilities." □

COUNTY GRATEFUL TO GEISCO FOR COMMUNITY INVOLVEMENT

Last March, GEISCO joined forces with nine other businesses in Montgomery County, Maryland, which includes Rockville, to help the County Office of Economic Development promote business growth within the county. All ten companies participated in a cooperative advertisement published in *Business Week* Magazine on March 24, 1980.

In early January, the county presented a special framed version of the ad, along with a certificate of appreciation, to GEISCO vice presidents, Ray Marshall and Tom McGinn, along with senior communication specialist, Clare Aukofer. Marshall provided the funding for the ad, McGinn provided the support, and Aukofer coordinated GEISCO's participation with the county.

The certificate reads in part ". . . for dedicated public service rendered through continued excellence and corporate contributions to Montgom-

ery County . . . Thanks for helping us tell our story . . ." It is signed by County Executive Charles Gilchrist. The ad and certificate may be seen in the main Employee Relations reception area on the first floor of the Maryland Center.□

UPDATE

GEISCO SALUTES ENGINEERING PROFESSIONALS

This week, February 22 to 28, has been set aside nationwide to recognize the contributions of engineering professionals. Throughout the month of February, special activities have marked the occasion.

On February 12, key engineering managers got together for a special meeting, with guests Russ Powell of Lambda Technology, Ray Marshall, vice president and general manager, Programs Department; and Roger Hobbs, vice president and manager, Strategic Planning Operation. Thirteen professionals who have made significant technical contributions to the business were recognized and rewarded with special gifts.

On February 16, Engineering sec- tion and subsection managers joined GEISCO president Greg Liemandt for an informal dinner.

This issue of *Update* continues that tribute to the people of GEISCO's Engineering department — including core engineering, CA, Mitrol and Lambda Technology.

We are grateful to our bylined authors and to Barbara Heffron, Engineering Employee Relations, for their assistance in preparation of this issue.

ENGINEERING WEEK: A Prelude To The Future

By Robert R. Hench, Vice President and General Manager, Engineering Department

The technological explosion in the last hundred years has been nothing short of astounding — even miraculous. And in this explosion, the computing industry is rapidly becoming the single most impressive technology since man first started playing with levers and wheels. This issue of *Update* is our way of recognizing and acknowledging the contribution that all of the people in Engineering have made to our business. As part of that recognition, I want to personally thank every person in the department for your continuing contribution to the business, and as highlighted in this issue, congratulate those individuals nominated for special awards by their managers.

In each engineering area at GEISCO,

Robert R. Hench

1980 was a superb year. Mark III ® Service, GCOS, MARK 3000™Service and the Network all had impressive records in terms of reliability and product growth. CA and Mitrol significantly increased their contribution to the success of our business. Last year, core engineering resources were increased 25%, and Custom Applications was increased 35% as we continued to reinvest in our business. At the end of the year we substantially added to our total engineering resources by welcoming Lambda Technology into the GEISCO engineering family. Lambda Technology has added another 650 people to our engineering potential.

General Electric's heritage has been built on engineering and innovation. It has made this company a leader in more diverse technologies than any

ENGINEERING'S EXPERTS ALSO AUTHORS

In many educational institutions, professors are faced with what has come to be known as the "publish or perish" dilemma. That is not the case at GEISCO. However, technical experts within GEISCO take their own time and expend extra effort to share their knowledge with others.

We salute these "professors" of GEISCO:

ENGINEERING MANAGERS WELCOME LAMBDA TECHNOLOGY

S. Russell Powell, Senior Vice President, Eastern Region, Lambda Technology, took some time to speak to and be welcomed by Engineering Department managers on February 12. Lambda is GEISCO's newest subsidiary company, and is a leading provider of data processing professional services and software design.

Section: Applications Systems

Ira Forman, Paper: *On The Time Overhead of Counters and Traversial Markers, 1981.*

Thomas Kerry, Paper: *Computer Based Scheduling for Job Shops, 1980.*

Section: Communication and Distributed Systems

Larry Mauceri, Paper: *Control of an Expanding Network—An Operational Nightmare, 1974.*

R.D. McCalley and K.J. Barrett, Article: *Network Design Allows Diverse Gear Access to Host, 1978.*

James Keough, Article: *Architectural Mock-up Can Prevent Network Confusion, 1979.*

James Skinner, Paper: *Automated Software Control, 1977.*

Section: Systems Engineering

George Wedberg and Louis Hauschild, Paper: *The General Electric Network Monitor System, 1974.*

Richard P. Morton, Paper: *The Management of Modern Programming Practices, 1981.*

Section: Processing Systems

James Porter, Paper: *Coupling Mark III Time Sharing with GCOS, 1980*

Dr. Donald L. Shell, Article: *The GE-625—Herald of Transition?, 1965.* Paper: *A High-Speed Sorting Procedure, 1959.*

A. Spitzbart and D.L. Shell, Paper: *A Chebycheff Fitting Criterion, 1958.*

Copies of each of these are available in the GEISCO library, 3 N.E. Other GEISCO employees interested in submitting an article or paper should contact Barbara Heffron, 8*273-5868. □

CA + SALES = A VERY SATISFIED CUSTOMER

A unique secondary mortgage system is now up and running in the nation's thirty-first largest bank, thanks to the combined efforts of CA and Sales. The system uses the first MarkLink™ Terminal installed in a commercial bank.

And the customer, BancOhio, is so pleased with the system that plans are underway to expand into other applications.

According to Jim Crossley, manager, Columbus Branch, the bank has 240 branches throughout Ohio. In mid-1978, BancOhio decided to expand its mortgage business by reselling mortgages in the secondary mortgage business. The rationale was that the bank could then continue in the mortgage market even when the economy was tight.

Crossley adds, "the bank decided that a very comprehensive and complex secondary mortgage system would be needed quickly, and they found that available software would not serve their needs. Fred Durant, a BancOhio Vice President, decided to go with GEISCO because GEISCO people had delivered in the past, and he felt confident with them."

