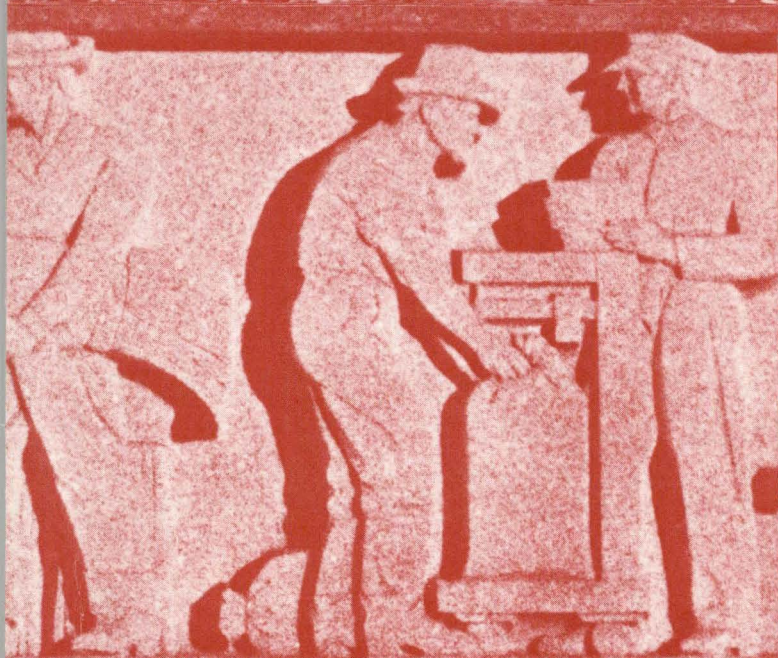


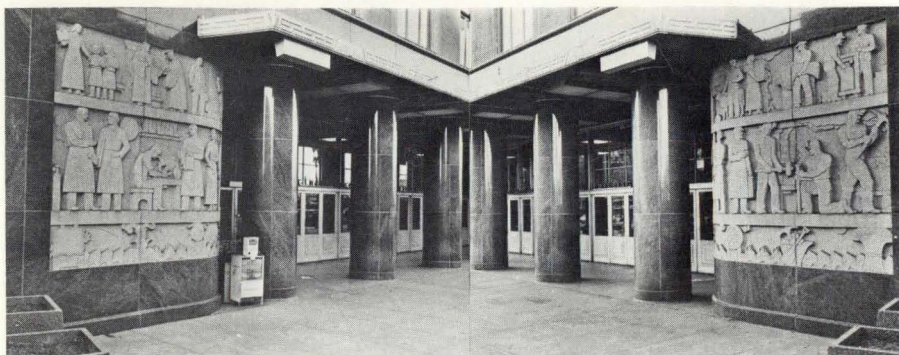
THE GAO REVIEW



WINTER 1978



SCULPTURES AT THE "G" STREET ENTRANCE



(Compressed view)

American laborers and professional workers are depicted in the bas-relief sculptures that decorate the red granite portals of the recessed entrance of the buff limestone GAO Building on "G" Street. The sculptures were designed in 1951 by Joseph Kiselewski, noted U.S. sculptor, of New York.

Nine feet high and 15 feet long, the two panels curve around both sides of the entrance. They contain about 30 figures representing Americans most affected by Government programs.

On the front and back covers of *THE GAO REVIEW* is a partial section of the two tiers that divide each panel. The panel on the right side of the entrance depicts agriculture in the top tier and mining in the bottom one. Among other themes included in this panel are fishing, warehousing, and transportation.

The panel on the left side of the entrance shows the professional worker and the occupations that concerned the economy in the 1950s. These included the themes of engineering, science, education, and art.

Themes such as the military were left out at the time, 5 years after World War II, and themes such as space, welfare, crime, and atomic energy had not yet become areas of major national concern.

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WINTER 1978

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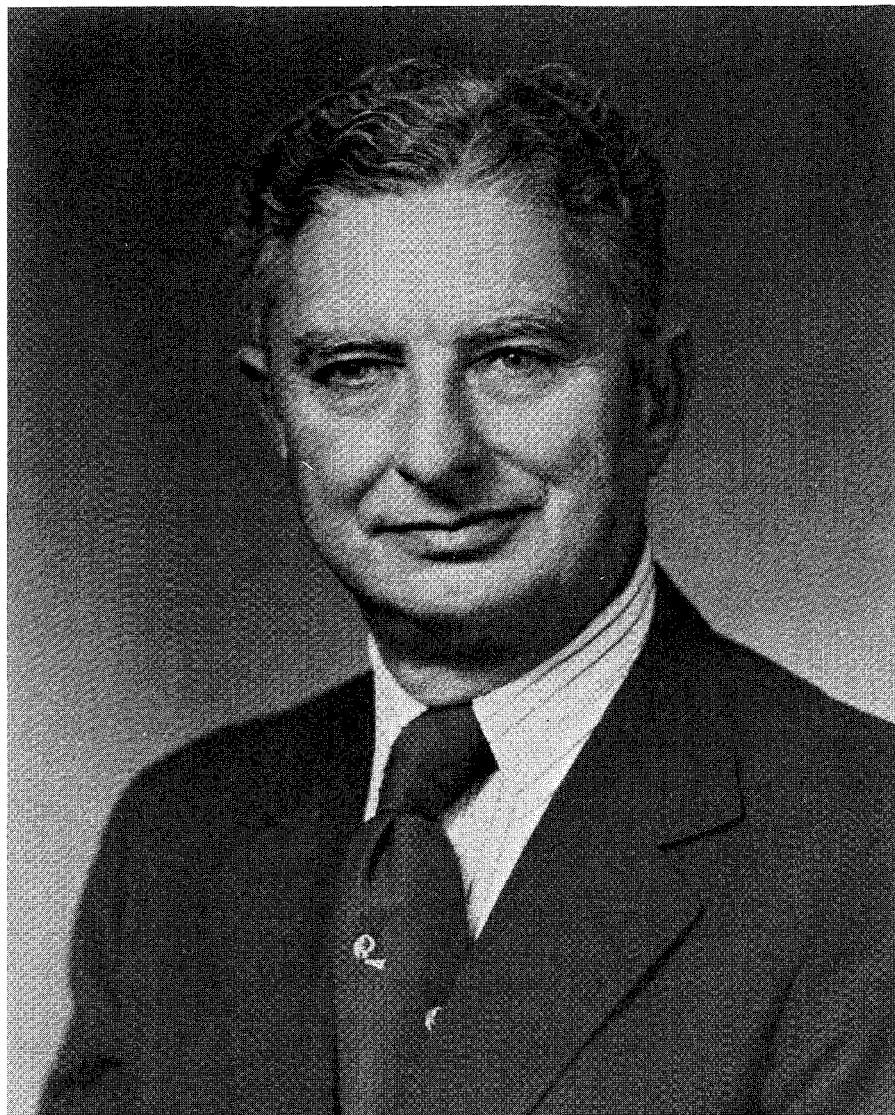
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Published quarterly for the professional staff of the United States General Accounting Office.



Ellsworth H. Morse, Jr.
Assistant Comptroller General of the United States

Ellsworth H. Morse, Jr. Assistant Comptroller General of the United States

The GAO Review is privileged to publish in this issue the following memorial to Ellsworth H. Morse, Jr., Assistant Comptroller General of the United States, who passed away on November 29, 1977, at the age of 63. Mr. Morse will long be remembered for his valuable contribution in promulgating accounting and auditing principles and standards for the Federal community and in fostering and nurturing operational auditing in the United States, as well as internationally.

The founder and editor of *The GAO Review*, Ellsworth H. Morse, Jr., Assistant Comptroller General of the United States, died November 29, 1977, in Alexandria, Virginia.

Mr. Morse was born near Shelby, Ohio, in Richland County on December 1, 1913. He attended Shelby High School and graduated from Oberlin College in 1935 where he was elected to Phi Beta Kappa. He received his M.B.A. degree from the University of Michigan in 1937 and then joined the staff of Arthur Ander-

sen & Co. During World War II he served as Lieutenant Commander in the Navy, and at the time of his discharge, he was a member of the Navy Price Adjustment Board.

In 1942, Mr. Morse married Virginia F. Garbison, who became his partner and inspiration for the rest of his life.

"Mose" Morse, as he was affectionately known throughout the Nation, could claim credit for many far-reaching accomplishments during his 31 years with the General Accounting Of-

Mr. Allen R. Voss is presently GAO's Philadelphia regional manager. During 1963-74, he worked closely with Mr. Morse for 9 years as Assistant Director of Auditing Policy, Associate Director of Auditing Policy, Deputy Director of Auditing Policy, and Director of the Office of Policy.

office. At several critical times in its history, the General Accounting Office was truly fortunate to have a man of Mr. Morse's calibre, courage, and foresight to help guide the Office to a position of national, even international, leadership in the field of accounting and auditing.

His outstanding service during his tenure in the General Accounting Office, from the day he reported to work on July 1, 1946, to his last day of work on November 29, 1977, was consistently recognized by three Comptrollers General.

One only needs to look at the challenging responsibilities bestowed upon him during his career with the General Accounting Office to recognize the high esteem in which he was held. He served as Director of Audits (1955-56), Director of the Civil Accounting and Auditing Division (1956), Director of the Accounting and Auditing Policy Staff (1956-66), Director of the Office of Policy and Special Studies (1966-71), Director of the Office of Policy and Program Planning (1971-72), and Assistant Comptroller General of the United States responsible for Policy and Program Planning (1972-77).

The contributions made by Mr. Morse to the accounting and auditing programs of the General Accounting Office and to financial management throughout the Federal establishment are of inestimable value. Through his professional competence, planning capability, executive leadership, and sound judgment, he

was a chief mover in improving the development and organization of the Office's programs and in translating into action the broad accounting and auditing concepts approved by the Congress in 1945, 1950, and 1970.

A Leader in Financial Management

In and out of Government, Mr. Morse was recognized as a leader in accounting and financial management.

He was officially recognized on a number of occasions for his outstanding contribution to financial management in the Federal Government and served in various capacities in professional organizations—including the American Institute of Certified Public Accountants, where he served on the prestigious Auditing Standards Committee, and the Association of Government Accountants, of which he was National President in 1970-71.

In the early fifties, and for many years after, he served as the Comptroller General's personal representative in the Joint Financial Management Improvement Program. The overall objective of this program is to improve financial management practices throughout the Government so that they will most effectively serve program and general management purposes and achieve maximum efficiency and economy in all operations.

Mr. Morse was a prolific writer and many of his articles on finan-

cial management were published in professional journals. In addition, in 1954 he directed the preparation of an internal quarterly journal devoted to accounting, auditing, and financial management—*The GAO Review*. The *Review* has had such high praise that it is now made available to a large number of colleges and universities as well as to public accounting firms and Government agencies in the United States, as well as in other countries.

By 1968, Mr. Morse had been clearly recognized throughout the United States as an outstanding civil servant. He was selected by the National Civil Service League to receive its 1968 Career Service award. Before receiving this award, Mr. Morse had been presented the First Award of the Annual Author's Contest for his outstanding contribution in the *Federal Accountant*, in 1966, and the Comptroller General's Award, the highest award given by the General Accounting Office, in 1967.

In recent years, Mr. Morse's interest in improving financial management was extended to the international area. Beginning in 1970, he participated with representatives of Canada and Venezuela in developing a proposal for an *International Journal of Government Auditing*, which was agreed upon by the seventh International Congress of Supreme Audit Institutions (INCOSAI) at its triennial conference in Montreal in 1971. After financing arrangements had been worked out to publish the *Journal*, Mr.

Morse became its first editor and had just completed the arrangements for the beginning of the fifth year of its publication at the time of his death. The *Journal* is distributed throughout the world in English, French, and Spanish.

He accompanied the Comptroller General at the eighth INCOSAI in Madrid in 1974 and the ninth INCOSAI in Lima in October 1977. Through his participation in the activities of INTOSAI, he became well known in auditing circles in many countries.

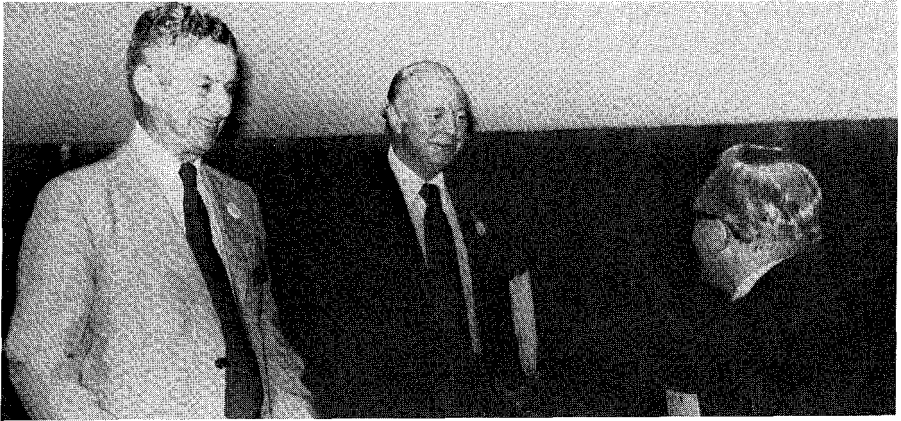
As a further example of his concern with improving auditing standards outside the United States, Mr. Morse, at the time of his death, was serving as Chairman of the Board of External Auditors of the Organization of American States and was midway in his third year of participation in that body. Also, he was recently appointed a member of the National Council of Beta Alpha Psi, which is the national accounting fraternity.

Illustrative of the many tributes paid to him after his death were the following:

Mr. Saburo Sato, President of the Board of Audit of Japan:

His death leaves your Office without one of its most distinguished and respected officials. The loss is not confined to your Office either. His charming personality and his high accomplishments in the field of accounting and auditing earned him the high esteem and deep affection not only of his countrymen but also of all foreigners who ever came into contact with him officially or otherwise.

His devotion to improvement of auditing standards throughout the world is evidenced by his distinguished leadership



Ellsworth H. Morse, Assistant Comptroller General, and Comptroller General Elmer B. Staats hold an informal conversation during a recess at the 9th International Congress of Supreme Audit Institutions, Lima, Peru, October 1977.

in editing the *International Journal of Government Auditing* as well as the *GAO Review*, from which we have learned much.

James J. Macdonell, Auditor General of Canada:

The profession has lost an outstanding member whose contribution to government accounting and auditing will long be remembered nationally and internationally.

G. Rune Berggren, Auditor General of Sweden:

I met him first during my visit to GAO in 1975 and this year in Lima at the INCOSAI and after that at the IPDEVI seminar, which was a considerable success thanks to his excellent leadership. My staff and myself have always regarded Mr. Morse as a firm and valuable link between GAO and my office.

I. E. Nebenzahl, State Comptroller of Israel:

Ellsworth Morse was held in great professional and personal esteem. This is a grievous loss to GAO and his colleagues and many friends over the world and especially to our *Journal*.

Jörg Kandutsch, Secretary General of INTOSAI and President of the Court of Audit of the Republic of Austria:

In Lima just a couple of weeks ago we managed to experience Mr. Morse's fully creative abilities and his full strength and dynamic activity. An irreplaceable loss.

Gale McGee, Ambassador to the Organization of American States:

As President of the External Board of the Organization of American States, he provided an example of personal rectitude and professional competence which will serve as a model for his successors. I am confident you are aware of the high regard with which Mr. Morse was held by those fortunate enough to have been associated with him.

D. R. Steele Craik, Auditor General of Australia:

Even from this distance I am well aware of the contribution he has made over the years not only to GAO but also to the government auditing community generally. He achieved world stature by his continuing and challenging ap-

proaches to the problems which face us all.

Jørgen Bredsdorff, Auditor General of Denmark:

Government Audit Institutions all over the world owe him a great deal. Both his inspiring articles in *The GAO Review* and his editorial work for the *International Journal* were of lasting importance for all who worked with public auditing. Personally I will miss him as a noble and friendly colleague and I will keep the memory of his nice smile when we passed each other or sat together in Montreal, Madrid, and Lima.

Hans Schafer, President of the Court of Audit of Germany:

The GAO and the entire auditing profession have suffered a heavy loss with the premature death of Ellsworth Morse. We owe a very special debt to Mr. Morse as the first editor of the *International Journal*. My wish is now that his anticipation and plans for the continued successful development of the *Journal* may be realized. This accomplishment would fulfill a task left us by the *Journal's* first editor, who to many of us was such a sincere and reliable friend.

James P. Wesberry, President, The International Professional Development Institute, Ltd.

In the two Supreme Audit Institutions where I have worked during the past eight years I have frequently observed that it is really a very small number of persons who can really be counted upon for outstanding and loyal service of any kind, any place, any time. For some time it has been obvious to me that Mr. Morse was one of that indispensable few in the GAO. I know his loss is your loss.

Mr. Morse was certainly responsible for the success of the two IPDEVI seminars in Lima. In Quito he made

two outstanding presentations, one to the Comptroller General's senior staff and one to a combined meeting of the Ecuador Chapter of the Institute of Internal Auditors and the professional accountancy societies.

I do not know of anyone who has influenced me personally or helped me professionally more than Mr. Morse.

D. G. Njorge, Controller and Auditor-General of Kenya:

I have personally met and known Mr. Morse during the conferences of INTOSAI and I had come to respect him as a person and his untiring efforts in the work of INTOSAI. His contribution to the *International Journal of Government Auditing* was invaluable.

Alejandro Orfila, Secretary General of the Organization of American States:

Mr. Morse rendered signal service to the inter-American community in his capacity of Chairman of the Board of External Auditors of the Organization of American States. The prestige of that body was greatly enhanced both by virtue of the high office he held as Assistant Comptroller General of the United States, and by reason of the profound respect in which he was held by his professional colleagues.

The Permanent Council of the Organization paid him well-merited tribute at its special session yesterday, by preserving a moment of silence in his memory.

Richard L. Hunt, Acting Governor, Panama Canal Zone:

His sincere and dedicated approach to a variety of situations was inspiring.

Marshall S. Armstrong, Chairman, Financial Accounting Standards Board:

As you know, I have had the privilege of working with Morse on several different

professional assignments over the past many years. My personal regard for him cannot be overstated. He has been an outstanding leader in behalf of the GAO for many years and your expression of loss merely confirms my own belief. I have been inspired by his personal integrity and leadership.

W. W. Cooper, Professor of Accounting, Harvard University:

I have known Ellsworth Morse for many years as one of the really great contributors to auditing, accounting and government both in the United States and abroad. Only those persons who had the privilege of seeing some of his contributions "up close" will ever know how much the world really owes to Ellsworth Morse—and will continue to owe him in the future.

Ralph E. Kent, Arthur Young & Co.:

My relationships with the Consultants' Panel and the Financial Accounting Foundation provided an opportunity over the years for me to get to know Mose and to observe first-hand his fine personal qualities and his unswerving commitment to high professional performance.

Joseph Campbell, former Comptroller General of the United States:

A truly great person and a devoted loyal friend.

Maxwell Henderson, former Auditor General of Canada:

Ellsworth was a friend of mine of whom I was very fond as the 19 years of our friendship went by albeit too fast. We did many things together and I respected his judgment and gentleness more than I can express. His passing is not only a tremendous loss to his colleagues but also of a friend who was always ready to help others in need. In my experience this was nowhere more evident than on the inter-

national scene where he had a host of friends.

Susuma Uyeda, President of the Washington Chapter, Association of Government Accountants:

Mr. Morse's death is a great loss to all of us—to the Federal Government and to the accounting and auditing profession, including the AGA. As a long standing member of AGA, he served as a national president and his efforts and contributions can and should be considered herculean. As a prolific writer, he constantly explored and expanded the frontier of professional knowledge. As a person, he was warm, understanding, thoughtful and humble to those of us who had the privilege to work for and with him.

Mose was a remarkable man, one whom we all admired and respected. He has left a legacy for all of us to emulate.

Josephine M. Clark, secretary to Mr. Morse for 25 years:

I never met a person more devoted to his family, his profession, his job, and his country than Ellsworth Morse. He had a deep sense of commitment and pride to do his best in whatever he was engaged in and with the highest of standards. Mere words cannot do him justice. The world is a better place because of him.

A member of the Congress, Senator Walter Huddleston, recognized Mr. Morse's contribution to promoting good financial management in the Federal Government. He inserted the following tribute in the Congressional Record for December 7, 1977:

Mr. President, I wish to call to the attention of the Senate the sudden passing of Mr. Ellsworth H. Morse, Jr., Assistant Comptroller General of the United States, on November 29. Mr. Morse, an employee of the GAO for 31 years, was an extraordinarily able and experienced



Mr. Ellsworth Morse and his wife, Virginia, at a recent reception. At left is Mr. Morse's secretary, Josephine Clark.

policy adviser to the Comptroller General for many years and was the deserved recipient of the National Civil Service League Career Service Award.

As chairman of the Legislative Appropriations Subcommittee, I have been very interested in the work of the General Accounting Office in stimulating improvement in Federal Government accounting practices. Mr. Morse was long active in both Federal and private efforts to promote the financial management disciplines throughout the Federal Government.

Accounting Principles and Standards

One of the Comptroller General's statutory responsibilities is prescribing the accounting princi-

ples and standards to be followed by the Federal departments and agencies. These are incorporated in title 2 of the General Accounting Office Policy and Procedures Manual. Under the law, these principles and standards are the framework for all accounting systems in the Federal Government.

Mr. Morse personally directed and participated in the development and improvement of these principles and standards since 1956. In June 1965, a complete restatement of the principles and standards in title 2 was issued, which was almost entirely Mr. Morse's work.

He also was responsible for, and personally participated in,

the preparation of manuals illustrating certain procedures for the benefit of Federal agencies. One of these was an illustrative manual on the application of accrual accounting; another was a manual illustrating application of a simplified payroll system. These have been widely distributed to Federal agencies and used in developing modern accounting methods. They have received high praise from authorities both inside and outside of the General Accounting Office.

Auditing and Reporting Standards and Policies

In 1949 the General Accounting Office undertook a series of substantial organizational changes in its accounting and auditing operations, and Mr. Morse played a leading role in these changes. Essential to this transition was a set of written guidelines setting out the principles, policies, and practices to be followed in the new comprehensive audit, which was prepared under Mr. Morse's guidance and personal participation. These guidelines became the Comprehensive Audit Manual of the General Accounting Office, issued in 1952, a massive volume covering practically every aspect of the audit activity of the General Accounting Office.

The Audit Manual served its purpose outstandingly well and in 1960, again under Mr. Morse's direction, was completely revised and enlarged to incorporate additional audit techniques developed

through experience. After the 1960 revision, Mr. Morse remained personally involved in overseeing the updating and refining of the Audit Manual, which is currently used in the day-to-day management and supervision of work in the General Accounting Office as well as in formal and on-the-job training operations.

Because the General Accounting Office is responsible to the Congress for the results of its work, it is essential that its reports on accounting and auditing work be of the highest quality. Recognizing this, the General Accounting Office issued a Report Manual in 1954 setting forth the basic policies for planning, developing, and writing its reports. Mr. Morse was primarily responsible for establishing the policies contained in the early manual and, over the years, he was personally involved in assuring the currency of the manual.