Jim explained that, with GEISCO Custom Applications availability, the system would be ready to use much sooner than would have been possible in-house, and the bank wanted a highly reliable on line, user-oriented system.

In late 1978, the Cleveland CA team of Karyn and Tom Walters, along with others from the Cleveland CA office, joined Jim Muhlenkamp and Ron Ford from the Columbus Branch to begin development of the system. All agreed that use of the MarkLink Terminal should be considered.

The system, which was initially developed on Mark III Service foreground, consists of several subsystems, according to Jim. The mortgage inventory subsystem handles all mortgage applications and maintains a record of necessary verifications required for loan approvals. Once a loan is approved, the needed documentation and payment coupons are generated automatically. The system helps eliminate last minute verifications in the loan approval cycle, and also reduces the effort in preparing closing documentation—which can consist of about 90 feet of paperwork. According to Jim, "This portion of the system very effectively uses the MarkLink terminal because of the extensive amounts of data entry and documentation output."

Closed mortgages are then considered as part of the available inventory for sales, and are assembled into pools for selling in the secondary market. The mortgages in the various pools are selected by the system to meet specifications of the secondary mortgages market, which consists of insurance companies, the United States government, and individuals.

Because of flexibility of mortgage ownership, and complex financial reporting requirements, development required a very comprehensive financial reporting system.

In July of 1979, Cleveland CA's Tom Walters began a customer funded study of use of the MarkLink Terminal in the application, and presented the results to BancOhio's management. The bank was in favor of the proposal, but for various reasons could not implement use of the MarkLink Terminal until July of 1980.

According to Jim Crossley, "Because of the persistence and professionalism of Tom and Karyn Walters, Ron Ford and Jim Muhlenkamp, BancOhio is pleased with the system and the MarkLink terminal, and plans to use GEISCO to eventually service an existing portfolio of more than 25,000 mortgages."

The MarkLink terminal will also be used for several other production applications in the bank, including servicing of automobile dealership loans on 20,000 cars, and servicing of more than 12,000 student loans. Other potential systems include automobile leasing, equipment leasing, credit analysis and accounts receivable-financing. The Walters have been working closely with senior T.R. Jim Shaver on these projects.

Crossley adds that creating and selling the system and the MarkLink Terminal to BancOhio has generated additional potential opportunities—BancOhio is considering an NSS arrangement by which it can further capitalize on its investment in the CA-developed secondary mortgage system. They are also considering consolidating GEISCO usage to take advantage of our fixed capacity service.

"All of this present and future business is the end result of excellent teamwork and effort between Karyn and Tom Walters, Ron Ford, and Jim Muhlenkamp," says Jim. "Equally important is the close rapport established with them and the key decision-making Vice-President. The future is bright for GEISCO at BancOhio because of Jim, Ron, Karyn, and Tom. Please join me in giving them a 'well done' salute." □

3

SIGNIFICANT TECHNICAL CONTRIBUTORS RECOGNIZED

"You have been chosen to receive a Sony Betamax Video Cassette Recorder and an all expenses paid night on the town. You and your guest are invited to take in a dinner, theater engagement, sports activity, other comparable entertainment of your choice, or a combination of activities in your local area, including limousine service, if you so wish . . ."

That was the partial content of a letter sent on February 12 to twelve people in the Engineering Department, and one in Systems Operations.

The letter was signed by Bob Hench, and the "prizes" were for "outstanding technical contributions to General Electric Information Services Company . . ."

As part of National Engineering Week, managers in each engineering section nominated two of their people for the special recognition. A special nomination went to Tom Kenyon in Systems.

Outstanding Technical Contributors, and their accomplishments, as outlined by their managers, are:

Gregory Cook, *Design Engineer, Com-munication and Distributed Systems*

Greg has been selected because of the outstanding work he has done in all areas of the MarkLink Terminal.

He has designed and implemented major enhancements to the operating system to make it run more efficiently, support larger programs, and communicate with RS232 asynchronous devices. All of his projects have been completed on time and the quality has always been excellent.

He provides excellent technical ideas in peer reviews. He also gives valuable consultation and support for most of the major development projects in the subsection. In addition, Greg helps resolve many of the critical problems encountered by MLT customers.

Bob Jessup, *Project Manager—MVS Operating Systems, Mark 3000 Systems*

Bob's efforts in assuring the proper construction, problem resolution, and commercial introduction of the Mark 3000 Service release 10 software system make him a significant technical

(L-R) Rickey Rollins, Bob Jessup, and Jerry Pittenger

Joe Rickershauser

contributor. Bob anticipates needs and situations so that alternate solutions are readily available. He maintained flexibility in the construction of the system from all its various parts and local modifications and worked very closely with other technical persons to provide quick reaction to unplanned events. His outstanding knowledge of IBM MVS systems was put to use on numerous occasions to solve anomalies in the system. He was exceptionally instrumental in the development of checkout tests and documentation for release 10. These same tests can be used to check out future releases of the Mark 3000 system.

Tom Kenyon, *Special Nomination Manager—Foreground Quality Assurance, Systems Department*

In the last few months the amount of activity in Processing Systems has increased significantly. This has put additional strain on an already severely stretched resource in QA. Tom has provided continuing support and cooperation in getting our products comercially released. In addition to testing and distributing released software, he has provided an invaluable interface buffer between Customer Service and Processing Systems. Tom's intense desire to produce a quality

product has added significantly to our Foreground Quality, and has made the efforts of Processing Systems easier and more effective.

Peter Lovell, *Project Leader, Application Systems*

Peter Lovell is the author of HISAM2, the file access method at the heart of our data management products. Beyond this normal assignment,

(L-R) Conley Stallard, Greg Cook, and Tom Kenyon—ready for their first videotaping

he has become an authority on FORTRAN-77, identifying and fixing several problems in the runtime package, and developing advanced training material for Customer Service and Custom Applications. Most recently, he was a key contributor in a task force which performed a technical audit of the GESCO application and achieved a 50% reduction in file I/O demand.