Mr. Morse took action in the late sixties and early seventies to develop standards for audits of governmental organizations and programs. Under his direction, a work group consisting of 10 Federal and 5 non-Federal officials was established to develop the audit standards and in June 1972 the Standards for Audit of Governmental Organizations, Programs, Activities & Functions were published. Following their publication, Mr. Morse was a leading advocate of the standards, consistently promoting their use throughout the United States with his publications and speeches.

Nearly 100,000 copies of the

standards have been distributed to date. These standards are increasingly being followed in making audits of Government programs and have been specified as *the* audit standards, in circulars issued by the Office of Management and Budget and in many Federal agency audit guides.

The standards were reviewed by a committee of the American Institute of Certified Public Accountants during 1973. The committee's report stated:

The members of this Committee agree with the philosophy and objectives advocated by the GAO in its standards and believe that the GAO's broadened definition of auditing is a logical and worthwhile continuation of the evolution and growth of the auditing discipline.

ADP Audits

Mr. Morse was one of the first to recognize the importance of the business management aspects of computers to the Federal Government. In 1958 he directed that studies be made of the management and other problems related to computers. That year a report was issued under his direction which showed that while large expenditures were being made for computers, there was no overall Government plan for the management of these computers and that there was a need to establish an effective and coordinated program of joint efforts by Government agencies.

The 1958 report was followed by another, in 1960, which again emphasized the need for having over-

all management of the automatic data processing facilities (ADP) of the Government.

In 1963 Mr. Morse directed and participated in a study showing the financial advantages of the Federal Government's purchasing, as opposed to leasing, ADP equipment. As of that time, there were slightly over 1,000 electronic computers in the Government, of which about 86 percent were leased. Mr. Morse's study disclosed that if the Government would buy one-half of this rented equipment, there would be a savings of approximately \$150 million over a 5-year period. After the 5 years, there would be further savings of over \$100 million annually.

The 1963 report also recommended that there be established, in the Executive Office of the President, a central management office with the responsibility and authority to make decisions with respect to the utilization and procurement of computers.

Several bills were introduced in Congress to provide for the central management of the Government's ADP operations. One of these bills was subsequently enacted into law (Public Law 89-306). This law provided for the economic and efficient purchase, lease, maintenance, operation, and utilization of automatic data processing equipment by Federal departments and agencies.

The foresight of Mr. Morse in recognizing the potential for economy and better management and procurement of computers had much to do with the passage of this legislation.

Audit of Federal Bank Supervision

Mr. Morse played a major role over the years in attempts to obtain authority, through legislation, for the General Accounting Office to audit the Federal Reserve System. In January 1976, after two major bank failures, the House Banking Committee requested the Office to conduct a full scale audit of the three bank regulatory agencies: the Federal Reserve System, the Federal Deposit Insurance Corporation, and the Comptroller of the Currency. The House Government Operations Committee and the Senate Banking Committee later also joined in the request.

The major obstacle to such a review was access to bank examination reports and other agency records which contain confidential information about banks and their customers. For 2 months Mr. Morse led the negotiations which eventually resulted in formal agreements between the Comptroller General and the heads of each of the three agencies, providing the General Accounting Office with access to these records. This represented the first time that the Office had been granted unrestricted access to bank examination reports.

In early April the Comptroller General established a task force to perform the review, made up of staff members from all divisions and reporting to Mr. Morse. Mr. Morse provided day-to-day guidance to members of the task force during the planning, execution,

and reporting phases of the review. A comprehensive report on the audit was issued on January 31, 1977, containing many recommendations for improving Federal supervision of State and national banks.

On February 2, 1977, Mr. Morse accompanied the Comptroller General to testify during a joint hearing before subcommittees of the House Banking Committee and the House Government Operations Committee on the results of the study. The study was well received. Even the three agencies testified that the study had been conducted in a professional manner and that their fears of disclosure of confidential information were unfounded.

Mr. Morse assisted in several more hearings during the next several months, on bank supervisory activities in general and on proposed legislation. Legislation was proposed to strengthen the powers of the bank supervisory agencies, adopting many of the recommendations in the General Accounting Office's study, and to provide the General Accounting Office with continuing audit authority over the three agencies.

Mr. Morse played a major role in coordinating efforts with committee staff to draft legislation that would enable the General Accounting Office to conduct meaningful audits and also alleviate the agencies' concerns about our access to confidential information. The legislation passed the House by an overwhelming majority in October 1977 and was referred to the Senate. Mr. Morse and the

Comptroller General testified on this legislation before the Senate Governmental Affairs Committee on November 29, 1977, the day of Mr. Morse's death. We are optimistic that this legislation will pass the Senate in 1978.

Enactment of this legislation would have been one of Mr. Morse's most satisfying achievements and will be a fitting tribute to his many years of effort to obtain needed authority for the General Accounting Office to audit the Federal Reserve System.

* * * * *

In a short written tribute, no one could do justice to the contributions that Mose Morse made to the development of the General Accounting Office. However, his contributions and devotion to the

Office were most appropriately stated by Comptroller General Elmer B. Staats on November 30, 1977, in a memorandum to the staff of the General Accounting Office:

It is with great sorrow that I announce the sudden passing last evening of Ellsworth Morse of a heart attack. His death is a severe loss to GAO, the accounting and auditing profession, and to me personally.

Only yesterday, Mr. Morse assisted me at a hearing before a Senate Committee on a bill which would make the General Accounting Office responsible for auditing the three Federal bank regulatory agencies, a subject on which his great knowledge would have been of incalculable value if this new responsibility is placed on the GAO as now expected.

And only today, he was to have helped me in a hearing before a House Commit-



Testifying before the Senate Governmental Affairs Committee on the Bank Audit Act on November 29, 1977, are (from left): Ellsworth H. Morse, Assistant Comptroller General; Elmer B. Staats, Comptroller General, and Donald C. Pullen, Assistant Regional Manager.

ELLSWORTH H. MORSE, JR.

tee on financial and administrative problems anticipated if the Panama Canal Treaty comes into effect.

Mr. Morse's career in the General Accounting Office spans many years and his contribution to its development is hard to overstate. He loved the GAO and was completely dedicated to its mission. High professional and ethical standards—which he personally epitomized—were basic to the policies and standards which he did so much to establish and maintain for the General Accounting Office. His sights were high and he held these high standards always before us.

Returning from the congressional hearing yesterday, Mr. Morse plunged into the final work to complete the GAO annual report for 1977 to the Congress and to the launching of the fifth year of the *International Journal*

of *Government Auditing* of which he was the Editor. His leadership in editing the *Journal* and the *GAO Review* were further manifestation of his concern with the need to improve auditing standards throughout the world.

We will miss Mose Morse from our ranks. No request to him was too large or too small for him to undertake. His host of friends both in and outside the General Accounting Office will feel this loss deeply and will join with me in expressing our sorrow and sympathy to his family at this time.

Those of us who were fortunate to have known Mose personally could not help but be influenced by the association. We will certainly miss him.

Positive Government

Every man wishes to pursue his occupation and to enjoy the fruits of his labors and the produce of his property in peace and safety, and with the least possible expense. When these things are accomplished, all the objects for which government ought to be established are answered.

Thomas Jefferson
1801

The Auditor's First Steps in Applying Computer Analysis

*Using a computer to accomplish some of the
time-consuming tasks of auditing.*

In an age when, more and more, the auditor is being confronted with enormous amounts of data to review, analyze, and draw conclusions about, the staff auditor must use a wide variety of tools available to turn raw data into meaningful information. This article discusses a method which could help the auditor decide whether data can be analyzed with one of these tools, the COMPUTER.

The decision path followed by people successful in applying computer assisted techniques can be very complex. On each assignment the auditor must de-

termine what analytical tool he will use and whether there would be a serious adverse effect on the accomplishment of the audit and reporting objectives if the information being analyzed was incomplete or inaccurate in any material respect. The auditor is responsible for performing sufficient evaluation to provide reasonable assurance that information, whether processed by computer or otherwise, is relevant, accurate, and complete.

Therefore, a general set of criteria is needed to aid the auditor in identifying when a situation may warrant computer ap-

Mr. Gallegos, a management analyst of the Management Science Group in the Los Angeles regional office, has a master's degree in business administration from California State Polytechnic University at Pomona. He provides computer-related assistance to the LARO audit staff, has taught COBOL programming and systems analysis at his alma mater, and has published other articles and texts on data processing. He has been with GAO since 1972.

Mr. Horsky, an audit manager of the Management Science Group in the Los Angeles regional office, has a B.S. degree in accounting from California State University at Long Beach and a certificate in computer sciences from the University of California at Irvine. He is responsible for computer-related assistance and reviews in the automatic data processing and systems areas. He joined GAO in 1967.

plication. These criteria comprise a "logic path" for computer analysis, illustrated in figure 1 and explained below.

Step 1—Definable Data

The first step is for the auditor to define the data he or she is working with, such as employment records, welfare case histories, or project performance reports. This step leads the auditor into determining what sources of information and data are available for analysis and issue development purposes. After defining the data, the auditor proceeds to the next step. If the data cannot be defined, however, the auditor must con-

sider other alternatives in accomplishing his objectives.

Step 2—Quantifiable Data

If the data is quantifiable, it will most likely provide the auditor with meaningful figures or results that can be used in the audit. Quantifiable data is that data which can be measured with some degree of assurance and consistency. Examples of such data for analysis are the tabulation of questionnaire responses, comparison of welfare recipient payments to Government employee payroll payments, and calculating the number of hospital acute-care beds based on historical usage data.

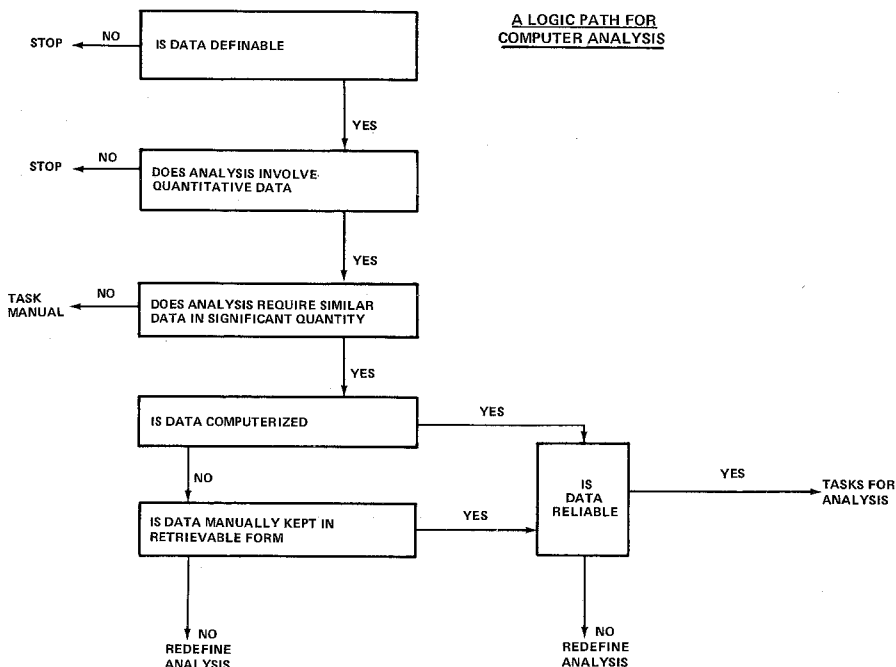


Figure 1

Data that is not quantifiable is not suited for automated data processing because it has no common attribute from which meaningful summarizations or analyses can be performed. Generally, such data must stand on its own. For example, counselors' comments regarding medicare cases have no common relationships to allow a mathematical description. Data like this must be used as is, while quantifiable data can be further scrutinized for computer application.

Step 3—Significant Quantities of Data

One of the advantages of computer processing is the ability of the computer to process large quantities of data, especially similar data. For example, to analyze the inventory of a veterans hospital pharmacy store, the auditor would want to examine the inventory control log, if one existed, to determine which drugs are on hand in what quantities. If the store has 50 items, the task can be accomplished manually very easily. However, if 5,000 items are stocked, the auditor would have to either statistically sample and analyze the items or find other methods for analysis. The large number of items should alert the auditor to the possibility of using the computer. However, we have found that as few as 150 questionnaires lend themselves to computer analysis, because they usually involve the analysis and summarization of at least 20 or more variables.

Step 4—Computerized Data

If the data has the potential for computer processing, the auditor must first determine whether it is computerized or not. Information presented in large volumes is usually computerized, but many times data or information does not appear to be computerized because the documents reviewed are reports to top management, which tend to be typewritten summaries. However, on inquiring, the auditor may find that the origin of the data used for summarization is maintained in computer files. The auditor should also be aware of the fact that not all data contained in a computer file is printed. Therefore, the auditor should examine the record layout of a data file to make sure that meaningful data that could be used for analysis is identified.

If the data is maintained in a computerized file, the auditor can then proceed to determine the reliability of it (step 6). If not, he or she can determine whether the information is kept manually in a retrievable form.

Step 5—Manually Retrievable Data

If the data is kept manually in a retrievable form, it can be reviewed for feasibility of computerization. Examples of such data would be records with similar elements, such as name, age, sex, and birthdate. The specific data necessary to meet the auditor's needs must be reviewed to determine if the data can be captured

on the data entry document and structured into a computerized record. Each data field must be analyzed for its numeric, alphabetic, or alphanumeric characteristics.

To illustrate, in a recent audit, GAO staff reviewed about 400 manually stored case files in the U.S. Attorney's Office. They identified common data elements that they were interested in summarizing. When each case was reviewed, the auditor extracted the data from the manual file and coded it onto a computer coding sheet. The completed coding sheets were sent to a service bureau where the data was keypunched and verified. A computer program was then written to edit and test the validity of the input data, while another computer program tabulated and summarized the results of the review according to the audit staff's output specification. This saved the audit staff a significant amount of time in trying to compile and summarize this data. However, had the data not been kept in a retrievable form, this type of analysis could not have been accurately performed in a timely manner and would have required redefinition.

Step 6—Reliability of Data

The final step in the logic path for computer analysis is validating the data—determining its importance and reliability. If the data is not reliable, the computer analysis of such data cannot be accepted by the auditor or agency. The much

used data processing phrase of "garbage in, garbage out," is an excellent description of the need to validate the reliability of data for computer analysis.

A good illustration of the need to validate data occurred during a recent audit. Field staff members were given computer-generated reports concerning the equal employment opportunity profile of various bureaus of a Federal agency. In their initial inspection of these reports, the statistical information appeared reasonable and reliable. However, indepth analysis revealed some questions concerning the data's reliability. First, beginning and ending staff balances could not be reconciled because of unknown staff movements, resulting from cost of living or step increases. Second, according to the individuals who requested the statistical data for our field auditors, the data was not validated for accuracy or appropriateness. Discussions with agency officials also revealed some ethnic categories for new staff were coded erroneously. Thus, the statistical reports provided to the audit staff were not reliable for their intended use.

If the data is not unreliable, then the use of such data should be redefined by the audit staff. In the above case, such a redefinition process took place in order to be able to use the data. We asked the agency to extract the data in summary form. The data was to include all permanent full-time and part-time employees, but was to exclude temporary employees and those in the hourly category.

We insured ourselves of this data being valid through the use of edit and reasonableness checks. The computerized summary data was also compared with the agency's published summary information to assure its completeness. Ending balances were reconciled to determine if summary figures were accurate. These tests confirmed we had an accurate summary of the data contained in the file and that the data was reasonably accurate.

Once the data was proven reliable, the tasks for analysis could be determined by the audit staff. In this specific instance, the data was used in a GAO-developed computerized model designed to predict the agency's profile and to evaluate the long-term effect of current policies and practices and the implications of alternate policies. The objective of this model was to generate estimates of

future employee ethnic and sex ratios based on current employee trends.

Conclusion

Information is an essential and costly resource for managing and evaluating organizational activities and programs. The computer, like other valuable resources, should be used in a way that will maximize benefits in relation to investment.

Our logic path for computer analysis is a process which we use to help the auditor decide whether data and information needed can be reliably analyzed with the use of the computer. By this method the auditor can identify the potential for using the computer for tasks which would otherwise be laborious and time-consuming.

Computers and Management Control

The increasing use of computer and communications technology within the Federal Government has introduced a variety of new management problems. Among these is the need for assuring adequate management control over the automatic data processing (ADP) function. Auditing is an important tool used by agency management to monitor and control internal operations. We believe the ADP function should command more attention from agency managers for a number of reasons: (1) ADP impacts significantly upon virtually every aspect of an agency's operations, (2) by its nature ADP permits huge sums of money and large amounts of information to be handled by relatively few individuals, (3) computer users rarely have the ability or knowledge to verify the accuracy of computer systems, and (4) the large and rapidly growing cost of ADP itself.

James T. McIntyre, Jr.
Deputy Director, Office of
Management and Budget
July 1977

Communicating Effectively Through GAO Reports

To effectively communicate audit findings to readers, a GAO report must be well organized and clearly written.

The purpose of a GAO report is to communicate audit findings, conclusions, and recommendations about agencies and programs that use Federal money. The reports usually discuss how the money is spent, how a program or agency is administered, and whether the program or agency is accomplishing congressional goals efficiently, for the information of Members and committees of the Congress, Government agencies, the news media, and the taxpayer. The audit work may be useless if the message is not effectively communicated.

For this reason, GAO reports must be accurate, clear, easy to read, and when possible, interesting. If a report is so dull or confusing that no one reads it, its purpose will not be fulfilled.

During the past 3 months, I have reviewed and edited about a dozen reports prepared by the staff in the Boston regional office, and have read many published reports prepared at other GAO locations. Based on this experience I would like to suggest 10 general but practical steps GAO report writers can take to communicate more effectively.¹

Make Points in Logical Order

The key to good writing is organization. Before you write, identify major points, group all statements relating to those points, and

¹ The GAO writing courses discuss these points. Pointers on good writing can also be found in the GAO booklet, "From Auditing to Editing."

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discard any irrelevant information. This procedure should be used whether you are writing a paragraph, a summary, a chapter, or a complete report. Nothing infuriates a reader (or editor) more than having to constantly refer back and forth in a report to understand what he or she is reading.

Remember that chronological order may not be the most logical order. The best way to present facts in many cases is in the order of importance. A report is not a summary of working papers, but a synthesis designed to communicate major findings and conclusions scattered throughout your working papers. Your task as a report writer is to select the major facts to be communicated and present them logically.

So before you write, **THINK**. Don't just write down random statements from working papers. Set those papers aside for a moment and ask yourself a simple question: "If I were a Member of Congress or an average citizen, what would I want to know about this program or agency?" Then, from memory, jot down major points. At this stage, you are ready to draw a tentative outline and refer to your working papers as a guide for including pertinent information.

Get to the Point

State your main point first, using details to support and expand on the point. You are writing a report, not a mystery novel!

Don't lead the reader through a maze of background information or unimportant detail before getting to the main point, because it will turn the reader off, and your message will not be communicated.

Make the Point Clear

Put complicated thoughts into their basic elements, and summarize your main thoughts into a short, simple sentence. Remember, you cannot write clearly unless you think clearly. Don't get bogged down in complexities and contingencies when introducing new material. Modify statements if you must, by using such phrases as "in general" or "with several exceptions." Once the point has been stated clearly, the subtleties can be discussed in the sentences which follow.

Make the Point Forcefully

Use simple and, when possible, strong statements which accurately make a point. Although this is often difficult within the format of a GAO report, it can be done. For example, a recent draft report read:

Health care costs have increased 12 percent a year from 1965 to 1976 increasing from \$38.9 to \$139.3 billion.

The statement is straightforward and clear, although the clarity suffers from excessive use of numbers. I made the statement stronger and clearer by adding:

Health care costs in America have more than tripled since 1965.

Avoid Needless Repetition

The structure of a GAO report requires some repetition. But if ideas are properly grouped and clearly stated the first time they are presented, there will be no need to repeat them. I have edited reports where a statement was repeated verbatim three times in as many pages. If you must repeat something for structure or emphasis, try to change the wording; make the same point in a different way.

Stress Substance Over Procedure

When auditing, procedure is important to ensure completeness. When writing a report, substance is most important because we want to communicate a message. A detailed listing of audit procedures is necessary in working papers, but superfluous in a report. Most procedural information in a report belongs in the scope section. Lengthy procedural discussions elsewhere impede effective communication. For example, avoid expressions such as "GAO interviewed the director of the State Division of Employment Security to get his views on Federal trade assistance programs. He told us that * * *." Instead, just say, "According to the director of the State Division of Employment Security, Federal Trade assistance programs could be improved by * * *."

Choose Words Carefully

We are writing for laymen, not

experts. Therefore, write in common, understandable English. Avoid jargon and technical expressions. While we want to use simple English, accuracy and precision are important also. If you select words carefully, your message will be clear.

Eliminate Needless Verbiage

Many published GAO reports could be at least 20 percent shorter if unnecessary words were eliminated. Here are some examples of how words can be removed *without* changing meaning.

1. The Navy is planning to build a total of 39 submarines.
The Navy plans to build 39 submarines.
2. Training and other services provided under title 1 CETA are expected to help participants maximize employment opportunities and enhance self-sufficiency.
Title 1 CETA services are expected to help participants get good jobs and support themselves.
3. We found Chicago's management information system to be lacking adequate information necessary for decisionmaking.
Chicago's management system lacked information needed to make decisions.

Write in Active Voice

Make simple, direct statements in which the subject does the action expressed in the verb. Consider these two statements:

1. GAO urges the Congress to tighten welfare eligibility requirements.

2. It is recommended that welfare eligibility requirements be tightened by the Congress.

The first statement uses active voice. It is more forceful than the second statement, which uses passive voice. The first sentence clearly states who is urging what. The second sentence does not.

Use Examples to Illustrate Points

The best way to explain a complicated thought is illustrated by example. Consider how the following statement is illustrated by an example:

Under the administration's tax proposal, income tax rates for persons in high tax brackets would increase an average of 15 percent while rates for low- and middle-income persons would decrease an average 10 percent.

For example, annual taxes for a typical family of five earning \$50,000 would increase from \$15,000 to \$17,250. Taxes for a similar family earning \$10,000 would decrease from \$1,000 to \$900.

A profession is an occupation which is pursued largely for others and not merely for oneself.

Justice Louis D. Brandeis

Summary and Conclusion

A GAO report is a form of written communication, with the major findings, conclusions, and recommendations of an audit constituting the message. If the message is not communicated, the report and the audit work that preceded it will be pointless.

A report is most effective when the message is clearly presented. This means the report must be well organized and well written. The key to both good writing and good organization is clarity of thought, and you cannot make your own thoughts clear to a reader unless they are clear to you.

When writing a report take the following steps:

1. Organize ideas and present them in logical order.
2. Get to the point.
3. Make points clearly.
4. Make points forcefully.
5. Avoid repetition.
6. Stress substance over procedure.
7. Choose words carefully.
8. Eliminate needless words.
9. Write in active voice.
10. Use examples to illustrate points.

Maximizing GAO Resources Through Modernizing Audit Recording Techniques— A Concept That Works

The San Francisco regional office has begun a pilot project to reduce fieldwork, calendar time, and audit costs. The following article recounts one audit team's experience early in the project.

At a time when GAO must meet critical product time frames, staff-years are in short supply, and budget reductions are imminent, we must seek new and often innovative methods to use our human resources as effectively as possible. One such method is being explored by the San Francisco regional office in a pilot project known as modernizing audit recording techniques. The early experience of one of the region's audit teams indicates that using these techniques *does* increase GAO fieldwork productivity.

In the early planning stages of a survey of the Postal Service's Labor Relations Program, the

two audit team members realized that the number of interviews to be conducted, staff availability, and critical time frames called for a departure from traditional auditing methods. They agreed that the method by which interviews were conducted and the information documented in the workpapers would be most easily adaptable to change. Therefore, the team decided to have only one team member present at interviews with the agency personnel, record the interviews on mini-tape recorders, and have the administrative staff transcribe the interview tapes. The cooperation of management and the administrative staff was obtained, along

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with two minitape recorders and a supply of tapes.

After overcoming an inherent fear of hearing their own voices on tape and learning to organize their thoughts while in the process of dictating, the team discovered that dictating interviews and using transcription services could increase the auditors' productivity while reducing audit costs. During the 3-month audit segment which comprised most of the interviews, the two team members conducted 102 interviews with postal officials and with local and area union representatives. (The interviews averaged 3.7 double-spaced typed pages each.) The information obtained during the interviews was then summarized in schedule format and was used to brief top postal management on several labor relation areas needing improvement or closer study.

The auditors estimate that the dictation-transcription auditing technique enabled them to conduct an interview and document it in the workpapers in about 25 percent of the staff time that conventional interviewing and manual writeups require. If this method had not been used, a junior staff member would have had to spend about 2 months, full-time, attending and writing up the interviews, or the two team members would have had to perform these functions. The method, therefore, allowed new staff members to perform more meaningful work and reduced the total calendar time required to complete assignments.

The technique is not without some pitfalls. The audit team discovered that the administrative staff's ability to support other regional typing needs could cause excessive delays in transcription turnaround time. Although such delays were minimal on the subject survey, they could become critical in future assignments, especially if an entire regional office attempts to use audit recording techniques without providing additional typing support. Other factors that should be considered before using audit recording techniques include:

- Obtaining top management's support of the concept, at least on an experimental basis.
- Obtaining recording devices and tapes. (Currently, adequate recorders cost about \$200 and tapes \$3.95 each. Given a 3- or 4-day turnaround, 6 tapes are probably sufficient for 1 auditor.)
- Searching for alternate typing services, such as those available from outside contractors.

This audit team's experience may have just scratched the surface of what can be accomplished through modernizing audit recording techniques. The San Francisco region's pilot project may demonstrate that other uses of recording techniques, such as transcribing observations, summaries, letters, and initial draft reports, can make even more effective use of GAO's human resources. An overall reduction in the quantity of workpapers will also occur.

The Well-being of Older People— A Unique GAO Study

This article discusses some new techniques for evaluating the well-being of older people and the effects of services on their lives.

Introduction

Aging is a natural process of gradual changes in the well-being of people. These changes are observable and sometimes measurable. GAO wanted to measure changes in the well-being of older people and then determine how this well-being is affected by services over a period of time. A 2-year, 2-phase study is underway, and the results of phase I have been exciting—namely, we have developed new techniques to evaluate multiprogram effects on a target population.

Assessing Well-being of Older People

We took a survey in Cleveland of people who were 65 or older and

not in institutions such as nursing homes. Using a questionnaire developed by Duke University in collaboration with the Department of Health, Education, and Welfare, we interviewed 1,609 people in 1975. The questions explored five areas: social, economic, mental, physical, and daily living activities.

The responses were used to categorize the person's status in each area as excellent, good, mildly impaired, moderately impaired, severely impaired, or completely impaired. For example, after answering 22 detailed questions on physical health, a person would be placed in one of the following categories:

1. *In excellent physical health—*
Engages in vigorous physical activity, either regularly or at least from time to time.

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- 2. *In good physical health*—No significant illnesses or disabilities. Only routine medical care, such as annual check-ups, required.
- 3. *Mildly physically impaired*—Has only minor illnesses and/or disabilities, which might benefit from medical treatment or corrective measures.
- 4. *Moderately physically impaired*—Has one or more diseases or disabilities which are painful or require substantial medical treatment.
- 5. *Severely physically impaired*—Has one or more

illnesses or disabilities which are either severely painful or life threatening or require extensive medical treatment.

- 6. *Totally physically impaired*—Confined to bed and requiring full-time medical assistance or nursing care to maintain vital bodily functions.

However, since we wanted a picture of the person's overall well-being, we developed the method shown in table 1 for combining his or her status in each of the five areas to form that picture.

Table 1

<i>Well-being</i>	<i>Description based on five areas included in Duke University questionnaire</i>
Unimpaired	Excellent or good in all five areas of human functioning.
Slightly impaired	Excellent or good in four areas.
Mildly impaired	Mildly or moderately impaired in two areas, or mildly or moderately impaired in one area and severely or totally impaired in another.
Moderately impaired	Mildly or moderately impaired in three areas or mildly or moderately impaired in two and severely or totally impaired in one.
Generally impaired	Mildly impaired or moderately impaired in four areas.
Greatly impaired	Mildly or moderately impaired in three areas, and severely or totally impaired in another.
Very greatly impaired	Mildly or moderately impaired in all five areas.
Extremely impaired	Mildly or moderately impaired in four areas and severely or totally impaired in the other, or severely or totally impaired in two or more areas.

After applying this technique to our sample, we projected that only one of every five older people in Cleveland was not impaired. About 23 percent were generally impaired or worse, including 7 percent considered extremely impaired. A complete breakdown of our projection is shown in table 2.

Having assessed the well-being of older people, we next wanted to identify factors that could affect this well-being.

Identifying Factors That Could Affect Well-being

- To identify these factors, we
- developed specific definitions of services being provided to older people in a technique for quantifying the services,
 - identified the providers of the services—families and friends, Medicare and Medicaid, and over 100 social service agencies, and
 - obtained information about the services each person in our

sample received and the source and intensity of those services, during our interviews with the older people and from the records of the agencies and of Medicare and Medicaid.

In defining and quantifying services, we used five elements: purpose, activity, relevant personnel, unit of measure, and example. For example, meal preparation was defined as shown in table 3.

Following are individual services we defined.

1. *Home help*
 - Personal care
 - Checking
 - Homemaker
 - Administrative and legal
 - Meal preparation
 - Continuous supervision
2. *Financial*
 - Housing
 - Groceries and food stamps
3. *Social and recreational*
4. *Medical*
 - Psychotropic drugs
 - Supportive devices

Table 2

Assessed well-being	1975 estimate of people 65 and over	
	Number	Percent
Unimpaired	13,400	21
Slightly impaired	13,200	21
Mildly impaired	11,500	18
Moderately impaired	10,300	17
Generally impaired	5,700	9
Greatly impaired	1,900	3
Very greatly impaired	2,300	4
Extremely impaired	4,300	7
Total	62,600	100

Table 3

<i>Purpose:</i>	To regularly prepare meals for an individual.
<i>Activities:</i>	Meal planning, food preparation, and cooking.
<i>Relevant personnel:</i>	Cook, homemaker, and family member.
<i>Unit of measure:</i>	Meals.
<i>Examples:</i>	Meals provided under 42 U.S.C. 3045 (supp. V, 1975), the Older Americans Act (meals-on-wheels programs).

- Nursing care
- Physical therapy
- Mental health
- 5. *Assessment and reference*
 - Coordination, information, and referrals
 - Overall evaluation
 - Outreach
- 6. *Transportation*

- Those with more income and/or more education were less likely to be impaired.
- Older people are not always aware of their need for certain services, nor are they always receiving assistance from the programs (including Federal) for which they are eligible.
- More assessment and referral could help them receive all appropriate services.

Overview

All the data we collected could be related to the individuals in our sample, enabling us to compare analyses of them for over 1,000 different variables. This is part of the methodology that accounts for the uniqueness of this study—it is the first U.S. study of its kind to relate services to a defined, quantifiable well-being status of a person. And because of the extensive data base, we gained gerontological insights heretofore impossible.

Following are some of our insights concerning older people and the ways these insights can be used by Federal agencies in administering service programs.

- The younger the people were, the less likely they were to be impaired; whites were less likely to be impaired than blacks.

Conclusion

Phase I of this project is over—we have successfully measured the well-being of older people and have related services to that well-being. This required a team effort by HRD, FOD, FGMS, and consultants. We can now use these techniques in studying other target populations, such as children or the handicapped; they can also be applied to studying “things,” such as decaying cities or pension funds.

Phase I data was included in a report to the Congress entitled “The Well-being of Older People in Cleveland, Ohio” (HRD-77-70, Apr. 19, 1977). After collecting and analyzing information for

phase-II, we will report on the (1) changes in well-being over a year and (2) factors influencing those changes. This information should help identify what effects services

have had and are having on older people and what could be done by the Congress, the executive branch, and State and local governments to improve older people's lives.

The Drift of the Draft

Someday, I hope, the way I write
Won't get my bosses all uptight.
My summaries I never recognize;
They really cut 'em down to size.
Deleting a sentence, rearranging a clause
Is done routinely, without a pause,
But what really gives the boss a laugh
Is deleting the entire paragraph.
Once, when I handed in a report,
I thought they were gonna take me to court.
Their tools of trade are scissors and tape;
When they get through it has a new shape.
But once the product gets the ol' "blue lid,"
You feel kinda proud of what you did!

James R. Barnhill
Supervisory auditor
Atlanta regional office

The Need for More and Better Computer Auditing

Auditing in an environment of automatic data processing is a growing and gnawing problem for all auditors. The following remarks on this subject were delivered at the Fourth Annual Fall Seminar and First Annual Regional Seminar of the National Capital Area Chapter, EDP Auditors Association, Washington, D.C., October 13, 1977.

The technical challenges that face management officials whose systems include electronic computers and their auditors who must satisfactorily cope with those systems almost defy description. The objectives sought have not changed—accurate and prompt processing of data and production of usable and useful information for operational and management control purposes. Tied in with these broad objectives is the need to protect the security of processed information and prevent fraud in any form.

Auditors confronting such systems have no real choice but to be technically equipped to test the workings of the management's information and control systems and to recommend improvement or correction of any serious problems encountered—actual or potential.

These homely truths are easy for speechmakers to state. But,

achieving them is widely recognized as a most difficult task.

In our work in the General Accounting Office in reviewing the nature and effectiveness of management control systems and internal auditing in the Federal agencies, we see an urgent need for auditors to not only do more about computer auditing but also improve greatly the quality of the auditing they are now doing.

In our work we place great emphasis on having auditors on our staff who have the capability to audit automated systems, be these systems in the financial, operational, personnel, logistics, or other management areas. We have no choice. The systems are there and must be examined. Automatic data processing in the Federal Government is one of 34 major priority issue or problem areas we have selected around which to build our audit plans.

Computer auditing is a major component of this area.

In the executive agencies of the Federal Government, with their vast inventory of computers, the tremendous annual cost of operating them, and the growing dependence of managers—at all levels—upon computers and their output products for the management of major programs, agency auditors must play a vital role in helping assure management that the computer systems are working effectively, are producing accurate and reliable reports, and are under adequate control. GAO's role, as a legislative branch audit agency, is to evaluate these systems and the controls over them and promote whatever changes are necessary to make them as effective as possible.

The questions we are facing today, such as, "Can management rely on auditors' reports in those areas where the computer is involved?" or, "Can the public itself depend on these assurances?" are most important. They go to the heart of a long-established system of checks and balances in which auditors have had a key role. What is really being asked is, "Has the 'mystique' of computer systems reduced the auditor's effectiveness?" We should welcome such questions and then address them forthrightly.

It is in the formulation of answers to these questions that we can demonstrate that there really is no mystique in computer systems. We will merely find a different and tougher technology to

cope with. There is a shift in the skills and understanding needed to audit these systems. The challenge to auditors is one of hard work, acquisition of specialized experience, new and demanding training, and developing an ability to use the computer itself as a tool for carrying out audit procedures.

However, nothing in all this changes the fundamental principles of the auditor's profession. The question remains, "Have auditors in general met this challenge?" In the Federal Government, we in GAO do not feel that enough is being done by auditors in auditing computer systems.

The integrity of computerized systems continues to be the target of much public criticism. Certainly, one purpose of auditing those systems is to give management officials and policymakers information on whether the systems are reliable and correctly produce or summarize the data processed. Further, these officials should demand such information. Auditors cannot avoid a measure of accountability when computer systems lack controls, are used inefficiently or uneconomically, or are tools for criminal activity.

We are all well aware that the use of computers continues to reach into every area of our society. Each of us, whether we like it or not, is becoming more and more dependent upon and affected by computers and automated systems. Representatives of the banking community, for example, are very concerned with the questions and challenges pre-

sented by the electronic transfer of funds.

How are auditors preparing to cope with these problems? How do we cope with the point-of-sale systems which are steadily increasing? How do we do our job in service bureaus that support large numbers of clients and where our task may just involve a small part of that operation? These are good questions.

I think the key question, however, is one we must ask ourselves; that is, "Are we as individuals ready for these challenges?" Have we as auditors made that personal commitment to acquire the new knowledge, new experiences, and new skills that we know are needed to respond to these challenges?

The Problem in the Federal Government

Within the Federal Government, more than 10,000 computers are now in operation, and the best estimate we have is that annual ADP costs exceed \$10 billion.

Perhaps of more significance than the dollar amount expended for these services is the impact they have on Federal programs and activities. The Government's decisions resulting from computer-produced information are evident through the accomplishments made in such diverse fields as space exploration, agriculture, housing, transportation, nuclear energy research, and large-scale clerical and accounting operations. It seems inevitable

that Federal managers will continue to rely even more heavily on computer systems in solving complex problems and for managing large programs and resources.

Because of their importance costwise, as well as from the standpoint of impact on the programs and activities in which they are used, automatic data processing systems must be subjected to independent review and evaluation to find out whether they are reliable and to identify ways and means to improve them. The very magnitude of ADP costs, together with existing and potential problem areas, compels us to evaluate the impact of ADP on programs, operations, and resource use. Auditors should be helping top management find out whether these resources are used efficiently, managed effectively, and producing reliable and accurate information and reports.

But—our work in GAO reveals that too many audit organizations have avoided examining computer systems and applications. In our most recent report to the Congress dealing with computer auditing in the executive departments, released in September,¹ we pointed out that there is a long history of Federal agency audit organizations' aversion to work involving computers and computer-based applications. We have noted that this aversion was present in the private sector as well as in the Federal Gov-

¹"Computer Auditing in the Executive Departments: Not Enough Is Being Done" (FGMSD-77-82, Sept. 28, 1977).

ernment. The problem probably exists at State and local government levels as well.

Does the auditor who avoids the computer—or attempts to audit around the computer—meet accepted audit standards? The answer has to be a resounding “no.”

Our report concluded that not enough computer auditing was being done by executive-branch agency auditors, and it presented several recommendations to agency heads and their audit organizations for actions to strengthen this most important element of management control.

Questions for Individual Auditors

In more personal terms, here is how we think individual auditors should look at what they are doing.

First, on every job, he should ask himself, “Will the computer-produced data have an influence on my findings?” If the answer is yes and he does not pursue the trail into the computer (wherever it goes), then he is avoiding the computer. Sometimes these risks are taken to keep audit costs down, but he should know that the risks include having questions raised on the integrity of his work.

Secondly, the auditor should identify the types of ADP audit tasks that he might be confronted with in the next 3 years or so and then identify the ADP knowledge and skills he will need to perform

these tasks professionally. This may seem like an unimportant step, but it is perhaps the most important one he can take. The computer field is so wide that he could attend courses indefinitely and still not be focusing on his real needs as an auditor. He should invest his training time wisely and aim for specific results from the training. Otherwise, he and his employer may find themselves getting frustrated and turned off because of unwise training choices.

With respect to compliance with auditing standards, the GAO “Standards for Audit of Governmental Organizations, Programs, Activities & Functions” states:

If the audit work requires extensive review of computerized systems, the audit staff must include persons having the appropriate skills. These skills may be possessed by staff members or by consultants to the staff.

The Institute of Internal Auditors’ Report

The need for auditors to develop their technical competence and perform work in the computer area is further brought out by the recent report of the Institute of Internal Auditors on systems auditability and control.

Among the principal conclusions of that study were the following:

- Internal auditors must participate in the system development process to insure that appropriate audit and control features are designed

into new computer-based information systems. (This tenet has also been an integral part of GAO's published principles, standards and concepts of internal auditing for Federal agencies for many years.)

- Controls must be verified both before and after installation of computer-based systems.
- As a result of the growth in complexity and use of computer-based information systems, needs exist for greater internal audit involvement relative to auditing in the data processing environment.
- An important need exists for EDP audit staff development because few internal audit staffs have enough data processing knowledge and experience to audit effectively in this environment.
- Many organizations are not adequately evaluating their audit and control functions in the data processing environment. Top management should initiate a periodic assessment of its audit and control programs.

Technical Competence Needed

In today's environment, good audits of computers and automated applications require technical competence far beyond that required of auditors in the past. The time is long gone that auditors can both ignore the existence of the

computer and successfully discharge their responsibilities. To repeat, we as auditors must take the needed actions to acquire the necessary technical skills and knowledge to successfully audit in the computer environment. Without these capabilities, our work will be substandard, and those who rely on such audits will be misled. Inadequate work in this area can badly damage the auditor's reputation for reliability and competence.

I do not wish to convey nothing but gloom and doom to you, however. Many audit organizations have the capability to do excellent computer auditing, and many are trying to further their capabilities.

But, in many audit organizations, a structured, long-range approach is needed to bring internal auditors to the point where they can deal effectively with computer systems and applications. To achieve the desired level, top management must provide strong direction to auditors to develop a program for appropriate involvement and periodic reporting of progress made.

Categories of Computer Auditing

Computer auditing can be divided into two broad categories.

One category consists of auditing what is done by a computer—in other words, auditing a computer application. An example would be a review of an automated accounts payable system, an inventory system or the handling of

collections on receivables. The kinds of applications are almost endless. Such an audit might well encompass the adequacy of controls over input data, over the integrity of the computer's processing, and over computer output products.

The second type of computer auditing is much broader and goes far beyond the computer itself. This type involves examining questions such as the following:

- Is the system properly designed?
- Is there a valid requirement for the system or application?
- Is the computer being operated efficiently?
- Are the system procedures documented properly, and are they up to date?
- Are the functional users satisfied with the output products?
- Is the computer configuration appropriate for the work to be performed?
- Are all personnel (ADP as well as functional staff) adequately trained for operation and use of the system?

Both types of computer auditing are within the area of responsibility of the internal auditor who is responsible to management for helping assure that operations are being carried out economically, efficiently, and effectively in accordance with the directives of management. But, as I have already indicated, we have observed that too many internal audit groups shun ADP auditing, particularly the second or broader aspect.

Automated Decisionmaking

To illustrate the need for closely scrutinizing ADP applications, let me briefly describe the outcome of one of our computer audits.

About a year ago, we released a report entitled "Improvements Needed in Managing Automated Decisionmaking by Computers Throughout the Federal Government."² In our audit work at a naval installation, we observed that certain types of stocks in an automated inventory system were building up, though they should not have been. After some digging, we discovered a quirk in the computer program which had the effect of double counting requests for issuance of parts and supplies. Naturally, the computer ordered replacements automatically to accommodate this apparent increase in the need for such parts and supplies. But the result was that unneeded stock was ordered.

No one had questioned the computer's output. Before we looked into the cases, the computer's actions were assumed to be correct. Our auditors worked to get the situation remedied. Then we began to wonder how frequently other situations of this type might exist where a computer's input was resulting in actions—actions that could be wrong—being taken automatically with no review by human beings.

We reviewed the reports of other internal audit agencies within the Government to find out whether similar situations

² FGMSD-76-5, Apr. 23, 1976.

had been encountered elsewhere. These reports provided us the answer in a short time. We were somewhat surprised to find that it was rather common for internal auditors to encounter automated systems turning out bad decisions—decisions not being detected by operators and users of the system. The internal auditors had unearthed the errors in automated systems, had run them down, and had corrective actions taken. But—and here is the important point—each of these had been treated *as an individual case* when, in fact, there was a pattern of such bad decisions. Eventually, we were able to attribute these similar cases to bad programing, bad data, or a combination of the two. These factors, together with almost unquestioning acceptance of the outputs of computers as correct, had resulted in losses amounting to hundreds of millions of dollars through erroneous payments, ordering of unneeded items, incorrect eligibility determinations, and the like.

By establishing that this pattern existed rather generally throughout the Government, and in disclosing the magnitude of the errors being made, we were able to convince the Office of Management and Budget of the need to issue specific directives to all Federal departments and agencies directing them to take the broad corrective steps recommended in our report.

One of the most important of these steps is the provision for internal auditors to make

periodic reviews of the output of automated systems to see whether the decisions being made are correct. Another is to encourage early auditor involvement in the development of such systems to make sure that appropriate controls and audit trails are built in. This report has made an important contribution to improving the use of computers in the Federal Government and to demonstrating the need for continued, careful surveillance by internal auditors of computer systems.

Current Computer Auditing Practice

In our more recent report on computer auditing, we cited several examples of the avoidance of computer work by audit organizations. We also found in our review that some agencies have developed the capability to perform computer audits. True, the capabilities vary widely among the departments and agencies; nevertheless, we learned that, where such capability had been developed, excellent—even spectacular—audit results have been reported.

Air Force Example

One of these audits was performed by the Air Force Audit Agency. It reviewed proposed system concepts, supporting rationale, and documentation for an automated management information system. Matters considered included the adequacy of objectives

in relation to user needs, cost reliability, and whether technical requirements were valid.

The auditors determined that user needs, system capabilities, and resources had *not* been substantiated in the original requirements document. Technical and equipment specifications were not substantiated by adequate studies, and users indicated there was little need for the proposed online data base.

The original economic analysis—which identified the estimated costs and benefits—was inaccurate and unsubstantiated, according to the auditors. Further examination disclosed that the projected manpower reduction, comprising most of the projected savings, was not realistic.

This audit resulted in a major change in the scope, equipment, and personnel requirements for the system. The revised requirements, approved at just under \$5 million, reflected a cost avoidance directly attributable to the audit of over \$31 million.

Of course, computer audits will not always provide such spectacular results. This is true of all auditing. This example also illustrates that in the automatic data processing area, as well as in many other areas, the auditor can often make an important contribution by getting involved *before* final decisions are made.

The Problem of Fraud

Before closing, let me bring out one other problem—and that is de-

tecting the ever-present possibility of fraud. Fraud is a broad term covering many kinds of sins, but, in essence, it amounts to unlawfully separating people or organizations from money or resources that rightfully belong to them.

Federal auditors have to keep a wary eye out for this possibility at all times. The advent of computer techniques and systems has not lessened their concern or responsibility in any way. In fact, it has probably made it worse.

Those of you who read *The New Yorker* magazine saw the recent lengthy two-part article by Thomas Whiteside on this subject.³ His very readable article made it clear that our society includes many who are quite willing to tackle the technical challenge of mastering the workings of computer systems to divert money or other resources unlawfully for their personal use.