Frank Meyer, *Project Leader-GCOS Development, Processing Systems*

During the year 1980, Frank has

provided to Quality Assurance and to Operations exceptional technical support to the commercial GCOS system that is in operation at all three Supercenters. Frank has, without exception, given of himself in a highly dedicated and unselfish manner to provide whatever technical support was asked for, whether it be during workings hours, evening or weekend time. He resolves many serious availability questions before they become critical. Frank has gained the

highest respect from the GCOS operational and techniques people at all centers, as well as the Quality Assurance organization. Because of his dedicated attention to duty, the GCOS System has maintained a better than 99.1% availability for the year 1980.

Jerry Pittenger, *Senior Systems Engineer, Mark 3000 Systems*

Jerry has been and remains one of the top contributors to the development and deployment of software in Mark 3000 Service communications. He has been involved from the first

days in the design, planning and development of IBM 3270 and SNA capabilities for Mark 3000.

Jerry manned the TCAM development in switching the Mark 3000 from TCAM 9 to ACF/TCAM release 2.2. During this period GE participated in the First Customer Ship program with IBM on ACF/TCAM 2.2, placing GE as the first IBM customer to ever run ACF/TCAM 2.2 with IMS. He also worked with the Mitrol employees to bring up Multi-User MIMS on a test version of release 10. Again GE was the first customer to ever bring up a customer written application on that new interface.

Joe Rickershauser, *Systems Specialist, Mitrol Operation*

Joe is one of the stalwarts of the Mitrol R&D organization. He is the guy who makes sure all the loose ends come together and the product gets out the door. Often this involves marathon design and programming sessions involving unexplored areas of IBM's many operating systems and teleprocessing packages. This has been instrumental to our successfully completing the Swedish contract and having an MVS product.

Rickey Rollins, *Programmer Analyst, Application Systems*

Rickey was deeply involved in a major customer's Mark III® DDP Order Entry System. He provided consulting assistance to CA Dallas on the installation.

In order to meet their schedule, CA requested and obtained the services of Rickey for approximately six weeks in Dallas. During the time, Rickey customized parts of the new system for our client. His involvement helped CA meet their schedule. He further assisted CA at the customers site in Secaucus,

NJ, in the installation and debug of the system.

David Schloss, *System Specialist, Mitrol Operation*

David's ability to learn from scratch an area as complex as IBM's telecommunication access methods and to design and implement a VTAM interface in MIMS enabled us to meet the very ambitious technical goals of the Swedish project. His dedication and around the clock work in Sweden made the project come in on time.

Conley Stallard, *Project Manager— Test Design, Systems Engineering*

In addition to his excellent management of Test and Design Support and the ATS project over the last few years, Conley has made a major contribution to the TP product development in 1980. He was a key contributor on the GESCO redesign effort, independently proposing the EXECSER-

(L-R) Pete Lovell and Frank Meyer

VER structure and demonstrating its feasibility through the development of a TP simulator. Throughout this effort Conley worked with CA, consulting with them on their GESCO program design and debug problems. He also worked closely with Processing Systems

personnel on the debug of the interprogram communication feature.

Conley has also provided support of the Forest Service TP application and recommended programs changes that resulted in a working version of the application. His TP simulator is now widely recognized as an extremely valuable tool and is being used by operations as a check for good software, by QA to qualify system changes, by the GESCO program office for performance measurements, by developers for both functional and performance testing of new software, and by special teams investigating such problems as FCS-TP incompatibilities.

Bob Stolzenburg, *Senior Systems Engineer, Processing Systems*

For over 14 months Bob has had sole and complete responsibility for all firmware (PSI, IBM and applications) used in the File Controller. In addition, he designed the IBM channel and its data buffer. He has continuously demonstrated an unusually high degree of creativity, aptitude and effort. The results of his efforts can now be

(L-R) Bob Stolzenburg, George Wedberg, and Frank Wroblewski

measured in terms of the performance of the File Controller; this very complex application (approximately as many source lines as PIO) runs on our Foreground System. In addition, the firmware overhead is less than 0.4 ms, where the MPC's is greater than 2.0 ms. He has included within the application numerous performance and reliability optimization tools and he demonstrated the data buffer by successfully attaching to a slow IOM channel. Bob has constantly been aware of the great importance of the File Controller to GEISCO business, and has been a major facilitator and motivator to other groups, in order to realize the objective.

Dr. George Wedberg, *Manager-Development Procedures and Standards, Systems Engineering*

Working with only a volunteer group of department specialists, which

David Schloss

George has formed into an effective Standards Council, he has been able to produce a Department Policy Guide and contributions to the Common

Practice Instruction Manual consisting of the development cycle description and project initiation, development and release documents in the relatively short period of one year.

Concurrent with this, George has written, reviewed and issued standards for technical reviews and requirements definition for the Software Engineering Manual, written the standard for the Functional Specification, and is leading the effort to complete the remaining four standards by October of this year.

During this time, he has made himself available to consult with developers in promulgating these instructions and standards and worked closely with the other managers in Systems Engineering to assist in the Project Planning and Management development and Software Engineering Training.

Frank Wroblewski, *Manager-Communication Systems Software Development, Communication Systems*

Over the past year Frank has been a key contributor within the Communication & Distributed Processing Section. As an individual contributor, he conceived and developed a proposal for a communication implementation language (SIL). Through his efforts this program was accepted and is currently underway.

Frank was also a significant contributor in the implementation of MRC Software in support of the INAP protocol for MarkLink terminals and MarkLink Timesharing.

During 1980 Frank was promoted to Unit Manager, Communications Systems Software Development. He hired eight new people required to implement the programs recommended by the Network Task Force. Frank is currently involved in directing the efforts of 10 individuals in the implementation of those programs, one of which is the SIL project. □

ENGINEERING WEEK

other company in the world.

There is no question that Engineering is one of the cornerstones of the free enterprise system. The growth and success of the United States as a leader in the world community has been due in large part to its technological strength. That leadership is being severely tested politically, socially, and economically. The economic impact of inflation on the U.S. and other countries in recent years has been particularly staggering. There are many reasons for inflation, yet one of the few areas that offers significant potential to overcome economic pressures is increased productivity. With the prolonged and crippling effect of the inflation problem, the computer industry may represent one of the few major contributions to its solution. No segment of technology can make a bigger contribution to this than the field of computer automation.

Engineering Week is not so much a recognition of the past as it is a prelude to the future. As difficult and complex as were the technology challenges of the last few years, the next few years will present much more difficult problems for us to solve. It is clear that as we expand engineering we must increase our productivity, have even greater imagination, and maintain our entrepreneurial spirit to address the requirements of the business. Greg Liemandt has set a goal to grow this business to a billion dollars by the middle of this decade. That will take a lot of work and energy from everyone in the business; but engineering particularly must produce the products that will allow our sales and marketing force to pace the business to this growth target.

In summary, it is the obligation of all of us in engineering to maintain the excellence we have had in the past and maintain GEISCO's technological leadership in the computing services industry. The pride that each of us in engineering takes in our work, and the energy with which we attack these challenges, will continue to make our organization one of the best engineering organizations in the General Electric Family.

Congratulations on your fine work. Let's look forward to a great year in 1981. □

7

THE SOFTWARE ENGINEERING PROGRAM:
Improving Productivity By Improving Quality

One of the hottest topics in business news these days is productivity. In our business especially, there is such an acute shortage of programmers that programmer productivity is a major concern for every aspect of the computer industry.

The Software Engineering Program is the Engineering Department's focus on improving the productivity of all aspects of software development at GEISCO. Since the development of new software is central to the entire company, the efforts to improve the productivity of programmers necessarily impact all departments.

The approach to improving productivity being pursued in Engineering is by improving overall quality. Thus all areas of GEISCO are truly affected.

Quality is a very significant contributor to productivity in software because, as programmers, we spend an inordinate percentage of our time improving the quality of the programs we build. If we can learn how to build software correctly the first time, we will not have to spend as much time fixing it later. Similarly, Customer Service will not need to help customers recover from system failures; Training and Documentation will find it easier to produce materials that match the delivered products; Operations will not have to spend as much time recovering from service interruptions; and Finance will not have to credit customers with much rerun time.

In other words, our efforts toward improving productivity have nothing to do with motivating people to work harder. Rather, they have to do with putting more of our resources into more productive work, and fewer into undoing the mistakes we make along the way. We can do this by learning how to avoid making these mistakes in the first place.

Our efforts to improve the quality of the software we produce is being channeled into four directions: Standards, methodologies, training, and measurements. Standards and guidelines have thus far been written and approved for technical reviews, requirements definition documents and functional specification documents. Additional standards are under development for design, coding, and testing, along with a policy guide and common practice instructions. The biggest impact has been felt in the technical reviews. At the last survey, the vast majority of the technical staff of the Engineering Department was using the technical review guidelines for all kinds of documents.

While standards and technical reviews are important quality control tools, taken alone they often lead to frustration if the people who have to live by the standards are not skilled at following established procedures. For example, when the standard says that a functional specification has to be written before the design can proceed, we have to know how to write a good functional specification. For this reason, the methodology and training efforts are focused at developing the detailed methods for doing what the standards say must be done—and then teaching people in Engineering (and other departments) how to do that. Methodologies have been defined or selected for functional specifications, high level (system) design, and detailed (module) design. Additional methodologies are expected for requirements definition and testing.

Training classes have been conducted in technical reviews for almost all technical members of the Engineering Department. Software Engineering and Design is another course expected to be taken by most of the people in the Department. Structured Design Workshop will be given to those people who need to learn the details of the structured design method.

In addition, the department has a training policy designed to encourage members to attend courses to learn new skills that will allow GEISCO to keep up with the rapid rate of change in the computer industry. This year, all exempt personnel who joined the department before the end of February will be afforded the opportunity to take ten days of training.

The measurement efforts are just getting under way. Unlike traditional productivity measures designed to determine how "hard" the individual worker is working, this program is aimed at uncovering the trouble spots in the collective wisdom of the whole organization. We will be trying to find out, for example, what the most common defects found in our programs are. By doing this, we will be better able to understand the root causes for those defects and how we might prevent them. We will also be trying to better understand the costs of each of our activities, so we can understand better what investments in productivity aids would be most cost-effective.

The introduction of new techniques into any organization is going to take time. They will not be as easy to apply to some areas as to others. The Engineering Development Programs subsection in Systems Engineering is available to help smooth over the rough spots. □

by Richard Morton

UPDATE

Chairman Welch looks at GEISCO: Enthusiastic about future of business

GEISCO received an enthusiastic vote of confidence from General Electric Chairman Jack Welch during a May 14 meeting with GEISCO President Greg Liemandt. The meeting, part of a series of reviews of the strategic business units, was the first in-depth review

Greg Liemandt

of our business ever by a General Electric Chairman.

The four-hour shirt-sleeve session was held at the Mobile Radio Division headquarters in Lynchburg, Virginia. Also active in the meeting were Edward E. Hood, vice chairman of the board and executive officer; Christopher T. Kastner, executive vice president and sector executive, (Technical Systems and Materials Sector); Thomas O. Thorsen, senior vice president-Finance; Jack O. Peiffer, staff executive, (Technical Systems and Materials Finance Operation); and Mike Emmi, vice president and general manager, National Sales Department; Bob Hench, vice president and general manager, Engineering Department; Tom Little, vice president and general manager, Systems Operations Department; Art Marks, vice president and general manager, Marketing Department; and Ray Marshall, vice president and general manager, Programs Management Department.