GAO sent a report to the Congress a little over a year ago summarizing quite a number of computer fraud cases in the Federal Government.⁴ These cases had been brought to light through agency checks and audits—not by GAO—but the point of the report was that managers and auditors have to be alert all the time to test their systems to detect fraud and tighten them when fraud is found to prevent it in the future.

³ "Annals of Crime—Dead Souls in the Computer," part I, Aug. 22, and part II, Aug. 29, 1977.

⁴ "Computer Related Crimes in Federal Programs," FGMSD-76-27, Apr. 27, 1976.

The general public—the man or woman in the street—may know little or nothing about the technicalities of computers or internal management controls. But when they read about frauds involving the long-undetected stealing of money by milking an organization's system, computer-based or not, the most likely question to be raised in their minds will be, "Where were the auditors?"

Auditors cannot escape accountability for weak accounting and control systems. This is true even though primary responsibility for strong systems rests with management. Management officials have the job of designing and installing good systems to start with and including all necessary measures to prevent fraud. Internal auditors support those highly laudable objectives through testing, evaluating, and reporting on their findings. The computer age has not changed this lineup in basic responsibilities. It has only made the job technically harder to perform.

Concluding Observations

We in GAO have seen auditors who knew little or nothing about computers become highly skilled in a relatively short time by con-

centrating on the knowledge and techniques in which expertise was needed.

We have also seen people trained in the computer sciences acquire the audit skills needed to perform expertly as auditors.

Thus, it is possible for audit organizations to acquire the expertise they need. With that expertise, they should have the confidence to tackle the difficult job of examining the computer systems in their agencies. And, by doing so, they can demonstrate to management officials that they are on top of their job and are better prepared to constructively assist those officials in discharging their responsibilities.

In closing, let me refer once again to the recent GAO report on computer auditing. Management officials and auditors in the Federal agencies—and elsewhere—should review it carefully and ask themselves whether the shoe fits. They should ask themselves whether they are doing enough auditing of their systems. If they conclude that they are not doing enough, they should then be able to recognize the risks that they are taking. I would hope that such recognition would in turn lead them to take the vigorous and decisive actions needed to shore up a serious weakness in their internal management control systems.

Being Responsive to the Congress

"It is clearly the case that there is dissatisfaction in the Congress in the time GAO takes to provide its products."

GAO Task Force
November 1977

Crucial to being responsive to the Congress is our capability to discern congressional needs and priorities early and to respond quickly. This article explores ways to increase our effectiveness in both areas.

In the 1970s the Congress reasserted its constitutional responsibilities and quickened its pace by streamlining its handling of the national budget, reorganizing committees, assigning GAO additional duties, and setting up new resources—the Office of Technology Assessment, the Congressional Budget Office, and an enlarged Congressional Research Service.¹

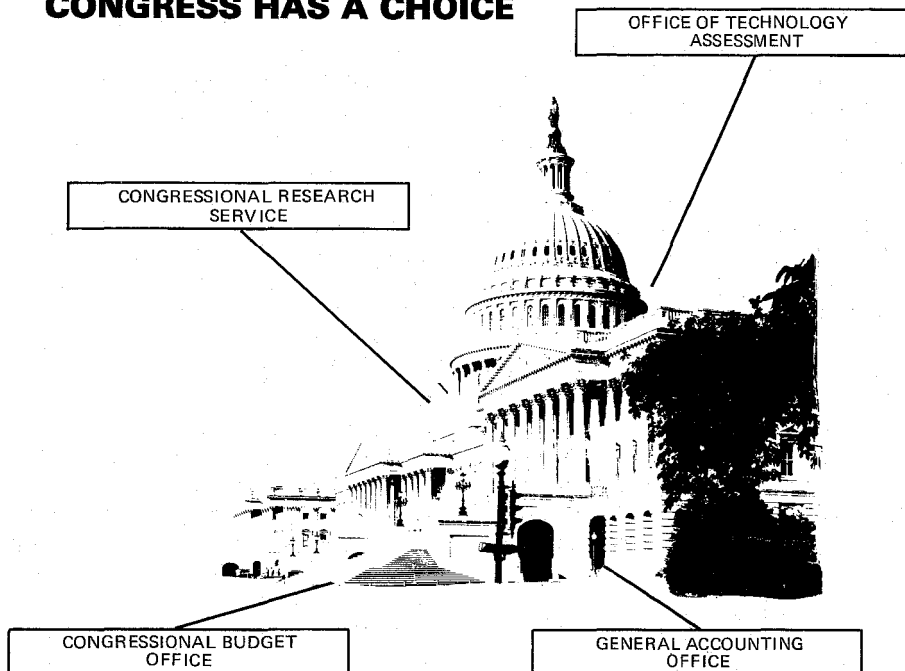
¹ Martin J. Fitzgerald, "The Expanded Role of the General Accounting Office in Support of a Strengthened Congress," *The Bureaucrat*, January 1975.

We at GAO can expect increasing demands from the Congress, for information and analysis, as well as a sense of competition from our sister agencies in meeting these needs. The Congress will probably look to several sources for special studies and analyses and congressional budgetary information. We will, no doubt, continue to be the primary source of agency management reviews and program evaluations.

GAO responds to many elements in the Congress—appropriations committees, budget committees, oversight committees, and individual congressmen. How do these various elements judge our responsiveness? First, are our reviews relevant to *their* prime concerns?

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CONGRESS HAS A CHOICE



Does GAO choose issues that are important and timely? Are the programs under review emerging or ongoing and still growing? Can the Congress still do something meaningful about them?

These are tough standards to meet. It is becoming increasingly clear that we must *zero in early* on what the needs and priorities of the Congress really are.

Defining Congressional Needs and Priorities Early

To discern congressional needs, we often dig into committee reports and hearings. We also try to create an easy working rela-

tionship and a continuing informal dialogue with oversight and budget committees. Sometimes these kinds of relationships and communications with congressional committees take years to build and require patience and humility on our part. The benefit is better information to help us decide what's really important, set out review priorities accordingly, and establish review objectives and deadlines useful to the Congress.

Congressional inputs, therefore, help us choose specific subjects and issues that are timely. As we begin to narrow down topics and formalize jobs, we can keep checking with committees as to their inter-

est in the reviews and the priority we should assign them.

Since GAO's charter mandates a nonpolitical, independent agency, some in GAO believe we must keep our distance from the Congress to avoid being drawn into political infighting. However, keeping one's distance can also mean lack of communication and insight on the important issues. As one committee staff director said, we should not be deterred from analyzing tough issues and taking a stand backed by solid facts, or from developing hard-hitting recommendations for reform and letting the chips fall where they may. In conducting our work, he added, committees expect us to:

- Ask them for background information and the reasons for their requests.
- Ask for their suggestions on scope, objectives, and overall approach.
- Question the agency's position.
- Report informally, in advance, if the congressional schedule dictates.
- Address the issues directly and unequivocally.

We Need A Quick Response Capability

Once we have affirmed a congressional need for information, the next question is whether we can respond in time for the information to be useful.

The Congress reviews and debates executive policies and spend-

ing decisions before and after they are put into effect. The most important debates, of course, are those that occur *before* a policy or program is set or the money is spent. Frequently, committees have only a few months to prepare for major decisions. Sometimes, they must react instantaneously with staff work done on a real-time basis. A short review cycle for us is a long one for them.

Here is where the Congress judges our responsiveness in a second way. Can we deliver the information before the committees or the Congress itself must act? This raises the question: Should we abandon or modify some of GAO's more traditional ways of carrying out our assignments so as to work more in tune with congressional schedules? If we are perceived to be characteristically slow, some congressmen may begin to use GAO as a "stalling mechanism" and send us work only when they want to *delay* action.

The obvious answer is that we must better attune ourselves to congressional schedules, even when the issues are complex. Certainly, it is not always easy to research complex matters fully, dig up the facts at various locations, do a proper analysis, and develop a meaningful report—all within a few months. But often that is what is needed.

For several years, GAO has been doing some things differently with a view toward speeding up its work. Experience shows that much time can be saved without compromising the quality of our reports. These results come from a

variety of changes but two stand out:

- Using small, multidisciplinary project teams free of paperwork, organizational restraints, and multiple reviews.
- Forgoing the requirement for obtaining formal, written agency comments before the report is issued.

Using Small, Multidisciplinary Teams

Project teams are staffed with people whose varying backgrounds and talents are suited to the job's requirements. With their different perspectives, team members can analyze the subject matter quickly and in depth.

For example, one of the earliest project teams made a review in 1970 of the proliferation of air-to-ground missiles. The team included a combat pilot, a missile engineer, an industrial engineer, a CPA, and a system analyst. Two of these were consultants. Field office members reported directly to the team leader. The field members participated in all phases of the assignment. Four final reports were released in 10 months time.

In a more recent case, a headquarters-field project team developed a congressional report on a new concept called mission budgeting. They converted the President's fiscal year 1978 energy, defense, and space exploration budget requests to a mission approach to illustrate how the new concept works. The Congress received the report in mid-1977, while it still had the fiscal year 1978 budget under review. Several

committees are experimenting with the new budget approach or have expressed an interest in it.

A major feature of the project team is that members are devoted almost exclusively to their assignment. Thus, they have the time to research the literature; interview experts in the field; make case studies; sit down with agency and industry people, both on the firing line and at policy levels; and go over report material—without interruption for unrelated tasks.

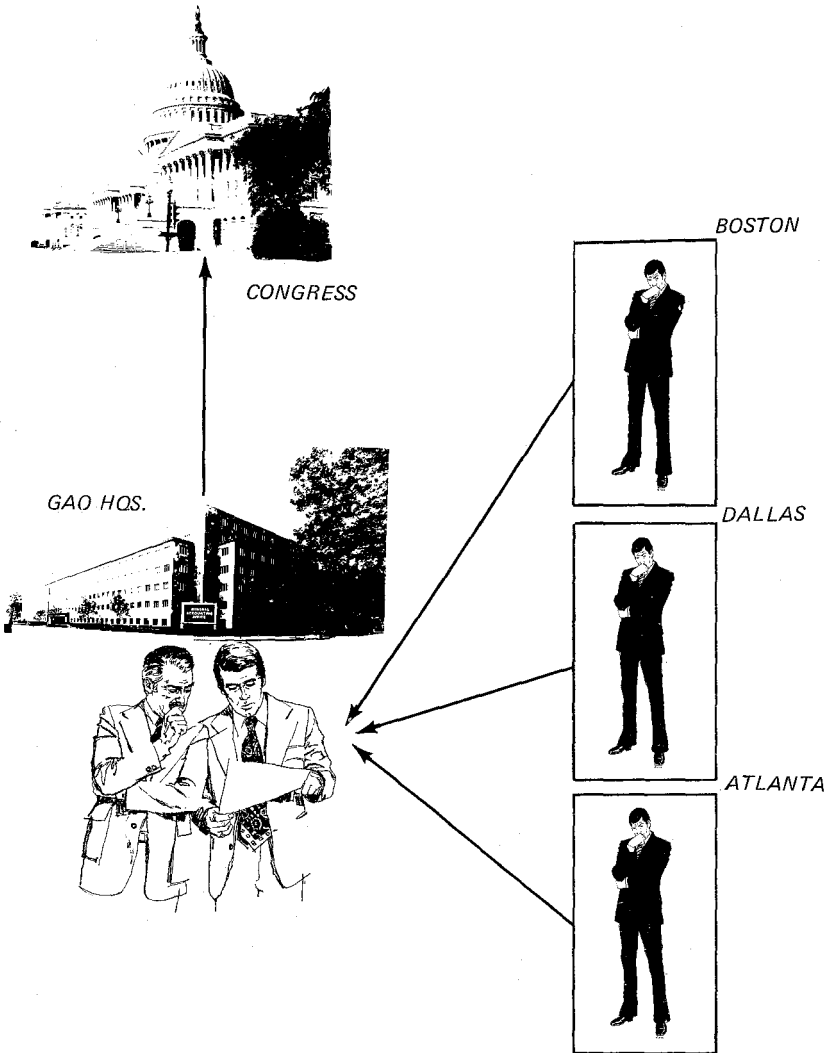
GAO project teams are more motivated to plan and conduct their work with tight deadlines in mind. Drafts are reviewed by fewer persons. Allowed to bypass the usual reviews, the teams are quite sensitive about the responsibility delegated to them. The members' best ideas are integrated into the report, and the give and take between those with differing backgrounds results in a balanced presentation. Members stretch their abilities to achieve a quality draft for top-level review. They don't want to risk losing their new-found freedom and increased responsibility.

Team members share and accept personal accountability for results, because responsibility is not diffused between the field and Washington or among the various levels of review. The jobs are done only *once* from start to finish. The team approach offers greater challenge and opportunity for recognition, but your neck is on the line. Because of this, you may find yourself working a lot harder.

Several kinds of GAO assign-

BEING RESPONSIVE TO THE CONGRESS

INTEGRATING WASHINGTON AND FIELD EFFORTS—A TEAM APPROACH



ments suggest the project team approach. They include—but certainly are not limited to—those that are

- important or congressionally sensitive,
- needed promptly, or

- complex and cross-disciplinary.

Forgoing Advance Formal Comments

Some GAO project teams do not seek formal, written agency com-

ments, and this reduces the length of their assignments by several months. They have found that informal comments obtained directly from people on the firing line and at policy levels are more valuable and serve the same purpose of insuring that reports are fair, complete, and objective.

*** the quality of the product does not seem to suffer for lack of comments or because of a compressed report review process. It is therefore somewhat painful when the potential impact and utility of a sound report is depleted because months have passed while waiting for agency comments ***.²

Incorporating the agency's formal written position in our reports frequently delays us. And, relying unduly on written agency replies encourages us to be lazy—why do the homework or manage jobs carefully if we can depend on the agency to straighten us out later?

Obtaining formal, written agency comments in advance of

publication should not be the routine practice. Instead, written comments need to be reserved for cases where important positions or information is deemed to be *worth* several months' delay.³

* * * * *

To sum up, GAO staff have a much greater opportunity and potential for growth when they review a subject or issue of known concern to the Congress and when procedures enable them to respond quickly enough to permit their work to be considered. Reinforced with better information, the Congress can, in turn, maintain its constitutional role as a coequal member of the Federal Government.

³ EDITOR'S NOTE: At the December meeting of the division directors with the Comptroller General, upon the recommendations of the Task Force for Improving GAO's Effectiveness, agreement was reached that the divisions should have greater discretion in determining the means by which advance comments on reports are obtained.

² Fitzgerald, op. cit., p. 394.

Viewpoint

The typical organization "wastes" its human resources, *** the very process of unleashing talent is challenging and threatening *** for there appear to be real constraints on the amount of creativity, concern, and enthusiasm which the typical organization is equipped to handle.

The Affluent Organization

Raymond E. Miles

The One That Got Away

This article gives the writer's reaction to the events that led to the loss of a major GAO accomplishment for 1977.

How many times have you heard the old line, "It was *this* big, a whopper, but ***." Well, this is not a fish story, but there is a message.

For over 6 years GAO had been reviewing the Navy's patrol hydrofoil missile ship (PHM) program, one that will cost the Department of Defense \$400 million. The PHM is a high-speed missile-firing gunboat intended to operate in the Mediterranean Sea and other enclosed waterways. The Navy's principal selling point was the ship's speed—over 48 knots, compared to other Navy surface ship speeds of 25–30 knots. The ship was capable of such high speed because it "rode above" the water on foils that extended from the hull.

We reported our results annually in the GAO staff studies issued by the Procurement and Systems Acquisition Division. During the 1975–1976 reviews, GAO and Defense became increasingly aware that the PHM was not going to be a cost-

effective weapon system. The concerns we expressed in our last two reports were supported by independent Defense studies made after our 1975 report.

On April 6, 1977, the Secretary of Defense publicly announced that the PHM program would be terminated because it was not cost effective. As a result, five production ships approved by the Congress in fiscal year 1976 were not to be purchased. The Secretary of Defense stated that \$125.8 million in appropriated funds would be returned to the U.S. Treasury and another \$146.9 million would be reprogrammed within the Department of Defense to cover cost growth on other programs. This resulted in GAO's preparation and approval of an accomplishment report in June 1977.

What may not be known is that when an agency wants to return unused appropriated funds to the Treasury, it must, under the Impoundment Control Act of 1974, report this action (known as a re-

Mr. Deemer, an audit manager in the Washington regional office, joined GAO in 1963. He is a graduate of West Virginia Wesleyan College with a B.S. degree in accounting.

scission message) to the Congress. Specifically, the act requires that budget authority intended for permanent withdrawal be released for obligation and expenditure if, within 45 days, the Congress fails to pass legislation authorizing the withdrawal.

A routine matter, you might say, for the Congress would not want money spent on a program that an agency deemed unnecessary and/or not worth the cost. In the case of the PHM program, congressional approval wasn't routine, and for whatever reasons, the Congress did not authorize the withdrawal of funds. Thus, the Secretary of Defense was required to spend the money and build five PHM ships. This decision was publicly announced in the newspapers. On August 16, 1977, our "accomplishment" was canceled and in October the Navy awarded the PHM ship contract to the Boeing Company, Seattle, Washington.

I would like to make two points about these events. First, the situation described above illustrates that the executive and

legislative branches disagree over who has ultimate control over Government programs and fiscal spending policy. For those not aware of this "conflict," let this be evidence that it exists.

Secondly, there is disagreement about the way this "near" accomplishment was reported. The "auditing level" has criticized the staff studies (now they are blue-cover reports) as reports that do little more than regurgitate information that already has been provided to the Congress. This criticism is simply unwarranted. Participating in weapon system reviews provides a unique opportunity to pick and choose meaningful subject areas and, because of strict deadlines, weapon system reports are timely, thus meeting one of GAO's desired objectives. The challenge and accompanying satisfaction is there for the asking.

The people in the Seattle and Washington regional offices who reviewed this program over the years have reason to feel satisfied with their work. We almost caught a big one.

Good Advice for Auditors

What we anticipate seldom occurs;
What we least expected generally
happens.

Benjamin Disraeli

English statesman
1804-81

Regulatory Agencies: New Challenges For Auditors

The impact of regulatory agencies is often debated but hard to determine. The author discusses the concepts of regulatory agencies that make auditing them difficult but challenging.

Questions on economic regulation: (1) Does GAO audit it? (2) If so, how? (3) Why? The answers are (1) yes, (2) the best we can, and (3) because the Congress is concerned about its impact.

The impact or "program results" of economic regulation are not very visible to the general public, unlike safety regulation, for example. However, economic regulation directly affects the industry regulated and ultimately the Nation and the individual consumer. For example, the Interstate Commerce Commission was charged by the Congress to develop a stable national surface transportation system. Today the Nation enjoys a stable system,

but there is much debate over whether lower rates and better service, resulting from increased competition, are sacrificed.

How Regulatory Agencies Differ From Other Audit Subjects

Agencies that regulate an industry's economics do not spend much money, compared to other Federal agencies, but they have a great impact on the industry and the consumer. For example, the three regulatory agencies in the transportation industry had a combined 1978 estimated budget of \$163 million, compared with the De-

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partment of Transportation's \$4.9 billion budget (which excludes another \$8.2 billion of trust funds). (See Table 1).

Traditionally, GAO allocated its audit resources to agencies that spent many Federal dollars. In the past several years, however, we have recognized the importance of economic regulation to industry and consumers, and thus paid more attention to regulatory agencies. For example, staff years spent at the three agencies named above increased tenfold in 2 years, from 2.5 in fiscal year 1974 to 23.5 in fiscal year 1976.

Our increased emphasis has enabled us not only to issue a number of useful reports to the Congress and the agencies but also to confront the regulatory concepts that are difficult for auditors to grapple with. Our work at ICC has shown that the organization and procedures of regulatory agencies are quite different from those of executive branch agencies. For example,

- Regulatory agencies are quasi-judicial.
- Regulatory commissions are headed by a group of commis-

sioners or board members rather than by one individual.

- Regulatory impact is difficult to measure, because (1) it can only be compared with a hypothetical alternative and (2) some impacts are abstractions and not easily quantified.

Established in 1887 to regulate the Nation's growing railroad industry, ICC is the oldest regulatory agency. Its authority has been expanded, so today it also regulates interstate movements by trucks, buses, and certain water and pipeline carriers. Generally, ICC

- controls the entry of new companies into the interstate transportation industry,
- insures adequate, nondiscriminatory service to the public, and
- reviews transportation charges.

Quasi-judicial

The President has control over executive agencies but not regulatory commissions. Although he appoints ICC commissioners and selects the Chairman, policy is set

Table 1

	<i>1978 budget (millions)</i>
Interstate Commerce Commission (ICC) (railroads, trucks, buses, inland water carriers)	\$ 61,336
Civil Aeronautics Board (airlines)	92,812
Federal Maritime Commission (international water carriers)	<u>8,861</u>
Total	<u>163,009</u>

by the agency, within guidelines established by the Congress. ICC budget requests are submitted to the Office of Management and Budget, but a recent congressional study has recommended that independent regulatory agency budgets be submitted simultaneously to the Congress.

The Commission's authorizing legislation, the Interstate Commerce Act (49 U.S.C. 1), provides broad policy and guidance which is subject to much interpretation. ICC rulemaking actions may be reviewed by one of 60 administrative law judges, who may hold hearings and review evidence submitted in rulemaking proceedings. Their decisions may still be overturned by the Commissioners—then the appeal process is through the Federal courts.

Commissioners

Executive agencies usually have one individual responsible for agency comments—this is not the case with independent regulatory commissions.

ICC is headed by 11 commissioners.¹ As their 7-year terms expire, the President appoints new commissioners and designates one as chairman. The vice chairman is elected annually by the commissioners.

Commission policy is set by a majority vote. Before a commis-

sioner testifies before a congressional committee, for example, the commissioners approve his prepared testimony.

Proposed comments to our draft reports are likewise voted on by the commissioners. In addition to the majority view presented in the comments, an individual commissioner may state a concurring or dissenting view. In a concurring view, a commissioner may agree with the overall comments but further discuss and highlight a specific issue.

Dealing with the views of several individuals could create problems. The commissioners, however, have been both prompt and responsive in their comments and statutory replies² to our reports, because of their staff's willingness to objectively discuss the issues we raise in our fact summaries, exit conferences, and drafts. Commenting recently on a draft report,³ the Chairman stated, "The dialogue on this subject has already proven valuable to the Commission, since it has caused us to commence a reevaluation of long-standing policies * * *."

Measurement Is Difficult

When a Federal program does not spend much money, GAO has

² As required by section 236 of the Legislative Reorganization Act of 1970, an agency must tell the Congress, within 60 days of a report, what it is doing about our recommendations.

³ "Combined Truck/Rail Transportation Service: Action Needed to Enhance Effectiveness" (CED-78-3, Dec. 2, 1977).

¹ Although 11 commissioners are authorized, only 7 positions are occupied, in keeping with President Carter's desire to reduce the number of regulatory commissioners.

usually evaluated either the quality of its service to the public or its impact. These approaches pose some peculiar problems for the auditor in the economic regulatory area.

ICC's objective is to provide a stable national transportation system that insures adequate service to the public. Service, however, cannot be quantified since it is a subjective term.