Mr. Welch was very impressed
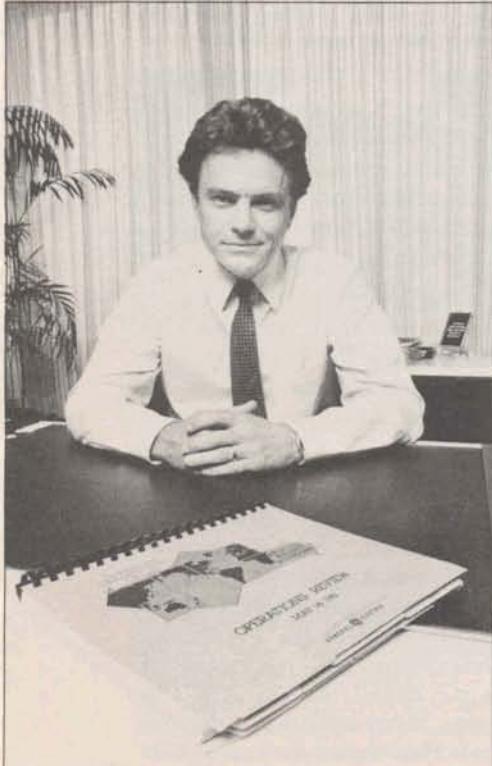
International Command® System; Perfect fit for multinationals

A major international oil company needs to gather financial information from London, Paris, Brussels, and Rome and use it in New York. And they need that information right now.

GEISCO now provides them with the system that accomplishes all that—and more.

On June 1, the International Command® System, a financial consolidation package, became available worldwide. This package was acquired from Citicorp International Bank Limited, London (who financed its development by On-Line Business and Scientific Sys-

Contents

Marketing and Sales players hit the road

Auditions? For a road show? At GEISCO? That's right. The Marketing and National Sales Departments held auditions for the players needed to make a ten-city tour they are producing for a June 11 to 30 run. The show, Tickets to Success, has been engaged to run in New York, Chicago, Dallas, Atlanta, Tampa, Washington, San Francisco, Los Angeles, Cincinnati, and Philadelphia.

The show has been produced by Ron Rasmussen, national sales manager MARK III® Service, and directed by Mike Chamberlain, manager of general business products.

Its intent is to entertain while informing the field sales force about key applications packages aimed at major market areas. Among the 40 featured packages are International Command®, Teller Management Systems (TMS), MLOS, and that rising young star the QUIK-COMM System. Each segment was written by the headquarters contact with responsibility for it.

Twenty potential players tried out for the slots on the bill during the five hours of auditions. The fierce competition resulted in four being picked for the

Judges Jennie Heinbach, manager, sales training, Employee Relations Operation, and Ed Scully, manager, new employee training, Employee Relations Operation, view a tryout. Each candidate was taped for later review — and maybe some pointers.

road company. They are: Dick Amato, manager, network communications quality (Systems Department); Gwen Dunham, international pricing support senior specialist (Marketing); Marv Rosenberg, technical project manager (Sales); and Paul Tilley, international pricing specialist (Marketing).

Ron Rasmussen (right) tells Paul Tilley what to expect from the audition . . . and a road show.

The five-hour show will present these packages relating to such market areas as finance, banking, order service, and management reporting.

"Our customers in these areas may well need an entire package, rather than just one element," says Ron, "and Tickets to Success will point out where these opportunities lie."

The GEISCO Marketing and Sales Players will present overviews of over 40 packages in order to stimulate sales, educate new employees, and refresh old ones. There will be handouts after the big finale, describing the packages in more detail, to provide the sales force with the information they need to cash their Tickets to Success.

How we're doing

Revenue for the first four months of 1981 is 26 percent higher than the same period last year. This improvement reflects the acquisition of Lambda Technology, Inc., as of January 1, 1981. At the same time, the growth in European revenue has slowed down because of softness in the economy and lower exchange rates.

Net income as of the end of April was 37 percent ahead of last year. This strong performance has been achieved through tight expense control throughout GEISCO and the use of exchange contracts, which have offset much of the unfavorable impact of the lower exchange rates. Under the terms of these exchange contracts, GEISCO sold five of the major European currencies forward at the high exchange rates which existed at the end of 1980 and is now delivering those local currencies at today's lower exchange rates. This results in substantial gains due to the strengthening of the U.S. Dollar.

Revenue and earnings growth 1981 vs 1980

V%
50
40
30
20
10
0
J F M A M J J A S O N D

Revenue ——————
Net Income — — —
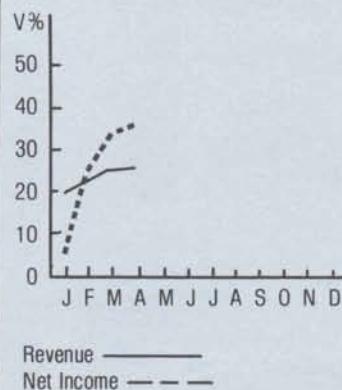
"What game is this?" The game was tennis (or golf) at the Harden & Weaver Tournament to benefit the Children's Hospital Fund. GEISCO contributed entry fees to the Fund so that four tennis players and eight golfers could play in the tournament.(From right)Don Bradley, project manager, minicomputer hardware planning, Programs Department, Bruce Murray, employee services manager, Employee Relations Operation, Rich Burich, senior systems analyst, Marketing Department, Jackson Weaver, and Frank Harden finally straightened out the equipment and had a lot of fun, besides.

A matter of degrees

LeRoy Hodge

Kevin Falwell

LeRoy Hodge did it. So did Mary-Ellen King. And Kevin Falwell is doing it now. All three are among many GEISCO employees who have used the Tuition Refund Program to further their education.

LeRoy, a programmer in the Engineering Department, used it to complete the last three semesters needed for his degree in computer sciences that he received last August from American University.

Mary-Ellen, computer science associate in the Engineering Department, received her masters last August from American University and all but one course was on the house.

Kevin, an accounts payable administrator in the Finance Department, is just beginning his course work toward a B.S.