The Nation has a stable transportation system, but the Carter administration and the Congress are questioning whether we sacrifice something for this stability and whether stability would decrease if changes were made. For example, would more competition result in lower transportation prices and greater rewards for efficiency, or would service deteriorate? Does stability and the status quo waste energy? In this latter area, we reported to the Congress that energy conservation and regulatory objectives sometimes compete.⁴

The Congress wants answers to these and similar questions. A quantified response, however, is difficult. One thing is certain in the regulatory area, no matter what we say we will usually have as many opponents as supporters.

Some Measurement Techniques Don't Work

Some measurement techniques used by auditors to evaluate pro-

grams aren't useful at regulatory agencies. For example, auditors can sometimes compare the program being evaluated to similar programs which may be implemented differently. If railroads were regulated and trucks were not, this technique might apply. However, all interstate transportation is regulated. Furthermore, the interaction of the different transportation modes makes it difficult to address them individually. For example, a change in trucking rates directly affects the amount of freight carried by railroads. Or consider the impact on bus lines of a decision not to subsidize railroad passenger service.

A before-and-after analysis is another technique often used to show the worth of a program. The circumstances leading to regulation of railroads and motor carriers were well documented and warranted corrective action. The "after" is much better. The question now is whether what we have is the most effective way of solving the original problem.

Finally, cost-benefit analyses are becoming more prominent in program evaluations. Analyzing cost and benefits of regulation, however, requires economic assumptions. Cost benefit analyses of ICC have shown widely different results—from a \$15.2 billion annual net cost,⁵ to a \$4.8 billion

⁴ "Energy Conservation Competes with Regulatory Objectives for Truckers" (CED-77-79, July 8, 1977).

⁵ Studies by Thomas Moore: *Freight Transportation Regulation*, Washington, D.C., 1972, and *Deregulating Surface Freight Transportation*, Washington, D.C., 1975.

annual net benefit.⁶ This is a variance of \$20 billion, in a program with an annual budget of only \$61 million.

What Congress Wants to Know

It is our responsibility to design a full-scope⁷ audit approach for each regulatory agency. Understanding the regulatory process, the agency's quasi-judicial structure, and the complexity of the industry is the first step towards responding to specific congressional interest. This has been our approach at ICC.

The focus of our future attention was appropriately outlined in the proposed Regulatory Reform Act of 1977 (S. 600). The proposal outlined areas that GAO should consider in planning work at regulatory agencies. Some of these we are currently addressing:

- Why was the agency established?

⁶ Interstate Commerce Commission, Bureau of Economics *A Cost and Benefit Evaluation of Surface Transport Regulation*, Washington, D.C., 1976.

⁷ Comptroller General's Standards for Audit of Governmental Organizations, Programs, Activities, and Functions, 1972.

- Have changes occurred in the area regulated? How have they modified the agency's effectiveness and the appropriateness of its original purpose?
- What has been the agency's impact and its progress in accomplishing its purpose?
- Are the agency's operations cost effective and efficient?
- Could regulatory needs be met more efficiently by different approaches?

The Challenge

You do not pick up the Washington Post or New York Times and often see headlines or front-page articles about economic regulation. But turn to the business section or pick up a trade magazine, you'll find regulatory issues much discussed. The Congress has passed legislation on some aspects of railroad and airline economic regulation and is considering further legislation on airlines and motor carriers. Former President Ford and President Carter have also expressed concern about economic regulation of trucking.

The challenge to the auditor is to evaluate an area of growing national concern, where auditing concepts and methods are still evolving and our initiatives can guide future efforts.

Planning Audit Time

The co-authors believe that more attention should be given to the audit planning process to reduce work and time during the audit.

Planning the time needed to complete on-site audit work involves more than arbitrary estimates, especially when the audit site is in Africa. Costs, communications, and distance dictate that if you don't obtain the information you need before leaving the continent, you may have to work without it.

Planning your time begins with identifying the audit's objectives; staff capabilities and development needs, supervision, and administrative matters also have to be factored in. Our recent auditing experience in Africa emphasized to us the importance of considering each one.

The Audit Overview

In the spring of 1977, the European Branch (EB), International Division, in coordination with the division's Security and International Relations (ID/SIR) Group, reviewed foreign military sales programs in five African nations—Ethiopia, Kenya, Morocco, Nigeria, and Zaire. These countries were chosen because of their location, program contrasts, and program development.

The European Branch was given primary auditing and reporting responsibility. Visits between the EB and ID/SIR staffs before, during, and after the on-site audit

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Mr. Hembra is a West Liberty State College graduate and a member of the American Academy of Political and Social Science, American Society for Public Administration, and the Association of Government Accountants. Since joining GAO in 1973, he has received awards for superior performance from the former Resources and Economic Development Division and the Assistant Comptroller General for Management Services. He transferred to the European Branch in 1976.

work insured a coordinated program approach. Additionally, an ID/SIR staff member worked with the EB audit team during the incountry review, providing a valuable source of information and assuring job continuity upon her return to Washington, D.C.

Audit Objectives— the Baseline

Defining program audit objectives is the first step in estimating the time needed to complete on-site audit work. Since our review was GAO-initiated, we had to determine what program areas would be of greatest interest and use to the Congress.

At the job's outset, the EB audit supervisor visited with the ID/SIR staff to determine program reporting objectives. During the 1-week visit, the team weighed various congressional concerns about foreign military sales, narrowing them down to the topics we finally chose to address. A reporting outline was developed, highlighting the areas of primary interest and recognizing the lesser points which could be important in certain countries.

The EB staff, building on the reporting outline, developed specific audit guidelines. Our task was made easier because of the extensive background material developed by the ID/SIR staff in Washington. Once completed, the audit guidelines served as a framework for our time estimates. We examined each audit step to identify the logical sources of in-

formation in each country and the estimated time for documenting each step. For example, we tried to identify the amount of analytical work versus interviews and subsequent writeups, recognizing the limitations inherent in trying to specifically identify time-production factors. We also allowed time to complete incountry work-paper summaries, which later would minimize our report writing time. The summaries also served as a yardstick for measuring what we had planned to obtain versus what we did obtain.

The program's sensitivity required that we allow time for handling and shipping classified material. It also meant maintaining classified control logs and recognizing that staff members would not be able to catch up on their reading after work.

Recognizing Staff Capabilities and Developmental Needs

The actual time needed to do on-site audit work depends on staff capabilities, which also dictate how the audit supervisor divides his/her time between auditing and supervising.

The EB audit supervisor and staff member (the authors) had worked together before and knew each other's capabilities. We knew that we could work independently and interchangeably on the various issue areas, and that little time would be necessary for explaining work requirements, details, and format.

Our ID/SIR team member was,

however, an unknown quantity. We were aware that this member had spent a great deal of time gathering material and becoming familiar with the subject matter. However, we were uncertain as to how an auditor with less than 6 months' experience in conducting and developing interviews and analyzing documents would adapt to our field audit approach. We knew that we would have to determine the staff member's understanding of the job concepts and issues, and the depth of audit analysis required for each area. (As we found later, we had little reason for concern.) The ID/SIR staff member joined us 3 days before we began our incountry visits, giving us an opportunity to exchange ideas, evaluate capabilities, and assign areas of audit responsibility.

Recognizing that our planning had limitations and that actual events can and do overtake the best plans, we also considered staffing options should our planned time be insufficient or excessive. For example, if our planned time was insufficient, we considered extending staff in one country while the remainder of the team went on to scheduled meetings in the next country. If we had extra time we would begin working in earnest on our report.

Administrative Matters Also Require Time

Past experience had taught us that allowing inadequate time for on-site audit work often resulted from failing to consider adminis-

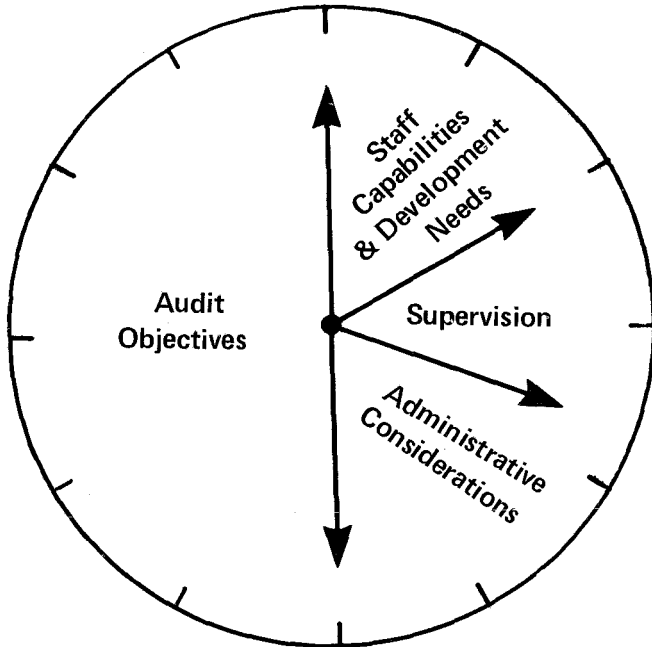
trative matters. Our Africa review provided us with perhaps the maximum challenge in allowing enough administrative time. It began with the "Fly America" requirement, which meant we had to use U.S. carriers flying only twice a week between Nigeria, Kenya, and Zaire. As a result, our incountry visits to these countries had to be put in the timeframes of 4, 7, 11, or 14 days. (The "Fly America" requirements did not affect our planned visits to Ethiopia and Morocco.)

Getting processed through an airport in a foreign country, particularly in a developing nation, is also a time-consuming experience, especially when it occurs during working hours. Baggage-handling facilities and administrative processing resources bear little resemblance to U.S. airports. Other considerations include (1) the availability of U.S. and host country officials, (2) observing social protocol, (3) the need for staff meetings to discuss job strategies, (4) arranging/confirming airline reservations, and (5) exchanging currencies, to name a few.

There Are Benefits

Although time planning is not a panacea for effective and efficient GAO audits, there are benefits. Perhaps the most significant benefit is eliminating many of the "unexpecteds" that normally surface during an audit. Time planning also benefits GAO's image. Agency personnel know if an audit has been thought out and planned in advance, and knowing about how

CONSIDERATIONS IN PLANNING AUDIT TIME



POTENTIAL BENEFITS

- Fewer "unexpecteds."
- Enhancing GAO's image.
- Complete audits.

long it will take should provide a more efficiently executed audit.

Perhaps the best means to plan time accurately is to have an adequate amount of time to plan. In our case, it was possible because our team was staffed sufficiently before we began our field work.

Conclusion

In many instances, as in our review, recognizing and considering the factors discussed above is of

great importance. Although full consideration of these elements is not a panacea for a carefree audit, there are certainly benefits to be derived. And, whether you consciously or unconsciously go through this process, there is always opportunity for refinement and improvement. The nature of GAO work does not lend itself to time production factors, nor should it, but with appropriate consideration, program audit time can be effectively planned and structured.

The 1977 Congressional Sourcebook— Federal Program Evaluations

The Congressional Sourcebook, Federal Program Evaluations, is a useful reference document for GAO audit divisions. Before conducting audits, program evaluations or studies, our staff can quickly research both the agency's evaluations and related GAO reports by turning to the Sourcebook. Recently updated, a new edition of the Sourcebook will be available to GAO, the Congress, and the public early in 1978.

Origins of the Sourcebook

One of the landmark pieces of legislation in the history of the General Accounting Office was the Congressional Budget and Impoundment Control Act of 1974, which created a new legislative mandate for GAO to assist the

Congress in its oversight function.

Millions of dollars are spent each year on evaluation research and reports (the Office of Management and Budget estimated \$240 million in fiscal year 1977), yet the results have remained largely unknown. Congressional decisionmakers need that informa-

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Mr. Bryant, a management analyst in the Program Analysis Division, joined GAO in 1977. He has a Ph.D. degree in political science from the University of Florida.

Mr. Mitchell, a budget analyst in the Program Analysis Division, received his M.P.A. degree from Syracuse University. Before joining GAO in 1976, he was a budget analyst with the District of Columbia and the Department of Health, Education, and Welfare.

Mr. Weintrob is an operations research analyst. He has his B.S. degree from the Massachusetts Institute of Technology and an M.B.A. degree from the University of California, Los Angeles.

tion in reviewing programs and legislation during the budget process; therefore, title VIII of the 1974 act specified that GAO provide the Congress with data on "program evaluations conducted or commissioned by any executive agency." This requirement engendered one of the volumes in the congressional sourcebook series, *Federal Program Evaluations*, which contains a citation section listing up to 17 data elements each on evaluation reports found in the document. Figure 1 shows a typical citation.

These data elements include such items as the agency sponsoring the study, the authors of the study, the program reviewed, the legislation involved, and the public availability of the report, among other things. Several indexes follow the citation section so that the reports can be referenced by subject, agency, legislation, budget function, congressional committee, and program. (See table 1.)

Since few Federal agencies have reference centers for evaluation data, they are finding the sourcebook useful for identifying relevant studies produced by other agencies. Even the Department of Health, Education, and Welfare, although it has an evaluation documentation center, used the sourcebook to identify evaluations omitted from its files.

The publication is also useful to GAO. For example, during the survey phase of an audit, auditors will find the sourcebook helpful in identifying relevant re-

ports which address important issues and problems associated with these proposed reviews. Further, GAO studies can be cited in a context that includes both GAO reports on similar topics and evaluations by the agencies themselves.

Internal auditors at Federal agencies can use the sourcebook to determine whether their colleagues have evaluated similar activities and can profit from their experience. Also, when agency officials set program priorities and budget levels, the sourcebook can lead them to evaluations of their activities.

These are just some of the sourcebook's uses. In essence, *Federal Program Evaluations* serves to link evaluators, congressional policymakers, agency executives, researchers, GAO divisions, and even State and local government evaluation specialists. It establishes access to evaluation information where access was either limited or nonexistent. The need for improved access to evaluation information is exemplified by the fact that the initial printing of 5,000 copies was depleted within 6 months, including the stock of 500 copies at the Government Printing Office Bookstore.

Preparations for the Update Effort

All three volumes in the sourcebook series have been updated and their second editions either have appeared or will soon be released.

**Figure 1: Sample Citation from
Federal Program Evaluations**

E00500-032

Evaluation of Lead-Poisoning Prevention Programs. Benjamin C. Duggar. Bio Dynamics, Inc., Cambridge, Mass. February 1972. 3 vols. (351 pp. + appendixes).

Agency Sponsoring Evaluation: Assistant Secretary for Planning and Evaluation, HEW.

Agency Managing Program: Center for Disease Control, PHS.

Program(s) Evaluated: Childhood Lead-Based Paint Poisoning Control (13.266).

Budget Function/Subfunction: Prevention and control of health problems (553).

Program Authorization: Lead-Based Paint Poisoning Prevention Act, Title I, as amended (P.L. 93-151; 42 USC 480).

Public Availability: NTIS, Order Nos. PB 215 255/1 (vol. 1); PB 215 256/9 (vol. 3); Bio Dynamics, Inc. (vol. 2).

Volume I, Program Directory, of the final report of this survey includes a detailed description of the procedures carried out in conducting the survey. Questionnaires were sent to the health agency in each of 147 cities having 100,000 or over populations which had jurisdiction in that city. Furthermore, nine cities of populations of 100,000 were selected for in-depth analysis of their programs. Descriptions of these analyses are included in this volume. Also presented in this volume is a directory, city by city, state by state, of the present status of the awareness or movement against lead paint poisoning. Appendixes A through C present sample questionnaires: the lead-based paint poisoning program questionnaire, the health or community agency questionnaire, and the housing or enforcement agency questionnaire. Volume III of the final report of this study includes a summary of the evaluation study, an evaluation of nine on-going programs, an assessment of the magnitude of the problem, a determination of replicable and effective program elements, and recommendations for future action. Results indicate a widespread problem with differing degrees of severity on a regional basis. Programming activity is evident but not proportionate to the real problem. There appears to be confusion about techniques in screening and laboratory analysis and great differences in program approach. Only two programs, New York and Chicago, could be termed comprehensive and effective.

TABLE 1

Evaluation Directory Indices and Their Purposes

INDEX	PURPOSE
Evaluation reports indexed by:	
1. Subject	Key words and phases from the abstract provide a reference to subject area that is largely independent of any knowledge of Federal agencies or programs.
2. Agency	The agency index lists the reports according to the unit managing the program.
3. Budget Function	This index enables the user to find evaluations by Federal budget functions and sub-function codes, providing a reference point for budget committees.
4. Law	Legislation authorizing programs may require certain evaluations. This index allows mandated studies to be found easily. Also, the "sunset law" concept already applies to some programs, and committees reauthorizing those programs can use this index to locate evaluations.
5. Congressional Committee	This index organizes the reports according to each congressional committee's areas of responsibility. A report may be cited under more than one committee.
6. Program	This index lists the reports under the names of programs.

Preparations for updating the publication began even before the first edition was released in January 1977. This first edition had identified reports produced in fiscal years 1973 through 1975 for 18 major executive agencies and by

GAO. We decided that the second edition should be expanded to survey nearly 100 readily identifiable Federal agencies, ranging from the American Battle Monuments Commission to the Department of Health, Education, and Welfare.

Of the 100 agencies contacted, nearly 50 submitted evaluation reports produced between July 1, 1975, and June 30, 1977. Collecting these citations involved an interesting and rewarding interaction between the Program Analysis Division and other Federal agencies.

Contacting the Agencies

The groundwork for contacting most Federal agencies had been laid by the task forces working on the other volumes of the sourcebook series. In August 1976, a few months before our effort began, the Comptroller General wrote to all agencies, citing our responsibilities under the Congressional Budget Act of 1974 and requesting that each agency identify a liaison person who would either work with our sourcebook groups or direct them to appropriate persons. If no liaison person for program evaluation was identified, we used the Inventory of Information Resources, a report compiled by the House Commission on Information and Facilities, which lists the names and addresses of individuals responsible for program evaluation.

Developing Instructions

We recognized the need for instructions and forms to transmit both a "why" and a "how" message to the persons who would respond to our update survey. Our approach in 1975 had been a straightforward, typed questionnaire, the kind that mentally—if

not physically—gets lost in the welter of documents flowing across a desk. In drafting the questionnaire, we had focused on explaining the background and purpose of the sourcebook, while making the instructions as clear and simple as possible. This time, after the usual internal development process, we enlisted the aid of the Publishing and Graphics Branch to design a brochure that would both explain what was to be done and imply that the task was important and worth doing well. The professionalism that editors *Mimi Stockdell* and *Karen Gray* and graphic artist *Sharon Sebastian* contributed made for a handsome booklet that facilitated agency responses considerably. Agency personnel repeatedly commended us on the clarity of the instructions.

Visiting the Agencies

The initial contact with the agencies was made through a letter from our director, *Harry Havens*, to the liaison person. In addition to the letter, which announced the beginning of the evaluation directory data collection, a copy of the original Comptroller General's letter and a copy of the instruction booklet and forms were included. We then telephoned the recipient, usually within 5 working days, arranged an appointment, and then invited a representative from the GAO audit site to attend the meeting.

The heart of the data collection process was the interview with agency personnel by assistant director *Wallace Cohen* and analysts

Harry Weintrob, Steve Bryant, Calvin Mitchell, and Johnny Bowen. These meetings provided a gamut of experiences. Some persons had a sophisticated understanding of evaluation technology and methodology and a detailed knowledge of the agency's evaluation function. At the other extreme were agencies with no formal program evaluation effort separate from the management process. Thus, each meeting was a new experience, and our approach was constantly modified. The most common problem was that the concepts "program" and "program evaluation" have various interpretations in Federal agencies. Furthermore, the organizational structure in some agencies, such as regulatory commissions and the U.S. Postal Service, is organized, not along "program" lines, but along functional lines—a situation not conducive to identifying each program evaluation activity.

Defining Program Evaluation

To define program evaluation, we provided some guidance in the printed instructions and supplemented them with some ideas from a current Office of Management and Budget bulletin on program evaluation. This was sufficient to get the identification process started. Also, copies of the first edition of *Federal Program Evaluations* were given out to provide examples of what other agencies considered to be evaluation reports. Finally, the liaison person received a program listing based on his or her agency's budget ac-

counts from GAO's legislative and program information system developed by our information requirements group. The system is a data base containing most agencies' program budget structures; its output filled the gaps in agency understanding about what types of information we were seeking.

Our survey took in all divisions of GAO, and OMB as well. First, each GAO division director received a memorandum outlining the data collection effort and asking the divisions to cite evaluations of Federal programs they had completed. Special forms and instructions described the types of reports that should be included. The divisions responded with over 400 submissions—illustrating the magnitude of GAO's program evaluation activity.

Meetings with OMB's Evaluation and Implementation Divisions were held before the survey began. Thus, we learned of a coinciding OMB survey of agencies' evaluation and Implementation Divisions. We tried to use common definitions of terms so agencies could respond to both surveys with the same concepts of evaluation in mind.

Agency Response

In general, most Federal agencies, and GAO divisions as well, were very receptive to the program evaluations sourcebook effort and responded by supplying extensive data on their reports. These responses ranged from the over 250 report citations that HEW sub-

mitted, to the single citations from many smaller agencies like the Federal Election Commission.

Agencies showed an eagerness to report on their work and to shed light on their evaluative activities. In sum, they felt that the sourcebook would focus different levels of decision and policy makers' attention on evaluation.

We have received approximately 1,500 submissions. These responses will be processed and then published in the second edition of the sourcebook early in 1978. In addition, the contents of this edition will be entered on the Library of Congress data bank, SCORPIO. This will enable congressional staffers and other legislative branch employees to have on-line access to the data.

Improving Program Evaluation

It is somewhat presumptuous to attribute changes in agency evaluation efforts to our questioning and requests for information. On the other hand, we are perhaps part of a trend. Zero-base budgeting and the prospect of "sunset legislation" contained in the proposed "Program Evaluation Act of 1977" have increased the emphasis on evaluation, and it likely will become even more integrated into management processes as agencies consider these proposed requirements that affect resource allocation. In some instances, our survey has promoted this integration. A number of agencies have estab-

lished a program evaluation information center. These centers simplify access to program evaluation information, whether the request comes from GAO, the Congress, or agency management.

In our survey we were repeatedly asked if we would continue collecting data. We are planning to review the evaluations directory, along with the other volumes in the sourcebook series, to determine from users the value which the series holds and what format and frequency of issue is best. Such a review, we think, will propel more agencies toward establishing a systematic means of collecting this information and making it generally accessible.

At the smaller agencies there is more of a "missionary" flavor to our efforts on behalf of program evaluation. Often, formal evaluation of programs does not exist. These agencies have the advantages of a small organization—close communication, knowledge of personnel, quick feedback on program results. Under these conditions, management learns rapidly of program problems. However, even for these agencies, evaluation is valid as an in-depth review of program results—necessary for small organizations as well as for large ones. Our hope is that the publication of *Federal Program Evaluations* will encourage agencies to accept the idea of evaluation and to make the results of their efforts more accessible to the Congress.

How Should Costs Be Determined?

The method for computing costs for purposes of determining the comparative costs of alternative courses of action or for comparing costs with benefits can have an important effect on the results. Should costs be determined on the basis of fully allocating all applicable costs or should they be determined on the basis of including only the incremental costs incident to a change? The method used normally assumes the greatest importance in costing an additional activity or in measuring the savings which would result from discontinuance of an existing activity.

The following sketch provides a useful as well as entertaining insight into some of the considerations involved in this issue.

What Price Progress¹

In discussing the costs incident to various types of operations, the analogy was drawn of the Restaurant which adds a rack of peanuts to the counter, intending to pick up a little additional profit in the usual course of business. This analogy was attacked as an oversimplification. However, the accuracy of the analogy is evident when one considers the actual problem faced by the Restauranteur (Joe) as revealed by his Accountant-Efficiency-Expert.

Eff Ex: Joe, you said you put in these peanuts because some people ask for them, but do you realize what this rack of peanuts is costing you?

Joe: It ain't gonna cost. 'Sgonna be a profit. Sure, I hadda pay \$25 for a fancy rack to holda bags, but the peanuts cost 6¢ a bag and I sell 'em for 10¢. Figger I sell 50 bags a week to start. It'll take 12½ weeks to cover the cost of the rack. After that I gotta clear profit of 4¢ a bag. The more I sell, the more I make.

Eff Ex: That is an antiquated and completely unrealistic approach, Joe. Fortunately, modern accounting procedures permit a more accurate picture which reveals the complexities involved.

Joe: Huh?

Eff Ex: To be precise, those peanuts must be integrated into your

¹ EDITOR'S NOTE: We have not been able to locate the original source of this paper. If any of our readers can provide us with this information, we will be glad to acknowledge its authorship.

entire operation and be allocated their appropriate share of business overhead. They must share a proportionate part of your expenditures for rent, heat, light, equipment depreciation, decorating, salaries for your waitresses, cook,—

Joe: The *cook*? What'sa he gotta do wit'a peanuts? He don' even know I got 'em!

Eff Ex: Look, Joe, the cook is in the kitchen, the kitchen prepares the food, the food is what brings people in here, and the people ask to buy peanuts. *That's* why you must charge a portion of the cook's wages, as well as a part of your own salary to peanut sales. This sheet contains a carefully calculated cost analysis which indicates the peanut operation should pay exactly \$1,278 per year toward these general overhead costs.

Joe: The peanuts? \$1,278 a year for overhead? The Nuts?

Eff Ex: It's really a little more than that. You also spend money each week to have the windows washed, to have the place swept out in the mornings, keep soap in the washroom and provide free cokes to the police. That raises the total to \$1,313 per year.

Joe: (Thoughtfully) But the peanut salesman said I'd make money—put 'em on the end of the counter, he said—and get 4¢ a bag profit—.

Eff Ex: (With a sniff) He's not an accountant. Do you actually know what the portion of the counter occupied by the peanut rack is worth to you?

Joe: Ain't worth nothing—no stool there—just a dead spot at the end.

Eff Ex: The modern cost picture permits no dead spots. Your counter contains 60 square feet and your counter business grosses \$15,000 a year. Consequently, the square foot of space occupied by the peanut rack is worth \$250 per year. Since you have taken that area away from general counter use, you must charge the value of the space to the occupant.

Joe: You mean I gotta add \$250 a year more to the peanuts?

Eff Ex: Right. That raises their share of the general operating costs to a grand total of \$1,563 per year. Now then, if you sell 50 bags of peanuts per week, these allocated costs will amount to 60¢ per bag.

Joe: WHAT?

Eff Ex: Obviously, to that must be added your purchase price of 6¢ per bag, which brings the total to 66¢. So you see, by selling peanuts at 10¢ per bag, you are losing 56¢ on every sale.

Joe: Somethin's crazy!

Eff Ex: Not at all! Here are the *figures*. They *prove* your peanut operation cannot stand on its own feet.

HOW SHOULD COSTS BE DETERMINED?

- Joe:* (Brightening) Suppose I sell *lotsa* peanuts—thousand bags a week 'stead of fifty?
- Eff Ex:* (Tolerantly) Joe, you don't understand the problem. If the volume of peanut sales increases, our operating costs will go up—you'll have to handle more bags, with more time, more depreciation, more everything. The basic principle of accounting is firm on that subject; "The Bigger the Operation the More General Overhead Costs that Must be Allocated." No. Increasing the volume of sales won't help.
- Joe:* Okay. You so smart, *you tell me* what I gotta do.
- Eff Ex:* (Condescendingly) Well—you could first reduce operating expenses.
- Joe:* How?
- Eff Ex:* Move to a building with cheaper rent. Cut salaries. Wash the windows bi-weekly. Have the floor swept only on Thursday. Remove the soap from the washrooms. Decrease the square foot value of your counter. For example, if you can cut your expenses 50 percent, that will reduce the amount allocated to peanuts from \$1,563 to \$781.50 per year, reducing the cost to 36¢ per bag.
- Joe:* (Slowly) That's better?
- Eff Ex:* Much, much better. However, even then you would lose 26¢ per bag if you charge only 10¢. Therefore, you must also raise your selling price. If you want a net profit of 4¢ per bag you would have to charge 40¢.
- Joe:* (Flabbergasted) You mean even after I cut operating costs 50 percent I still gotta charge 40¢ for a 10¢ bag of peanuts? Nobody's that nuts about nuts! Who'd buy em?
- Eff Ex:* That's a secondary consideration. The point is, at 40¢ you'd be selling at a price based upon a true and proper evaluation of your then reduced costs.
- Joe:* (Eagerly) Look! I gotta better idea. Why don't I just throw the nuts out—put 'em in a ash can?
- Eff Ex:* Can you afford it?
- Joe:* Sure. All I got is about 50 bags of peanuts—cost about three bucks—so I lose \$25 on the rack, but I'm outa this nutsy business and no more grief.
- Eff Ex:* (Shaking head) Joe it isn't that simple. You are *in* the peanut business! The minute you throw those peanuts out you are adding \$1,563 of annual overhead to the *rest* of your operation. Joe—be realistic—*can you afford to do that?*
- Joe:* (Completely crushed) It's a unbelievable! Last week I was a make money. Now I'm in a trouble—justa because I think peanuts on a counter is a gonna bring me some extra

profit—justa because I believe 50 bags of peanuts a week is a easy.

Eff Ex: (With raised eyebrow) That is the object of modern cost studies, Joe—to dispel those false illusions.

The Accountant's Problem

I concur with your conclusion in "Thumb on the scales" (Editorials, Oct. 31) that Congress is not qualified to write accounting rules. However, to believe that the Financial Accounting Standards Board represents the "private sector" is pure folly. These fellows are so afraid of Moss and Metcalf they will jump through any hoop to save their own skins. The problem with the accounting profession is the concentration of power in ivory-tower technocrats who live in a vacuum.

David R. Loar
Mill Valley, Calif.
Business Week
November 21, 1977



News & Notes

GAO Historical Collection To Honor Ellsworth H. Morse

Comptroller General *Elmer Staats* has established a committee to set up a GAO historical collection to honor *Ellsworth H. Morse*, Assistant Comptroller General, who died recently.

Paul Dembling will chair the committee. Other members are *John Heller*, *Clerio Pin*, *Stewart McElyea*, *Larry Herrmann*, *Susan Burns*, and *Josephine Clark*.

Mr. Morse had a great interest in the history and development of the General Accounting Office. He played a major role in organizing the lecture series commemorating GAO's 50th anniversary in 1971. He had been working with *Walter Frese* on a history of the Joint Financial Management Improvement Program, and in his spare time at home he was engaged in writing a history of the General Accounting Office. He was always on the lookout for anything of historical value.

The collection will be located on the seventh floor of the GAO Building near the G Street elevators. Some of the items to be

included in the collection will be pictures, articles, and furniture pertaining to the signing of important laws relating to GAO, the dedication of the GAO Building, important events in the development of GAO, etc. A plaque dedicating the collection to Mr. Morse will be placed at the entrance of the historical room.

International Accounting Organization Formed

On October 7, 1977, just before the start of the 11th International Congress of Accountants in Munich, Germany, representatives of professional accounting societies from all over the world met to form a new organization called the International Federation of Accountants. Membership in the new organization is restricted to professional organizations like the American Institute of Certified Public Accountants and the Institutes of Chartered Accountants. Professional organizations of 57 nations joined at the conference and became charter members.

The new organization was

created in recognition of the fact that we are becoming "one world" from a business viewpoint. There are so many multinational corporations and other multinational organizations that differences in nations' accounting and auditing practices cause many accounting headaches. The International Federation of Accountants will promote greater uniformity in accounting and auditing throughout the world, including ethical and educational requirements for practicing accountants and auditors.

The Federation will be under the general direction of a 15-nation council which will act as a sort of general assembly. Officers of the Federation, elected for a 2-year term, are:

President—Reinhard Goerdeler (Germany)
 Vice Presidents—B. L. Kabra (India), Gordon H. Copperthwaite (Canada)
 Treasurer—Gabriel Macera (Mexico)
 Secretary—Robert N. Sempier (USA)

The organization's offices will be located in New York City.

The Federation will not issue accounting standards at the outset. That is already being done by an organization called the International Accounting Standards Committee, which was created at the 10th International Congress of Accountants, held in Australia in 1972. The Federation and the International Accounting Standards Committee are expected to be closely allied.

Following the organizational

meeting, the 11th International Congress of Accountants was held from October 8 to October 14, in the Olympichalle and other sites in Munich. About 6,200 persons attended the conference representing the following areas:

North America	800
Central and South America	300
Asia	500
Africa	100
Australia	900
Europe	3,600
	<hr/>
	<u>6,200</u>

The purpose of the conference was to discuss current international problems in the accounting sphere, such as accounting for changes in the purchasing power of money, meeting the needs of users of financial statements, accounting and forecasting for management use, and accounting for development and research expenses. GAO was represented at the conference by *Donald L. Scantlebury*, director, Financial and General Management Studies Division.

Bank Regulatory Agencies Audit Authority

By a vote of 336 to 24, the House of Representatives passed and sent to the Senate H.R. 2176, the Federal Banking Agency Audit Act. The bill grants GAO the authority to audit the operations of the Federal Deposit Insurance Corporation, the Office of the Comptroller of the Currency, and the Federal Reserve System. These three

agencies supervise and regulate most of the Nation's banks.

Matters of great concern during the House consideration of the bill were GAO's access to the Federal Reserve System's monetary policy operations and the disclosure of confidential information about individual banks. To insulate the Federal Reserve from "second guessing" of its monetary policy decision, the bill prohibits GAO from auditing the System's monetary policy operations. The bill prohibits GAO also from disclosing the identity of specific open banks in its public reports and severely limits the disclosure of such information to congressional committees. It also makes GAO auditors subject to fines and/or imprisonment for the unauthorized disclosure of individual bank information. The three agencies' bank examiners are already subject to those penalties.

In the past, Representative Wright Patman, as Chairman of the House Banking Committee, had attempted to give GAO the authority to audit the Federal Reserve. One of the major reasons behind the favorable House action on H.R. 2176 was GAO's 1976 study of the effectiveness of State and national bank supervision by the three agencies. That study, undertaken at the request of several committees and by special agreements with the agencies, demonstrated that GAO could preserve the confidentiality of sensitive banking information while providing valuable insight on the manner in which the Nation's banks are supervised. The report

(OCG-77-1) was issued on January 31, 1977.

Opening the Senate Governmental Affairs Committee's hearings on the bill, Senator Sasser remarked:

It makes good sense to include these banking agencies under the scope of the GAO auditing authority. Because these agencies are responsible for the safe and sound operation of our nation's banks and banking system, it is essential for proper Congressional oversight for Congress' investigating arm, the GAO, to be able to judge the quality of the work that is being done.

The Comptroller General, in his testimony before Senator Sasser's committee, pointed out that GAO:

*** made a comprehensive study last year of Federal supervision of State and national banks ***. We received many favorable comments on this work, including those from the Federal Reserve, the Comptroller of the Currency, and the FDIC. We believe that our successful experience in this effort not only underscores the desirability of providing our Office with continuing authority to review the supervisory policies and practices of the three bank regulatory agencies but also other operations as set forth in the House-passed bill.

The Senate is expected to complete action on the bill early in the second session of this Congress.

Domestic Intelligence Activities

GAO has spent nearly 3 years reviewing domestic intelligence. The latest report, "FBI Domestic Intelligence Operations: An Uncertain Future" (GGD-78-10, Nov.

9, 1977), was based on testimony given on November 9, 1977, before the Civil and Constitutional Rights Subcommittee of the House Judiciary Committee. This review was conducted as a followup to a previous report on FBI domestic intelligence operations (GGD-76-50, Feb. 24, 1976). In addition to these two reports, GAO has testified twice before (in February and March 1976), issued a letter report in March 1976, and provided comments on two intelligence-related bills in August 1976.

Since GAO began its first review of the FBI in late 1974, FBI domestic intelligence operations have changed significantly in scope, level of effort, and investigative controls. There are various reasons for this, including the Attorney General's guidelines and other valuable efforts of the Department of Justice and the FBI. GAO approves of the direction of these efforts, but still believes that if domestic intelligence investigations are to continue, legislation is needed to clearly authorize such investigations and set forth the objectives, scope, and controls needed.

GAO Audit of IRS

On October 7, 1977, President Carter signed S. 213, which provides for GAO authority to audit the Internal Revenue Service and the Bureau of Alcohol, Tobacco, and Firearms. The new law (Public Law 95-195) ended a long debate over GAO's authority to re-

view activities of these tax collecting agencies.

The Internal Revenue Service interpreted the Internal Revenue Code as prohibiting the Commissioner from making any documents or records on the administration of the tax code available to GAO and questioned GAO's authority to make independent management reviews. Under the new law, the two Treasury Department agencies will be treated as any other Federal agencies, in that GAO will have access to any records needed for reviews of their administrative practices and procedures. The law contains stringent provisions to guard the confidentiality of tax return information and provides that GAO reviews will not affect IRS rulings on individual tax cases.

Consolidated Financial Statements

Once again this fall, there was both good news and bad news in the area of sound Federal financial management. Knowledgeable observers from the fields of accounting and public administration greeted the issuance of the second annual Consolidated Financial Statements of the United States Government. The product of a 16-member Advisory Committee on Federal Consolidated Financial Statements (which includes the Comptroller General) and the Department of Treasury, the report attempts to measure and state the operations of the Federal Govern-

ment for the fiscal year ending September 30, 1976, using the accrual basis of accounting. While GAO did not audit or express an opinion on the figures, the statement by Mr. Staats (printed alongside one by Treasury Secretary Blumenthal) is an endorsement for accrual accounting of government operations and an indication of six areas where financial data could be more accurately stated. For both the Federal Government and for Mr. Staats personally, this report represents only the latest effort to transfer government accounting to the accrual basis—the First Hoover Commission recommended a Government-wide change to accrual accounting in 1949, and Mr. Staats, then Deputy Budget Bureau Director, served on the President's Committee on Budget Concepts, which advocated similar improvements in 1966.

Now for the bad news: the fiscal year 1976 deficit of \$85.2 billion (accrually stated) was an increase of almost \$22 billion over 1975 and an increase of \$20 billion over the traditional, cash-basis budget figures for the same period.

Speaking of the Treasury Department . . .

Often, amidst the more popular cries for efficiency and economy in government, GAO staff feel like the "lone wolf" in calling for improved agency financial management. It is with a great deal of pride and satisfaction that we reproduce a November 14, 1977,

memorandum from President Carter to the heads of all executive departments and agencies.

I have directed my reorganization staff, in conjunction with the Treasury Department, to conduct a comprehensive review of cash management policies, practices and organization throughout the Federal government.

The purpose of this effort is to identify further opportunities to apply modern cash management techniques to our massive cash flow. Within the constraints of monetary and economic policy, and building on the continuing work of the Treasury Department, the effort will seek ways to use our cash more efficiently with a view toward reducing Federal debt requirements and interest costs. The study will pay special attention to how effectively the government collects and disburses money, compensates banks and other financial institutions for services, controls cash balances, and provides incentives to make Federal managers more aware of the cash management implications of their decisions.

The President further stated his own endorsement of the effort and his means of accomplishing it:

Representatives of my reorganization staff will contact you. They may ask you for help, advice, staff resources, or to participate in reviewing your own cash management activities. Inasmuch as I consider this to be a major management improvement effort, I trust you will share my enthusiasm and cooperate to the fullest extent possible.

In order to inform all affected parties that this review is underway, I have directed that this memorandum be published in the *Federal Register*.

(signed) Jimmy Carter

More on Advisory Commissions

Two more top-level Government commissions announced their long-awaited recommendations, issued final reports, and promptly went out of business this fall. Both the National Commission on Electronic Fund Transfers and the Commission on Federal Paperwork included Comptroller General Staats as a statutory member, and they each furnished Congress and the President with encyclopediac sized and scoped recommendations. If the similar experience of the Procurement Commission is any guide, GAO can expect plenty of new work in aiding the implementation of these commissions' recommendations and Mr. Staats can anticipate additional future commission assignments.

Interesting Tidbits

After 1 year of experience under the new system, the *New York Times* reported "Women at Four Service Academies Viewed as Equal to Men." Readers of earlier GAO reports on the topic should not be surprised by the results.

Less than 2 months after GAO issued its fairly critical report to the Congress on adverse noise pollution by the Concorde supersonic aircraft, the courts overturned the Port Authority of New York's refusal to allow Concorde landings at Kennedy Airport. The initial indication is that the twice-daily flights are here to stay.

A "sister" agency supporting the

Congress, the Office of Technology Assessment, received a new director, as the appointment of Russell W. Peterson was announced. The former Governor of Delaware and Chairman of the Council on Environmental Quality takes over a 139-person staff charged with providing nonpartisan assistance to the Congress on the potential effects of technological changes.

As many Senators mobilize to block ratification of the administration's proposed Panama Canal Treaty, and many Representatives await court action on their bid to require approval of the treaty by both Houses of Congress, it is no surprise that congressional committees have heard the testimony of a plethora of witnesses on implications of the Canal Treaty. One such witness was Comptroller General Staats, who testified on November 30, 1977, stating GAO's position on the need for continuing audits of the work being done by the Treaty Planning Commission, as well as for an independent assessment of the treaty's implications. One historical sidelight: prior to his appointment as the last Comptroller of the Treasury—before the independent office of Comptroller General of the United States was created—Walter W. Warwick served as U.S. auditor of the Panama Canal and as Associate Judge of the Canal Zone Supreme Court (1908-11).

Ninth INCOSAI

The Office of the Comptroller

General of Peru was host for the Ninth International Congress of Supreme Audit Institutions in Lima, October 17-26, 1977. As Comptroller General of the host country for this congress, General Luis *Montoya* Montoya will serve as Chairman of the Governing Board of INTOSAI for the next 3 years.

Delegates from 95 countries and 7 observers from various international organizations attended the congress. Comptroller General Elmer B. Staats and Assistant Comptroller General Ellsworth Morse participated.

The following four topics were discussed and formal recommendations were adopted on each.

- Principles of external auditing of public finance.
- Auditing of decentralized agencies of public administration.
- Role and requirements of the Supreme Audit Institutions in the reform of public administration.
- Auditing public health and environmental protection agencies.

The next congress of INTOSAI will be held in 1980 in Nairobi, Kenya.

Seminars on Operational Auditing

Two 3-day seminars on operational auditing in the public sector were held at the Granja Azul Inn near Lima, Peru, in October. Both

seminars were sponsored by the International Professional Development Institute, Ltd.

The first seminar (October 21-23) was conducted in Spanish. James Wesberry, Jr., president of the sponsoring Institute, led 37 participants from 5 countries. Guest lecturers were Dr. I.E. Nebenzahl, State Comptroller of Israel; General Oscar *Vargas* Prieto (ret.), former Comptroller General of Peru; and General Solon *Espinosa* Ayala (ret.), former Comptroller General of Ecuador.

The second seminar (October 27-29) was conducted in English by E. H. Morse, Jr., Assistant Comptroller General of the United States, and Mr. Wesberry. In this seminar, 20 participants attended from 13 countries (Australia, Bangladesh, Fiji, Ghana, Indonesia, Libya, Malaysia, the Netherlands Antilles, Nigeria, the Philippines, South Africa, the United States, and Western Samoa). Guest lecturers were G. Rune Berggren, Auditor General of Sweden, and General *Vargas* of Peru.

Reducing Paperwork

On October 17, *Victor L. Lowe*, General Government Division director, presented, to the Subcommittee on Government Information and Individual Rights, House Committee on Government Operations, GAO's views on certain recommendations of the Commission on Federal Paperwork.

GAO personnel worked closely with the Commission throughout

its 2-year life. GAO agrees with and fully endorses the overriding message of the Commission's studies—that Government paperwork and reporting burdens are not being properly managed and that comprehensive changes are sorely needed in policies, practices, and procedures. GAO also agreed with the Commission's recommendation that the Congress assign committee responsibility to insure that when legislation is developed, potentially heavy paperwork burdens and statistical problems receive adequate attention. However, in his role as a member of the Commission, Mr. Staats dissented from the Commission's recommendation to establish a Department of Administration.

FBI Accounting System Approved

The Federal Bureau of Investigation's administrative accounting

system was approved by Mr. Staats on April 27, 1977, in a formal signing ceremony in his conference room. In attendance were representatives of GAO, the Department of Justice, and the FBI, including Mr. Kevin Rooney, Assistant Attorney General for Administration, and Mr. Clarence M. Kelley, Director of the FBI.

Approval of the FBI accounting system caps many years of dedicated and cooperative work by staffs at the Department of Justice, FBI, and GAO. This ceremony was the first held by GAO to mark the approval of less than a departmentwide accounting system. GAO officials thought that the ceremony was appropriate, however, because the system is a major one and one of the best we have worked with in some time.

When fully operational, the new accounting system will greatly improve budget execution and will



Comptroller General Staats approving the FBI's accounting system design on April 27, 1977. To the left of Mr. Staats is Clarence Kelley, FBI's director, and Mrs. Kelley. Various GAO and FBI representatives who participated in the project are also shown.

allow useful evaluations of the relative merits of management objectives in terms of resource costs by objective. The Bureau anticipates implementing the new accounting system in fiscal year 1978.

New Glossary of Budgetary Terms Published

The General Accounting Office has published a new booklet entitled *Terms Used in The Budgetary Process* (PAD-77-9, July 1977). It incorporates definitions of budgetary terms published earlier in *Budgetary Definitions* (OPA-76-8, November 1975) and also includes

- terms and definitions applicable to zero-base budgeting, which were developed by the Office of Management and Budget, and
- economic terms used in connection with national governmental budgeting, especially in discussions of economic assumptions underlying budget proposals and estimates.

Evaluation of Federal Energy Data Programs

On December 5, 1977, the Professional Audit Review Team (PART) reported to the President and the Congress its evaluation of the Federal Energy Administration's Office of Energy Information and Analysis. PART consists of a Chairman (*Richard W. Kelley*, as-

sociate director, Energy and Minerals Division) designated by the Comptroller General and five members designated by the heads of the Bureau of Labor Statistics, the Bureau of the Census, the Securities and Exchange Commission, the Federal Trade Commission, and the Council of Economic Advisers.

The report described actions needed to improve the credibility of energy data by (1) validating and verifying data, (2) separating the data programs from the energy policy function, and (3) documenting and testing computer models used for forecasting energy supply and demand. The Secretary of Energy agreed with the findings and said that corrective actions have been taken or are planned.