Mary-Ellen King

in business from the University of Maryland, but the program is paying for two semesters this year. "I already have 58 credits and I'm earning 12 this year. So, at about 15 credits per year, I'll have my BS by '84," says Kevin.

"Though it is an easy program to participate in, there are some stipulations," says Kathy Kociol, in benefits and compensation, who administers the program. "The course of instruction must be from an accredited school; it must be job-related or provide career opportunity; and it must be approved by the employee's manager. Once the course is approved (15 days prior to registration), the employee just applies for the program, gets credit for the course, and submits proof of payment, the fee sheet from the college, and grades for payment," she continued. "It's that easy."

CAP is million dollar program

The year 1980 marked the 26th year of the Corporate Alumnus Program (CAP) and its support to educational institutions. Since it was established in 1954, the Program has helped provide a total of $28,723,667 in gifts to colleges and universities, according to the recently issued CAP report for 1980.

Under the Program, GE employees and pensioners can make gifts to eligible institutions and have them matched by the General Electric Foundation. In 1980, retirees of General Electric, for the first time, were eligible to participate in this program.

Gifts matched under the Program in 1980 totaled $998,341 and went to 914 schools around the country. Over 7,400 GE employees took advantage of the opportunity.

Individual employee contributions of at least $15 and up to $5,000 may be matched. The maximum an institution can receive in a year is $40,000.

Employees who plan to participate in the Program in 1981 should request copies of the matching gift form which provides full details and instructions. Copies of the form are available from the office services stationery room.

Towards more productive software development

This is the first part of a two part article by Don Bishop, manager custom applications order services system, in Dallas. It is adapted from his speech to General Electric's Second Software Engineering Seminar in February.

Don Bishop addresses one of the most pressing problems facing our industry. The lag between software and hardware development is important to all of us, from both a technical and sales standpoint. Programming productivity is a major challenge to our customers, as well, and its alleviation provides us an excellent opportunity. Don proposes some potential solutions in this critical area that well deserve our attention.

—Ned Heinbach

Clearly, the changes that have been occurring in our industry over the past ten years have taken us to the point that programmers aren't keeping up with the rapid pace of hardware advances. The cost of computing has been cut by 20 percent or more each year for two decades. At the same time, soft-

Don Bishop

ware costs are jumping. Nearly all large firms in the U.S. today have a growing backlog of programs to install in the face of similar increased development costs.

According to Frederic G. Withington, a veteran data processing industry watcher for Arthur D. Little, "The pace of software evolution is the throttling factor in the evolution of the whole industry." He refers to the software bottleneck by pointing out that, "revenues of data processing companies are expected to grow to $95 billion in 1984, but if there were no software constraints, sales would be even higher—maybe $125 billion." He also notes, "Software marketing and support costs are going up because they are people-intensive."

General Electric has long been a leader in looking for ways to hold the line on people-cost through productivity gains. General Electric Information Services Company (GEISCO) has very compelling reasons to pursue this leadership in the software development field, just as others in General Electric have in the manufacturing of light bulbs and washing machines. Productivity objec-

light bulbs and washing machines. Pressure from my customers is for faster implementation of large scale distributed data processing (DDP) applications for their order service and distribution functions. This is driving us to search for techniques and project management styles to achieve shorter cycles and lower costs.

How did our industry get in this state?

Changing environments and objectives for systems

Along with the rapid reduction of computing cost, both the software development environment and the objectives for the applications being programmed have changed dramatically. Minicomputer vendors have changed from just selling a hunk of iron which can re-

Productivity through sharing— The Tool Library

If you've ever needed an easy-to-use Foreground text processor with greater flexibility than EDI RUNOFF . . . or over 20 digits of precision or over 60 . . . or needed to monitor your IND jobs, you can find all these and many more in GEISCO's MARK III® Services TOOL library.

They are available to help you be more productive in your application development work.

The foreground techniques team, in application systems, headed by Steve Mudrick, was created in 1980 specifically to help application developers on MARK III Foreground.

A few of the tools and utilities available are:

PUB — an easy to use text processing utility;

BITS — Bit manipulation routines (has everything you need);

DATES — Date manipulation routine (any date format you want);

DINT — Double precision integer routines (22 digit precision);

STRAND — Extended precision routines (61 digit precision);

MAKE — Utility to (re)generate a system;

SLIDE — A viewgraph preparation utility (for ZETA 53);

DFD — Utility to draw Data Flow Diagrams; and

UTILS — Miscellaneous utilities (e.g. IND tracking, TABOL reformatter, change files to upper or lower case).

With these, you don't have to reinvent commonly used rou-

tines or utilities. You can use those already developed by GEISCO's worldwide system builders. They are in the Foreground TOOL library (currently called MEDL:) and documented both on-line (list TOOLINFO on DY28 for details) and in an internal manual (available through OLOS-000.38). This library is constantly being enhanced, and plans are to have productivity tools available for DDP and MARK 3000 ™ Service before the end of 1981.

If you require further information or have a useful tool and want to share it, just send a crossfile to TOOL. You will be helped by one of the expert TOOL analysts—Ron Bidwell or Maria Harrison or Peg Reed.

Steve Mudrick

duce computing costs to a new emphasis on application software. The rapidly expanding independent software industry has rushed to fill the void created by the proliferation of so much low cost computing equipment. Programmers and application designers are accessing their programs using on-line video display terminals (VDT) and powerful text editors. Systems analyst are required to devote much more time to the human engineering aspect of VDT screen display masks for use by clerical personnel.

Most of these changes have resulted in some new benefits for programmers as well as to the end users of the applications they create. On-line VDT programming systems have been one of the most touted improvements to reducing programming time. I can attest to the gains we have made with application programming through the use of special time-sharing development techniques. These include mini-computer cross compilers, application generators, and program testing tools, which we use in our systems for order service.

The 1970's brought us the DDP concept which has introduced low cost intelligent terminals with local mini-computer power, to many small businesses, warehous-es, and stores. In today's application development groups, this means we now are faced with a situation in which these DDP applications are reaching out from large scale hosts to local mini-computers with their terminal stations reaching vast numbers of users.