Cost Accounting Standards Board

At the Cost Accounting Standards Board meeting of November 28, 1977, the Chairman announced that he had accepted, with regret, the resignation of Board member Robert K. Mautz. Dr. Mautz had been prominently associated with the study ordered in 1968 by the Congress, in which the General Accounting Office considered the feasibility of establishing cost accounting standards. That study led to the August 1970 legislation authorizing a Cost Accounting Standards Board. Dr. Mautz was one of the original Board members, appointed early in 1971. The Chairman expressed sincere ap-

preciation for his many contributions to the work of the Board.

On December 8, 1977, the

Chairman announced that Noah Minkin has been appointed General Counsel for the Board.

No Black Boxes

* * * expectations are still too high about the knowledge that can be gained from any given evaluation. The Congress needs information about the cost of programs and their impact on beneficiaries and others. A realistic expectation is that a well planned and managed evaluation will help supply that information. * * * But evaluations are not black boxes into which evaluation funds can be poured and optimum decisions come out. Only the political process can judge the value of program results and compare their priority to the results of other programs competing for a limited budget. There is no black box for that.

Harry S. Havens
Director, Program Analysis
Division
October 6, 1977

Legislative Developments



*By Judith Hatter
Chief, Legislative Digest Section*

The GAO is the investigative arm of Congress and a valuable resource in assuring the legality and propriety of governmental expenditures and the effectiveness of governmental programs.¹

Medicare-Medicaid Anti-Fraud and Abuse Amendments

On October 25, the President signed the Medicare-Medicaid Anti-Fraud and Abuse Amendments, to strengthen the Government's ability to detect, prosecute, and punish fraudulent activities under the medicare and medicaid programs. (Public Law 95-142, 91 Stat. 1175)

Section 12 of the law requires the Comptroller General to comprehensively study and review the administrative structure established for processing claims under the Social Security Act, Title XVIII: Health Insurance for the Aged.

The study is to determine to what extent claims administration could be made more efficient by (1) reducing the number of participating intermediaries and carriers, (2) making a single organization responsible for processing claims in a particular geographic area under both Part A—Hospital Insurance Benefits for the Aged—and Part B—Supplementary Medical Insurance Benefits for the Aged, (3) providing for claims processing on the basis of a prospective fixed price, (4) providing incentive payments for the most efficient organizations, or (5) otherwise modifying the structure and related procedures. The results of the study and the Comptroller General's findings and recommendations are to be reported to the Congress no later than July 1, 1979.

¹ H. Rept. 95-492, July 12, 1977, p. 2.

The law also adds a new section 1125 to the Social Security Act, giving the Comptroller General the power to issue subpoenas in connection with any audit, investigation, examination, analysis, review, evaluation, or other function authorized by law for any program under the act. The subpoena power will allow the Comptroller General to gain information and facilitate his review of medicaid and the maternal and child health programs, particularly regarding investigations of fraud and abuse.

Internal Revenue Service Audit

Public Law 95-125, October 7, 1977, 91 Stat. 1104, amends the Accounting and Auditing Act of 1950 to provide for independent audit by the Comptroller General of the Internal Revenue Service (IRS) and the Bureau of Alcohol, Tobacco, and Firearms (ATF) of the Department of the Treasury. The purpose of the legislation is to resolve differences between GAO and IRS over GAO's access to records necessary to regular audits of the Service.

The law safeguards from unauthorized disclosure the privacy and integrity of income tax returns and information.

In describing the provisions of the bill during debate by the House of Representatives on September 27, Congressman Benjamin S. Rosenthal of New York made the following observation:

The committee vote in support of this legislation is an expression of our belief

that as a consequence of this lack of independent audit capability, IRS and ATF management practices and administration of the tax laws have not been as efficient as they otherwise would have been; and that many committees and individual Members of Congress have been denied meaningful information on IRS and ATF operations.²

Federal Banking Agency Audit Act

The House of Representatives amended and passed H.R. 2176 on October 14. This legislation authorized GAO to audit the Federal Reserve System, the Comptroller of the Currency, and the Federal Deposit Insurance Corporation.

The bill was amended to require GAO to review statistically meaningful samples of bank examination reports in its audits and to extend to GAO auditors the same penalties for unauthorized disclosures that now apply to bank examiners.

Cargo Preference

On October 5, *Harry S. Havens*, director, Program Analysis Division, discussed the findings of a September 9 GAO report, "Costs of Cargo Preference," before the Senate Committee on Commerce, Science and Transportation. On October 19, the Energy Transportation Security Act of 1977 (H.R. 1037) failed passage by the House

² *Congressional Record*, vol. 123 (Sept. 27, 1977), p. H10164.

LEGISLATIVE DEVELOPMENTS

of Representatives. During the debate, GAO estimates of the legislation's cost were mentioned again and again as various Members presented their positions on the bill.

Financial Disclosure

On November 2, the House Judiciary Committee reported, with amendment, H.R. 1, the Ethics in Government Act of 1977 (H. Rept. No. 95-800).

On September 9, the Deputy Comptroller General had testified before the Subcommittee on Administrative Law and Governmental Relations of the House Judiciary Committee concerning financial disclosure legislation

generally. He stated GAO's belief that the responsibility for administering a financial disclosure system should rest with each branch of Government.

The measure reported by the Committee requires that officials and top-level employees of the executive and judicial branches of Government, and certain candidates for Federal office, disclose their income, assets, and financial transactions by annual financial reports which would be made available to the public. To administer the system it establishes (1) in the Civil Service Commission, an Office of Government Ethics and (2) in the Judicial Conference of the United States, a Judicial Ethics Committee.

GAO's Energy Role

*** Our basic position can be summed up by stating that effective energy planning must reflect the dynamic, changing nature of the energy situation. It must be flexible enough to handle changing circumstances, to insure that our attention stays on the questions which bear most heavily on the Nation's energy problems. But, at the same time, policies must be sufficiently stable over time so that energy producers and consumers will have a reasonable basis for making future plans. The long lead times between conception and completion of many energy projects require that we come to grips with these policy problems early and make sufficiently sound decisions that, hopefully, will not entail a lot of later changes.

Monte Canfield, Jr.

Director, Energy and
Minerals Division
September 14, 1977



John D. Heller

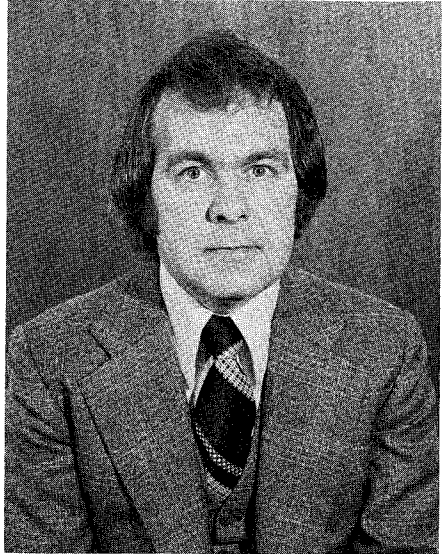
Mr. John D. Heller was designated Assistant to the Comptroller General December 14 and has assumed responsibility for the Office of policy and the Office of Program Planning. He will also become editor of the *International Journal of Government Auditing* and *The GAO Review* and will be responsible for the *Annual Report of the Comptroller General*.

Mr. Heller will coordinate GAO liaison arrangements with other congressional support agencies (the Congressional Research Service, the Congressional Budget Office, and the Office of Technology Assessment), with help from the Program Analysis Division concerning CBO and OTA. Mr. Heller will serve as a member of the GAO Library Committee, and will assist on miscellaneous other assignments, such as preparing speeches and lectures and handling special projects.

Mr. Heller has been with the General Accounting Office since 1959, serving in a number of positions of increasing responsibility. Before his present appointment, Mr. Heller was Director of the Office of Program Planning—responsible for establishing internal planning principles and standards; monitoring program and assignment planning; advising the Comptroller General, the Deputy Comptroller General, and the Program Planning Committee; and assisting the divisions and offices. Mr. Heller has also been the Deputy Director of the General Government Division and the person responsible for GAO examinations of all federally funded or assisted health programs.

Mr. Heller received his bachelor of science degree in accounting from King's College in 1959 and attended the program for management development at Harvard in 1968. He is a CPA (Virginia), a member of the American Institute of CPAs and the National Association of Accountants, and the recipient of several awards recognizing his Federal service.

Thomas P. McCormick



Thomas P. McCormick was designated an associate director in the Human Resources Division on July 21. He is responsible for audits of health financing, quality control, and automatic data processing systems that support agency missions and programs.

Since joining the General Accounting Office in 1963, Mr. McCormick has had diverse assignments, including audits at the Veterans Administration, the Department of Justice, the National Institutes of Health, the Atomic Energy Commission, the Department of Defense, and the Civil Service Commission.

Mr. McCormick received a bachelor of science degree, with a major in accounting, from St. Vincent College, Latrobe, Pennsylvania. He is enrolled in the key executive program at American University in Washington, D.C. He is a CPA (Virginia) and a member of the American Institute of CPAs.

Mr. McCormick received a Group Meritorious Service Award in 1972, the GAO Career Development Award in 1973, and a Meritorious Service Award in 1976.



Morton A. Myers

Morton A. Myers was designated deputy director in the Program Analysis Division, effective October 10, 1977. In his new capacity, Mr. Myers will concentrate on program evaluation. He will continue to coordinate GAO activities with the Office of Technology Assessment and provide staff to support the Comptroller General's responsibilities as a member of the OTA Council.

Mr. Myers received a bachelor of science degree with a major in accounting from Quinnipiac College in 1961. After joining the General Accounting Office in the same year, he was on active duty in the U.S. Army until February 1962. He attended the George Washington University Graduate School of Business, and in 1969-70 was a graduate fellow at the University of California under the Federal Government's educational program in systems analysis.

Previous GAO positions held by Mr. Myers include assistant director, Office of Policy and Special Studies; assistant director, Civil Division; assistant director, Manpower and Welfare Division; and deputy director, Procurement and Systems Acquisition Division.

He is a member of the National Conference for the Advancement of Research's program planning committee for 1978, the National Association of Accountants, the Association of Government Accountants, the Association for Public Program Analysis, and the Phi Theta Kappa National Honorary Society. In 1970 he received the GAO Special Educational Award, and in 1972 and 1973, GAO Meritorious Service Awards.

Other Staff Changes

New Assistant Directors

Field Operations Division

John P. Competello

General Government Division

John M. Lovelady

Human Resources Division

John J. Eglin, Jr.

Program Analysis Division

Robert A. Jaxel

New Senior Attorneys

Office of the General Counsel

John G. Brosnan

Ralph L. Lotkin

Retirements

International Division

Lawrence J. Sabatino

Professional Activities



Office of the Comptroller General

The Comptroller General, *Elmer B. Staats*, addressed the following groups:

AICPA National Conference on Federally Assisted Programs on "Shortcomings with Grant Auditing and Suggestions on What Needs to be Done," Washington, D.C., Nov. 8.

Association of Government Accountants, Washington chapter monthly luncheon meeting, on "A Good Accounting System—A Key to Good Management," Washington, D.C., Nov. 11.

National Intergovernmental Audit Forum meeting, "The Fifth Anniversary of the National Intergovernmental Audit Forum," Washington, D.C., Nov. 15.

Seminar on Intergovernmental Administration and Growth Management on "Intergovernmental Relations," Easton, Md., Nov. 27.

Philadelphia Bar Association, Section on Corporation, Banking and Business Law, on "The

American City: What Is Its Future?" Philadelphia, Pa., Dec. 6.

Following is a recently published article of the Comptroller General:

"Auditoria Gubernamental Ayer, Hoy y Manana" (Government Auditing—Yesterday, Today, and Tomorrow)—adapted from an address to a joint conference of the Intergovernmental Audit Forum, *Latino America Control (ILACIF)* Quito, Ecuador, 1977 Segundo Semestre.

The Comptroller General, a member of the Governing Board of the International Organization of Supreme Audit Institutions and chairman of the Commission on the Revision of INTOSAI Standing Orders, participated in the Congress of that organization in Lima, Peru, Oct. 17–26.

E. H. Morse, Jr., Assistant Comptroller General, addressed the fourth annual seminar of the National Capital area chapter of the EDP Auditors Association on "Need for More and Better Computer Auditing," Washington, D.C., Oct. 13.

Mr. Morse participated in the

PROFESSIONAL ACTIVITIES

9th Congress of the International Organization of Supreme Audit Institutions, Lima, Peru, Oct. 17-26 and conducted an international seminar on "Operational Auditing in the Public Sector," in Lima, Oct. 27-29.

Office of the General Counsel

Paul G. Dembling, general counsel:

Addressed an Air Force Systems Command procurement and manufacturing conference on "The Impact of GAO on Government Procurement," Oct. 5.

Addressed the Secretary of Health, Education, and Welfare's First Procurement Conference on "Why GAO Looks at Federal Procurement," Oct. 11.

Chaired the 18th annual Western Briefing Conference on Government Contracts sponsored jointly by the Federal Bar Association and the Bureau of National Affairs, Oct. 17-19, in Santa Monica.

Addressed the Space Applications Board of the National Research Council, National Academy of Science, on "The Genesis of NASA," Oct. 26.

Spoke before the ninth annual National Contract Management Education Symposium on "GAO and Federal Procurement," in Houston, Nov. 10.

Milton J. Socolar, deputy general counsel, spoke on "GAO's Role in Federal Sector Labor Relations" before a labor relations conference sponsored by the U.S.

Department of Labor, Labor-Management Services Administration, in Chicago, Aug. 9.

Paul Shnitzer, associate general counsel:

Spoke before the Western Briefing on Government Contracts on "Significant Contract Formation Developments of 1977," in Santa Monica, Oct. 18.

Addressed the White Sands chapter of the National Contract Management Association on "GAO, Bid Protest and You," Las Cruces, N.Mex., Oct. 21.

Seymour Efros, assistant general counsel, spoke before the Government Contracts Association of Michigan on "GAO Bid Protests," in Troy, Nov. 17.

Ronald Berger, senior attorney, spoke before the Defense advanced procurement management course on "Problems in Formal Advertising," in Los Angeles, Dec. 2.

Robert Evers, senior attorney, addressed a group of graduate engineers from the French Ministry of Defense on the organization, functions, and operation of GAO on Sept. 6.

Johnnie Lupton, attorney-adviser, spoke on "Classification and GAO Decisions" before the Classification and Compensation Society's eighth annual conference, Oct. 18.

Office of Congressional Relations

Martin J. Fitzgerald, director, spoke before the Civil Service

Commission's executive workshop on the management of a legislative liaison office on July 15. On September 12, he spoke before the American University Washington semester program on the role and responsibilities of GAO. On September 26, he was a panel member to answer questions on GAO at a session held by the Congressional Clearinghouse on the Future. He spoke on the role of GAO in assisting the Congress at the Capitol Hill workshops held by the Federal Executive Institute Alumni Association on Sept. 26 and Nov. 30.

Mr. Fitzgerald and *Samuel W. Bowlin*, legislative adviser, jointly appeared before the Administrative Assistants' Association of the House of Representatives on Sept. 27, to discuss the role of GAO.

Mr. Bowlin spoke on the need for better information for Congress to students in the science department of American University on Oct. 26.

M. Thomas Hagenstad, legislative adviser, was a member of the Paperwork Commission Roundtable discussing paperwork reduction activities on July 7. On August 2, he spoke before the Civil Service Commission's Legislative Operations Roundtable for Executives on the functions of GAO.

T. Vincent Griffith, legislative attorney, spoke on the role and responsibilities of GAO before training seminars conducted by the Civil Service Commission on Aug. 4, Sept. 15, and Nov. 3.

Peter J. McGough, legislative adviser, spoke on the functions of GAO before the Civil Service Commission's Seminar for Executives on Legislative Operations on July 22 and the Corporate Executive Development Program of the U.S. Chamber of Commerce on Sept. 26 and Nov. 28.

Office of Policy

Donald J. Horan, director:

Participated in the Performance Auditing Workshop Panel, Annual Conference of American Institute for Decision Sciences, Chicago, Oct. 19.

Spoke before the Accounting Association of King's College, Wilkes-Barre, Pa., on "The Role of the GAO," Oct. 25.

Addressed the annual conference of the National Association of Accountants for the Public Interest on "Effective Communication in Report Writing," Miami, Nov. 15.

Theodore Roman, Jr., senior policy advisor, explained the several roles of GAO to key personnel of the Department of Agriculture's Forest Service staff attending the Lewis & Clark College seminar for mid-career management personnel, Dec. 8.

Jennie Stathis, policy advisor, spoke at the Civil Service Commission's seminar for 1977 Intergovernmental Affairs Fellows, on her experiences as a 1976 Fellow, Oct. 6.

Office of Program Planning

John D. Heller, director:

Spoke on GAO's role in evaluating program performance at the Civil Service Commission's executive center, Kings Point, New York, Nov. 3.

Spoke to the Los Angeles chapter of the Association of Government Accountants on Nov. 17. The subject was "Setting Priorities in GAO and Setting Priorities in Your Life."

Energy and Minerals Division

Monte Canfield, Jr., director, addressed the following groups:

The Washington Journalism Center conference on the energy outlook on "The GAO and Its Role in Energy Issues," Washington, D.C., Sept. 14.

The American Law Institute/American Bar Association Committee on Continuing Professional Education on "The Role of the GAO with Respect to Nuclear Power," Washington, D.C., Oct. 1.

The Brookings Institution Public Policy Conference for Government Executives on "Energy Issues and Public Policy," Aspen, Colo., Oct. 3.

The National Association of Petroleum Investment Analysts on "Energy Issues and Public Policy," Tarpon Springs, Fla., Oct. 21.

The METREK division of the Mitre Corporation on "The Role

of the Federal Government in Expanding the Use of Coal," Reston, Va., Nov. 7.

The American Institute of Mining, Metallurgical and Petroleum Engineers' Mineral Economics Symposium, on "The GAO and Its Role in Energy Issues," Washington, D.C., Nov. 9.

The Georgia General Assembly Conference on Energy, The University of Georgia Center for Continuing Education, on "National Energy Policy: Myth or Reality," Athens, Ga., Dec. 8.

J. Dexter Peach, deputy director:

Spoke before the Twenty-Second Annual Petroleum Accounting Conference on "The Increasing Role of the General Accounting Office in Providing Congress with Energy Information and Analyses," Wichita, Ks., Sept. 22.

Spoke at a workshop on program evaluation sponsored by the University of South Carolina, Columbia, S.C., Nov. 28.

Financial and General Management Studies Division

Donald L. Scantlebury, director:

Spoke on GAO's interest and role in measuring and increasing productivity at the National Productivity Center workshop on productivity improvement in field inspections, Sept. 21, Washington, D.C.

Spoke on GAO uniform financial compliance guidelines at the

AICPA Conference on Federally Assisted Programs on Nov. 7, Washington, D.C.

Harold L. Stugart, deputy director, participated in a panel discussion at the Conference on Federally Assisted Programs, sponsored by the American Institute of Certified Public Accountants on Nov. 8, in Washington, DC. He spoke on "Practical Problems and Experiences in Economy, Efficiency, and Program Results Audits."

Harry Kensky, associate director, and *John Cronin*, assistant director, conducted a seminar entitled "The Dynamics of Auditing Under the Value for Money Concept" for the Canadian Society of Management Accountants in Ottawa, Canada, on Nov. 17.

Ernest H. Davenport, assistant director:

Was elected to a 3-year term as Council member-at-large of the American Institute of Certified Public Accountants.

Was elected secretary and director of the District of Columbia Institute of CPAs.

Served as a member of the Ad Hoc Committee of the District of Columbia Institute of CPAs on the D.C. accounting bill.

Was the recipient of the National Association of Minority CPA Firms' Outstanding Service Award in October.

Brian L. Usilaner, assistant director, spoke on GAO's evaluation of the National Center for Productivity and Quality of Working Life and the Federal role for improving

national productivity at the annual meeting of the European Association of National Productivity Centers, Oct. 26, Athens, Greece.

Robert J. Ryan, assistant director, was named as general chairman for a 2-day AGA/MFOA conference, "Emerging Issues—Government Accounting and Auditing," to be held on Jan. 26-27, 1978, in Atlanta.

Earl M. Wysong, Jr., assistant director, made a presentation entitled, "GAO's Views on Uniformed Services' Military ADP Systems," at the Annual Commanders' Conference Information Exchange Program for the Uniformed Services, Oct. 18, in Arlington.

Benjamin I. Gottlieb, assistant director, spoke to the Baltimore Actuaries' Club on pension costs charged to Government contracts, on Sept. 8, in Baltimore.

Mike Morris, consultant, and *Charles Davidson* and *Ted Gonter*, computer systems analysts, spoke on "Using Software Physics as an Audit Tool" at the computer performance evaluation users group meeting in New Orleans, Oct. 11.

Don Ingram, management auditor, spoke on "Computer Performance Evaluation as an Audit Tool" before the Denver chapter of the Association of Government Accountants, Oct. 13.

William C. Kennedy, supervisory systems accountant:

Was recently appointed to a 3-year term on the Association of Government Accountants' National Research Board.

Developed a new AGA National Research Award Program. The program is designed to stimulate new research activities and provides for national research awards to individuals, groups, and AGA chapters.

General Government Division

William J. Anderson, deputy director, addressed a group at the Oak Ridge Federal Executive Center on GAO's reviews of program management on Nov. 10.

Randell Conley, audit manager, spoke before the University of Maryland chapter of the Beta Alpha Psi accounting honorary fraternity on Oct. 5.

Theodore C. Gearhart, assistant director, spoke at the Federal Statistics Users' 21st annual meeting which was held in Washington, D.C., on Nov. 16.

Richard B. Groskin presented a paper on "Evaluation in Criminal Justice" and was a panel member for the American Society of Criminology on Nov. 17.

Dessie P. Kambanides, auditor, has been elected associate director of member relations for the National Association Accountants' Northern Virginia chapter.

Robert A. Korinchak participated in the Intergovernmental Affairs Fellowship Program in Denver, Colo., during April, May, and June.

Wrightly T. Reed, supervisory auditor, has been elected director

of member relations for the National Association of Accountants' Northern Virginia chapter.

Human Resources Division

Ronald F. Lauve, associate director, attended the Executive Leadership and Management Program at the Federal Executive Institute in Charlottesville, Va., Sept. 12-30. Also, Mr. Lauve—together with Mr. *Joseph F. Delfico*, assistant director, Program Analysis Division—addressed a combined session of the "Program Evaluation: Issues and Problems" and the "Budgeting and Fiscal Management" workshops, held at the Institute on Nov. 16. Their topic was GAO's role and responsibilities in the area of program evaluation.

Beryce W. MacLennan, assistant director, presented a feature paper on "Environmental Tolerance and Opportunity Structure as Factors in Evaluating the Impact of Therapeutic and Rehabilitative Programs" at the Evaluation Research Society meeting in Washington, D.C., on Oct. 11. Ms. MacLennan was also a workshop leader on "Mental Health Research and the Citizen" at the Mental Health Association national conference in Washington, D.C. on Oct. 28.

International Division

J. K. Fasick, director, spoke to a group of middle to top management officials of public accounting

firms, government agencies, and two universities on the subject of "The Evaluation of U.S. Overseas Programs" at the Accountants Round Table Forum of the Brookings Institute in Washington, D.C., on Nov. 17.