Although this new technology has improved the system response and computer access for programmers, it has also made the environment and software they write far more complex. Thus, we are encountering new challenges to develop complex program integration and testing techniques to implement these DDP applications without in-creased problems and delays. I believe it is safe to say that this challenge has not as yet been overcome. Many companies' attempts to develop DDP applications themselves have experienced vast overruns and some have had to be disbanded altogether. Although our several DDP applications have been successful, the development times have not been as fast as we would like.

In the second installment, Don Bishop details his recommendations for improving programming productivity by means of phasing the project, using software tools, and even planned overtime.

Employee Referral Award Program begun

On May 1, GEISCO began a program designed to enhance the quality and increase the retention of new employees.

Previous experience with referrals indicates that many referred candidates who are hired are top performers and have longer than average careers with General Electric.

Until December 31, the Employee Referral Award Program will award net of $500 for any level 8 or above that you refer who is hired.

All GEISCO employees are eligible except managers with hiring authority, relations professionals, and their families. No General Electric employee, including those on lack of work, qualifies as an award candidate. "This program," says Tom McKinnon, manager human resources-source development and programs "is designed to encourage our employees to bring to GEISCO's attention those proven professionals that they know and respect."

WELCH

with the worldwide scope of the business and supportive of GEISCO's rapid growth strategy. He endorsed the timely identification of factors leading to our future success and suggested that being able to move quickly is crucial. With that in mind, he noted that acquisitions are critical to our business and suggested methods to simplify their attainment.

Technical and strategic issues were surfaced and thoroughly examined. There was agreement with our effort to expand the MARK 3000™ Service business while stepping up our investment to grow the MARK III® Service.

As the meeting continued— right through a working lunch —Mr. Welch became more and more enthusiastic about the opportunities for GEISCO, saying at one point, "What a terrific business."

Mike Emmi said that there was a great feeling of team work during the meeting: "There were six GEISCO people in that room all pulling on the same rope and I believe Mr. Welch noticed it."

"I had always believed," said Greg Liemandt, "that Jack Welch would share the sense of excitement we all feel when he became familiar with our business. And he did."

INT'L. COMMAND

tems) as a direct result of a financial management business plan developed last year.

The plan identified markets attractive to GEISCO, and the International Command System exactly fits one of those market segments—companies with multiple locations which require rapid financial consolidations. "Marketing's Mike Chamberlain, Art Hyder, and Lin Bower have been instrumental in identifying and filling this need," said Sandy Kring, who has marketing production management responsibilities for the International Command System.

"After the void was pinpointed, a make-versus-buy analysis was performed, and the result was a 'buy' decision. Since the software acquisition last fall, resources from virtually every GEISCO department have devoted their best efforts to a successful product introduction. This flurry of activity has been coordinated by Bill Backer (project manager, MARK III® Marketing)," she continued.

Sandy was quick to point out that the International Command System offers a number of advantages to both GEISCO and our customers. "Because the package emphasizes accounting principles rather than computer concepts, customers

become comfortable users extremely quickly. In most cases, this allows us to get an application up and running in a matter of days rather than months. Naturally, that is very attractive to our customers, and for GEISCO it means we can significantly shorten the sales and implementation cycles."

To the multi-division and multinational companies for whom the International Command System was developed, the package offers a complete solution to reporting, planning, and control needs. Already a major oil corporation is using the International Command System in locations throughout the world for data collection and consolidation for treasury reporting. Other customers represent a wide cross-section of industries. After successful field test, the product is being commercially announced on the MARK III® System triple star library. Promotional material for the International Command System is being sent to all field sales offices and to distributors and affiliates overseas.

"The International Command System," said Sandy, "precisely meets the needs of a large, rapidly growing marketplace and provides us with a very exciting opportunity to create customer satisfaction while increasing GEISCO revenue and profits."

Moving On

Don Fagerhaug—is now area manager-network service, Cleveland, network operations, Systems Operations Department. He is responsible for network service in Cleveland including maintenance of the communication network and provision of maintenance service to MARKLINK™ terminals.

Dan Garrett—became area manager-Network service, Tampa, network operations, Systems Operations Department. He is responsible for network service in Florida including maintenance of the communication network and provision of maintenance service to MARKLINK terminals.

Mary Howard—has become manager, systems analysis, systems engineering, Engineering Department. Her department serves as a focal point for development activities within the Engineering Department, which include project definition and initiating, scheduling and resource allocation, coordination, and control.

Jim Keough—has become manager, distributed systems software, communications and distributed systems, Engineering Department. He is responsible for the development and support of MARKLINK System software.

Elena Sacchet—has become unit manager, operational software and file systems, MARK III® Systems, Engineering Department. She will now be responsible for the software needed for the change from Honeywell 451 to IBM 3350s, including the development of utilities to do repack, migration, and error reporting.

Gary Senese—has become manager, MARK 3000™ Systems, Engineering Department. He will be providing engineering support for MARK 3000 Systems.

John S. Struck—has assumed responsibility as manager, financial planning and analysis for the Systems Operations Department. John comes to GEISCO from General Electric de Venezuela in Caracas, Venezuela, where he was manager-auditing.

Mike Venditti—has become VS shift manager, Supercenter operations, Systems Operations Department responsible for operational responsibility for off-shift coverage.

George Wedberg—is now manager, systems analysis, systems engineering, Engineering Department. His responsibilities include performance testing, system modelling, test and diagnostic software, and configurative analysis.

Marketing, Programs Departments reorganized

Last month, the Marketing and Programs Management Departments were reorganized to align them more closely to GEISCO's most promising target market opportunities (TMOs). These TMOs have been identified and placed in priority during an intensive study conducted over the past several months.

"The process has provided a road map by which our business has sharpened its market focus," said GEISCO President Greg Liemandt in announcing the reorganization.

Following are charts of the newly organized departments. The Marketing Department has created four new sections consistent with GEISCO's TMO's. The Programs Management Department, in continuing to apply the general management focus to GEISCO's attractive business segments, has created five new sections that reflect the results of the TMO study, as well. In both departments, some sections have remained relatively unaffected.

PROGRAMS MANAGEMENT DEPARTMENT

Vice President &
General Manager

R.W. MARSHALL

MARK III* PRODUCTS	MARK 3000 ™ PRODUCTS	DISTRIBUTED PROCESSING PRODUCTS	ORDER SERVICE PROGRAMS	MANUFACTURING PROGRAMS	ENERGY AND TRANSPORTATION PROGRAMS	GENERAL BUSINESS PRODUCTS PROGRAMS	FINANCIAL PROGRAMS	FINANCIAL PLANNING AND ANALYSIS
R.A. SIMMONS	M.F. LEWIS	P.H. INSERRA	R.O. FOHL	P.J. HORGAN	N.L. BEYER	G.R. PORTER		L.B. VAN DYCK

Network Projects	MARK 3000 Operations Projects	MARKLINK ™ Project	Order Service Projects	MIS Projects	Mining Projects	Management Reporting Projects	Banking Projects	Product Operations Analysis
W. Brill	P. Fabrizio				P. Buteux			

GCOS Projects	MARK 3000 Systems Projects	Mini Computer Projects	EPO Projects	NC/CAE Projects	Petroleum Projects	Financial Reporting/Acc'g Projects	CPA Projects	Program Opms Analysis
R. Johnson	D. Votta	T. Kent	J. Conway		G. Shipley			C. Fetz

Foreground Projects	Advanced Systems	Data Terminals Projects	GESCO/GESCAN Project		Enercom Project	QUIK-COMM Project		Program Plng Integration
	D. Fox	B. Girma			D. Sweet	T. Bijou		W. Gowen

MARK III Rqmts & Integ	MARK 3000 Rqmts & Integ	DPP Rqmts & Integ			Ocean Shipping Project			
	F. Howard	K. Boyne						

MARKETING DEPARTMENT

Vice President &
General Manager

ARTHUR J. MARKS

INDUSTRIAL MARKETING	COMMERCIAL MARKETING	PRODUCT MARKETING	VENTURE MARKETING	INTERNATIONAL DEVELOPMENT & DISTRIBUTOR SALES	FAR EAST MARKETING	FINANCIAL PLANNING & ANALYSIS	MARKETING COMMUNICATIONS
A.J. MARKS (acting)	J.S. GOODMAN	D.F. FOSTER	P.J. BARRIS	G.A. BATTISTA		J.F. RICHARDS	J.L. MILLER

Manufacturing Industry Marketing	Energy Industry Marketing	MARK 3000™ Marketing	Venture Marketing— International Banking	Canadian Distributor Sales	Geis Pty. Ltd. Australia	Financial Analysis	Advertising & Sales Promotion
W.D. Gates (acting)	D. Covert	A. Heald	O.W. Buckner	T.L. Joehl	J.D. Williamson		R. Ryan

Order Service Industry Marketing	Transportation & Construction Industry Marketing	MARK III® Marketing	Venture Marketing— Mini Computers	Latin American Distributor Sales	Hong Kong/ Singapore Operation	Pricing	Documentation
D. Lowry (acting)	C. Persels	R. Dyer	R. Specht	J.G. Wood	H. Szeto	R. Lemberg	D. Nilsson

Distribution Industry Marketing	Banking Marketing	DDP & Terminals Marketing	Venture Marketing— Network	Far East & Scandin. Distributor Sales	Marketing Planning ISI Dentsu Japan	Pricing Capabilities Programs	Data Communications Marketing
H. Genthner	J.S. Goodman (acting)	D.F. Foster	A. Hyder	T.B. Madison	R. Donnestad	M. Millett	J. Turner

	CPA Marketing & Author Acquisitions	General Business Products	Venture Marketing Market Research & Analysis	Mediterranean & Mid-East Distributor Sales	Far East Marketing Support		
	A. Crites	M. Chamberlain	A. Hyder (acting)	J.M. Smith	C.L. Lippold		

		Software & Services		International Development	Far East Network Operations		
				H.S. Jackson	L. Geller		

				International Sales Support			
				E. Eadeh			

				Special International Projects			
				T. Crowley			

April S&SP prices

Here is the report on the average prices for GE Stock, Mutual Fund, and Holding Period Interest Fund used under the Savings and Security Program to credit participants accounts in April. The Long Term Interest Fund price for the last day of the month is also shown as well as year-to-date annual income rates for both the HP and LT Funds.

Month	Stock Price	Mutual Fund Price	Holding Period Fund			Long Term Fund	
			Price	YTD Annual Income Rate 1980	1981	Price	YTD Annual Income Rate
January	$61.863	$29.643	$10.00	10.9%	13.1%	$9.31	14.1%
February	63.118	28.834	10.00	10.9	13.1	9.07	14.3
March	66.580	29.905	10.00	10.9	13.1	9.19	13.9
April	66.732	30.271	10.00	10.9	13.1	8.87	13.8-a)

(a- At April 30, 1981 the Net Current yield of the long term investment portion of the fund was 14.1 percent.)

New telephone book slated for August

GEISCO's telephone book is scheduled to be reprinted in August. To make sure that it is accurate and reflects your current location, title, telephone number, and so forth, please check the current listing. If there is a change, please fill out the card on this page (or one from the back of your phone book), and send it to: Facilities Projects.

All changes must be received by June 22, 1981, to be included in the new book. So, send in those cards right now.

NAME: _____
    (Last)   (First)   (Initial)

TITLE: _____

COMPONENT: _____

DEPT/OPER: _____

LOCATION/POUCH NO.: _____

TELE. # _____ ALT. # _____

CHECK APPROPRIATE CORRECTION

	ADDITION	DELETION	CHANGE (CIRCLE)
Hq. Directory			
Field Directory			
Who, What, Where & How Sec.			