Frank C. Conahan, associate director:

Was a guest speaker, together with *Jerome H. Stolarow*, deputy director, Procurement and Systems Acquisition Division, at a gathering of executives of the Military District of Washington, sponsored by the Federal Executive Institute Alumni Association, and spoke on the subject of GAO's work concerning weapons systems and foreign military sales, on Sept. 20.

Was a guest speaker, together with *John D. Redell*, assistant director, at a seminar sponsored by the American Council on Education in Washington, D.C., on Nov. 7.

J. Allen Hovey, international relations specialist:

Addressed two successive meetings of the U.S. Advisory Commission on International Educational and Cultural Affairs on the opportunities and problems of interagency coordination and data-sharing among U.S. exchange and training programs, in Washington, D.C., on Sept. 26 and Dec. 9.

Participated in a discussion of philanthropy and world affairs at a meeting convened by the National Council on Philan-

thropy, in Washington, D.C., on Oct. 18.

Eleanor Hadley, assistant director, presented a paper on "U.S.-Japanese Trade Relations: Some Reflections, Autumn 1977," at the mid-Atlantic regional meeting of the Association for Asian Studies, at Princeton University, Oct. 31.

John D. Redell, assistant director:

Presented a paper relative to GAO's reviews of international and language and area studies programs at a meeting of directors of 80 international studies centers of American universities, in Washington, D.C., Oct. 16.

Participated, together with *Paul G. Atkins* and *Dan J. Gowen*, supervisory auditors, in a 2-day meeting of directors of 80 international studies centers of American universities, sponsored by the Office of Education, Department of Health, Education, and Welfare, in Washington, D.C., on Oct. 16 and 17.

Presented a paper on the subject of GAO reviews of exchange-of-persons programs to the International Education Advisory Group to the International Education Project of the American Council on Education, in Washington, D.C., on Nov. 7.

Participated in a meeting of a task force established by the Modern Language Association for the promotion and de-

velopment of foreign language study in the United States, in Washington, D.C., on Nov. 5.

Logistics and Communications Division

Allen W. Sumner, assistant director, and *John Cramsey*, supervisory management auditor, addressed the Defense Advanced Traffic Management Class at the U.S. Army Transportation School, Fort Eustis, Va., on Sept. 27.

Richard Davis, assistant director, attended the Autofact I Conference on Industrial Technology sponsored by the Society of Manufacturing Engineers, Detroit, Oct. 31–Nov. 2. He also attended an avionics symposium at Warner Robins Air Logistics Center in Georgia on Nov. 8–9.

Carmen E. Smarrelli, assistant director, addressed the annual conference of the Arizona State Emergency Preparedness Association on Nov. 4 and 5, at Tucson, Ariz. Mr. Smarrelli discussed the civil defense policies which were the subject of a GAO report to the Congress.

Wilbur Bailey, assistant director, addressed the Washington section of the Institute of Navigation in Washington, Nov. 15. He spoke on "Navigation Planning—A New Direction is Needed." *Bob Carpenter* also participated in a question-and-answer session that followed.

Frank J. Oberson, assistant director, addressed the Committee on Federal Procurement of

Architect-Engineer Services at the Federal Programs Conference of 1977 regarding opportunities and issues on A-E selection and the use of life-cycle cost estimates as an element on Feb. 24.

Ron King, project manager, computer-aided building design study, addressed the fall conference of the Civil Engineering Programming Applications Group on "Observations on Software Centers" relating to the use of computers in engineering and the transfer on computer technology, in San Juan, P.R., Sept. 27.

Paul Spitz, audit manager, addressed the Great Plains Interagency Motor Equipment Advisory Committee at St. Louis, Mo., on Oct. 12–14 and the Interagency Motor Equipment Advisory Committee of the Southeast at Mobile, Ala., on Oct. 26 and 27.

Program Analysis Division

Harry S. Havens, director, participated in a meeting on "How artists can be drawn more effectively into the practical operations of business and government." The meeting was sponsored by the National Endowment for the Arts, and was held on Oct. 18 in Washington, D.C.

Morton A. Myers, deputy director:

Spoke on "The Broadening Role of GAO," before the Akron, Ohio, chapter of the National Association of Accountants, Oct. 19.

Also, with *Osmund T. Fundingsland*, assistant director, par-

ticipated in the 31st National Conference on the Advancement of Research, held in Albuquerque, N.M., Oct. 2-5. The theme of the conference was "Current Issues in Research and Development: Management and Policy." The conference brought together leaders in research administration from Government, industry, and universities for the purpose of assessing research needs in the coming decade in areas of national priority.

Mr. Fundingsland participated in the "Seminar on the U.N. Conference on Science and Technology for Development: Congressional Initiatives and Expectations" at the Library of Congress on Nov. 10 to acquaint congressional staff with issues that warrant attention or action by the Congress during the preparatory phase of the U.N. Conference, scheduled for 1979.

Dennis Dugan, associate director, participated in a panel discussion on "The Northeast in Financial Crisis," at a regional conference sponsored by the American Society for Public Administration at Kean College, N.J., Oct. 11.

Allan Mendelowitz, assistant director, spoke on "Regulation and the Economy" before the Brookings Institution Seminar on "Business-Government Relations on Regulatory Reform: Issues and Alternatives," in Washington, D.C., Oct. 20.

Waverly Sykes, program analyst, spoke on "Assessing Program Effectiveness," for the State Univer-

sity of New York at Albany's public executive project program, in Lake George, N.Y., Nov. 1.

Steve Bryant, supervisory management analyst, spoke on "Appraising Program Results" at the Philadelphia regional meeting of the American Society for Public Administration, Oct. 13.

Michael Kurgan, management analyst:

Spoke on "Zero-Base Budgeting in the Federal Government" at the New York/New Jersey Intergovernmental Audit Forum in New York City, Sept. 6.

Spoke on "Zero-Base Budgeting and the Appropriations and Authorizations Processes of Congress," at the American Institute of Industrial Engineers conference in Washington, Nov. 1.

Wallace M. Cohen, assistant director:

Spoke on program evaluation processes at the National Science Foundation to the Inter-Agency Consumer Program Related Committee, Washington, D.C., Dec. 1.

Was a member of the American Society for Public Administration panel on "Program Evaluation and Management" at the National Capital area chapter of the American Society for Public Administration conference, Washington, D.C., Dec. 2.

Michael A. Redisch, economist:

Discussed a paper by Sungwoo Kim and Harold Goldstein of Northeastern University, enti-

PROFESSIONAL ACTIVITIES

tled "An Inter-industry Analysis of Health-Medical Sectors in the United States," at the Atlantic Economic Conference, Washington, D.C., Oct. 13.

Spoke on "The Impact of Physician Reimbursement Practices on Hospital Costs: The Case of Hospital Based Physicians," at the 105th annual meeting of the American Public Health Association, Washington, D.C., Nov. 1.

Discussed a paper by Ronald Hansen, University of Rochester, entitled "Drug Discovery, Use, and Regulation: A Problem of Information," at the 47th annual meeting of the Southern Economic Association, New Orleans, Nov. 4.

Spoke on "A Critique of Efforts to Model the Impact of National Health Insurance," at the annual meeting of the Operations Research Society of America, Atlanta, Nov. 8.

Procurement and Systems Acquisition Division

Richard W. Gutmann, director, moderated a panel entitled "GAO Impact on Policy" at the Air Force Systems Command's annual Procurement and Manufacturing Conference at Andrews Air Force Base, Oct. 5.

Frank P. Chemery, associate director, spoke on the role of GAO in major weapon systems acquisition at the Defense Systems Management School, Fort Belvoir, Va., on Nov. 15.

Andrew B. McConnell, associate

director, participated in a panel on "An Overview of Government Contracting Out" at a conference on Government procurement of goods and services from the private sector, sponsored by the Chamber of Commerce of the United States, in Washington, D.C., Oct. 3.

Dr. Robert P. Koontz, supervisory management analyst, was appointed to the American Society for Public Administration's Task Force on Reorganization of Science and Technology in Government.

Robert D. Balderston, management auditor, participated in a panel discussion on Federal technology transfer policy at the Federal Laboratory Consortium's meeting, in Philadelphia, Oct. 19.

Field Operations Division

Atlanta

Marvin Colbs, regional manager, spoke on "The Roles and Missions of GAO" to the Controller's course of the Air University, Maxwell AFB, Alabama, Sept. 6.

Chicago

Gil Stromvall, regional manager:

Discussed "Forum Viewpoints on the Joint Funding Simplification Act," with a team from the Office of Management and Budget, at the request of the joint funding coordinator of the Federal Regional Council and as chairman of the Midwestern Intergovernmental Audit Forum, July 13.

Was one of the 10 agency heads invited by the regional director, Civil Service Commission, to meet with the Presidential Task Force on Government Personnel Management, June 30.

Was appointed to the Federal Executive Board, region V, June 1977, and elected to the executives club of Chicago on Oct. 17.

Led a panel discussion in Madison, Wis., concerning "Transfer of Techniques within the Audit Community," during an audit interchange program between GAO and the Wisconsin legislative audit bureau, Aug. 9-10.

Bill Schad, assistant regional manager:

Moderated the 2-day program which was attended by top legislative audit officials from Wisconsin, Illinois, Ohio, Minnesota, and Michigan. GAO staff members *Frank Kielpinski*, *Mel Koenigs*, *Mary Quinlan*, *Ken Boehne*, *Clem Preiwisch*, *Bobbie Sellers*, *Jim Musial*, *Pat Dolan*, and *Gerald Kelly* each made presentations on topics of particular interest to State auditors.

Chaired the Midwestern InterGovernmental Audit Forum meeting at St. Charles, Ill., Oct. 17-18.

Hosted a program for Northwestern University's Graduate School of Business, and also discussed GAO's emerging roles, Nov. 16. GAO staff members *Neil Gottlieb*, *Mary Quinlan*, *Pat Dolan*, *Pete Larson*, *Ken Boehne*, *Clem Preiwisch*, and *Jim Musial*

each made presentations on GAO's organization, functions, and activities.

Karen Bell, secretary, spoke at the Chicago area Postal Service Women's Day Seminar on "Activities of the Chicago Federal Executive Board Women's Subcommittee," May 24. Ms. Bell has also been appointed to the following Federal Executive Board positions: chairperson of the vacancy announcement exchange program, and editor, Federal Women's Program resource handbook.

Velma Butler, auditor, spoke on "The Advantages of Being a CPA and the Opportunities Available to Young People in the Accounting Profession," at the Archdiocese of Chicago Schools, Aug. 19.

Bob Rodriguez, auditor, was elected president of the board of directors for 1977-78 of *Asociacion Latino de Serpicos Educacionales, Incorporated*, Lake County, Ind., a community clearing-house and counseling service primarily for Hispanic persons seeking information on post-secondary education and career opportunities.

Verne Gilles, supervisory auditor, served as an instructor in "The 1977 Fundamental Accounting and Financial Management Training Course for Minority Business Persons," sponsored jointly by the Association of Government Accountants and the Office of Minority Business Enterprise.

Cecile Trop, auditor, was ap-

PROFESSIONAL ACTIVITIES

pointed to the Committee on Continuing Education of the Practitioner Advisors to the Public Management Program, Northwestern University Graduate School of Management.

Harriet Drummings, auditor, participated in the "Women's Career Fair," University of Illinois, Nov. 10.

Bobbie Sellers, auditor, served as a consultant for the "Youth Motivation Task Program" at Stillman College in Tuscaloosa, Ala., Oct. 19-21.

Pete Larson, supervisory auditor, spoke to an internal auditing class at the Roosevelt University Graduate School on "GAO's Functions and Responsibilities," Nov. 14.

Ken Boehne, supervisory auditor, participated in the fall Public Management Program advisors meeting, Northwestern University, Oct. 27.

Mr. Boehne and *Mary Quinlan*, auditor, represented GAO at a cooperative education program meeting, Maudelein College, Nov. 17.

Lee Kovale, supervisory auditor, received recognition from the Chicago chapter, Institute of Internal Auditors, for his service as chairman of the membership committee. The Chicago chapter won second place in the Institute's 1976-77 worldwide membership competition.

Wally Trauten, supervisory auditor, also served on this committee.

Dallas

Paul C. deLassus, assistant regional manager, participated in a panel discussion on "Careers in Accounting: Opportunities and Educational Needs" at the Third Annual Seminar for Accounting Educators at the Southern Methodist University, Oct. 28.

Denver

Herman Valasquez and *Lowell Hegg*, supervisory auditors, gave a presentation on operational auditing to students participating in an honors seminar on this subject at the University of Denver, Oct. 11.

Randy Bauer, auditor, gave a presentation on the findings in GAO's report on learning disabilities to the school coordinators and counselors of the Giles Education Center of Colorado Springs, Sept. 8.

Detroit

Bill Laurie, audit manager, and *Tom Walsh*, supervisory auditor, conducted a symposium at the 30th Annual Scientific Meeting of the Gerontological Society in San Francisco, Nov. 20. At the symposium, entitled "Impact of Intervention on Well-being Status of Older People," they discussed GAO's longitudinal study of the well-being of older people.

Kansas City

David Hanna, regional manager, and *Tom Wolters*, audit manager, spoke to the Kansas

State University Accounting Club on GAO's operations, Oct. 13.

Charles Reese and *Michael Higgins*, audit managers, conducted a seminar for auditors in the Kansas Department of Social and Rehabilitation Services. The seminar covered GAO's role in auditing medicaid and social services, Oct. 17.

Los Angeles

Roger W. Flann, supervisory auditor, and *M. John Franklin*, auditor, participated in panels at the tenth annual meeting of the Society of Nutrition Education, July 11-14, in Washington, D.C. The themes of the panels were "Government Priorities: Where Does Nutrition Education Fit?" and "National Nutrition Policy: Impact on Nutrition Education."

Victor Ell, audit manager, made the following speeches:

"Health Systems Planning—Can the Auditor Help?" and "The Future of the AGA" to the Association of Government Accountants San Bernardino chapter, Apr. 14, and San Diego chapter, Mar. 23, respectively.

"Program Evaluation in the Federal Government" to the University of Southern California graduate seminar—public administration, Apr. 18.

"GAO and Its Role in Governmental Financial Management" to the California State University, Los Angeles, governmental and institutional accounting class, Dec. 6.

"GAO Case Study on the De-

velopment of a Computer-Based Hospital Sizing Model" to the University of California, Los Angeles, Graduate School of Management, Apr. 22

Jan H. Goldstein, *Pierre F. Crosetto*, *Gretchen E. Bornhop*, and *Rose M. Imperato*, auditors, were discussion leaders at the Intergovernmental Audit Forum's workpaper seminar held in Los Angeles, June 21.

Norfolk

Otto Williams, supervisory auditor, has been appointed chairman, membership committee, of the Virginia Peninsula chapter of the Association of Government Accountants for the year 1977-78.

Philadelphia

Dick Halter, audit manager, and *Tom Cassidy*, auditor, addressed the Council of State Administrators of Vocational Rehabilitation at its annual meeting held in San Diego, Calif., Sept. 27-30. The council is an association composed of top administrators of all State rehabilitation agencies for the physically and mentally handicapped. Dick and Tom spoke on "New Challenges and Directions for the Social Security/Vocational Rehabilitation Programs."

San Francisco

William N. Conrardy, regional manager; *Jack Birkholz*, audit manager; and *Mona Cannon* and *Kenneth J. Howard*, supervisory auditors, participated in the Western Intergovernmental Audit

PROFESSIONAL ACTIVITIES

Forum meeting and audit work-paper seminar, Sept. 13.

Jack Birkholz spoke to the California Association of Auditors for Management concerning audit standards and program and report writing, July 5-6. He and Mona Cannon spoke at the Western Intergovernmental Audit Forum seminar in Los Angeles, Calif., on the development of audit evidence and workpapers, June 21.

Mr. Birkholz also participated in a panel discussion on "Preliminary Surveys" before the Institute of Internal Auditors, San Jose area chapter, Sept. 13.

Mr. Birkholz was selected to serve on the Governmental Accounting and Auditing committee for the San Francisco chapter of the California State Society of CPAs for 1977 and 1978.

Seattle

Charles D. Mosher, audit manager, addressed the following groups:

Meeting of the Pacific North-

west Intergovernmental Audit Forum in Olympia, Washington, on "HEW Inspector General Concept," Oct. 6.

A special symposium at the American Water Resource Association Conference on Urban Quality Assessments in Tucson, Ariz., on "Benefits of Good Water Quality Data Collection," Nov. 3.

M.B.A. update seminar at Portland State University on "Problem Identification," Nov. 21. His subject was putting out organizational fires before they start and GAO problem identification approaches.

Mr. Mosher also represented GAO in the GAO information exhibit at the national meeting of the Public Sector Section of the American Accounting Association, Portland, Ore., Aug. 22-24.

Roger D. Hayman, supervisory auditor, addressed a technical meeting of the Washington State Society of CPAs, Sept. 13. His topic was "The Significance of the GAO Audit Standards to CPAs."

Successful GAO Candidates— May 1977 CPA Examination

Name	Region	State
Susanna K. Keetch	Atlanta	Georgia
Paul A. Sweeney	Boston	Massachusetts
James A. Evans	Chicago	Illinois
Karen J. Frey	Chicago	Illinois
Gregory E. Pugnetti	Chicago	Illinois
Gerald E. Hensley	Los Angeles	California
Raymond P. Griffin	New York	New York
Robert G. Murray	New York	New York
David H. Englert	Norfolk	Virginia
Perry G. Datwyler	San Francisco	California
Owen D. Ellis	San Francisco	California
Thomas E. Birmingham	Seattle	Washington
Charles H. Shervey	Seattle	Washington
Jack L. Strayer	Seattle	Oregon
David L. Clark	Falls Church	Maryland
Donald R. Neff	Falls Church	Virginia
Jose L. Rodriguez	Falls Church	Virginia

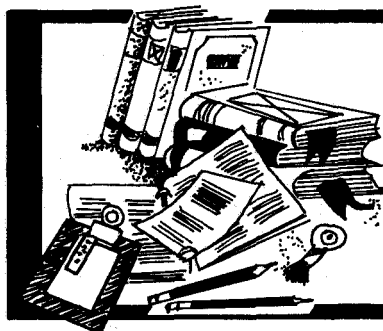
Name	Division	State
Michelle Roman	Community and Economic Development	Maryland
Ruth Ann Harrold	Community and Economic Development	Pennsylvania
Sandra L. Steffler	Financial and General Management Studies	Virginia
Gerald Thomas	Federal Personnel and Compensation	Maryland
Jean C. Swanson	General Government	Maryland
Thomas Blair	Human Resources	Maryland
Everette Orr	Office of Policy and Program Planning	Virginia

PROFESSIONAL ACTIVITIES



The following new professional staff members reported for work during the period August 16, 1977, through November 15, 1977.

Energy and Minerals Division	Donnelly, Mary K.	Georgetown University
Financial and General Management Studies Division	Cohen, Sheila P.	George Washington University
	Dillman, Audrey D.	General Services Administration
	Dittmar, Richard P.	George Washington University
	Slomba, Thomas E. Cunningham, Patricia A. Kaepfel, Paul H.	Kent State University Howard University Air Force Institute of Technology
Logistics and Communications Division	Mallory, Joseph Morgan, Debra	St. Marys College, Md. University of Texas, Austin
Management Services	Mathur, Vinita C.	London University
Office of Librarian	Lusignan, Louise J.	University of Western Ontario
Program Analysis Division	Cherlow, Jay R.	University of Michigan
REGIONAL OFFICES		
Detroit Philadelphia	Tokay, Adrian V. Bietler, David C.	University of Dayton Krusen Evans & Byrne Law Firm



Readings of Interest

The reviews of books, articles, and other documents in this section represent the views and opinions of the individual reviewers, and their publication should not be construed as an endorsement by GAO of either the reviewers' comments or the books, articles, and other documents reviewed.

Audit and Accounting Guide: The Auditor's Study and Evaluation of Internal Control in EDP Systems

American Institute of Certified Public Accounts, 1977; 67 pp., paperback, \$4.50.

This AICPA publication for CPAs must be considered the most authoritative guide available on EDP controls in accounting systems. For this reason, it deserves the attention of those of us assigned to review Federal agency accounting system designs and operations and those performing financial statement audits. I was pleased to find that the guide reinforces our perception of EDP controls and our approach to their review.

In the guide, EDP accounting controls are broadly classified as

general controls and application controls. General controls are those applicable to all EDP activities of an organization; they are categorized as follows:

- Organization and operation controls.
- Systems development and documentation controls.
- Hardware and systems software controls.
- Access controls.
- Data and procedural controls.

Each category contains a list of "basic" controls; there are 19 under the general controls classification. For each basic control a list of suggested techniques for review and test of compliance is given.

Application controls are those relevant at the specific task level. The guide categorizes these as (1) input, (2) processing, and (3) output controls. (These are the classifications we've used for some

time in our accounting system design reviews.) Again, lists of basic controls and review and compliance testing techniques are given for each category; there are 12 basic application controls.

Some of the guide's philosophy of accounting control deserves serious attention. Accounting control, as defined by AICPA, "comprises the plan of organization and the procedures and records that are concerned with the safeguarding of assets and the reliability of financial records. . ." The guide stresses that this definition is objective-oriented; that is, accounting control is not defined in terms of a standard set of control techniques to be applied to each and every system, nor is it defined in terms of any given mix of manual and EDP controls. An easy trap, I believe, for an auditor or analyst to fall into is to become so taken with a given control technique or control mix that he immediately assumes that a system which lacks it is inadequate. The old adage "there's more than one way to skin a cat" is nowhere more applicable than in achieving the objectives of accounting control. The guide makes the further point that the absence of one accounting control may be compensated for by the presence of another.

The guide stresses the auditor's preliminary review as a means of understanding the "basic structure of accounting control," encompassing both its manual and EDP aspects. The guide suggests tracing selected transactions through the system (often referred to as a "system walk-through"). This tech-

nique contributes also to the auditor's understanding of how important EDP is in the system. The perspective acquired in the preliminary review provides a basis for detailed review efforts.

I was pleased that the guide included a chapter on documentation. Lack of adequate documentation is a source of continuing frustration in our review work.

The guide does not include control techniques for advanced systems due, in part, to the belief that most EDP accounting system applications are batch-oriented. This is consistent with our experience with Government systems; however, as the guide acknowledges, this could change with time.

I believe Government auditors (e.g., those in audit agencies and internal audit groups) should avoid "re-inventing the wheel," and should use the AICPA's EDP internal control guidelines (as set forth in the guide) instead of developing their own. The guidelines could be used as a focal point or as a point of departure when they don't thoroughly address an agency's situation.

Lee S. Beaty

Financial Systems Analyst (ADP)
Financial and General
Management Studies Division

Evaluation of Policy Simulation Models: A Conceptual Approach and Case Study

By Robert E. Pugh, Information Resources Press, 1977; 350 pp.

There seems to be no neutral ground with respect to computer models. One extreme view, often held by some operations and systems analysts and associated fellow travelers, is that if a model is new, esoteric, quantitative and sophisticated it must be good. At the other extreme are some hard-nosed accountants and administrators who feel if a model can't be validated to the nearest penny it can't be good.

Both groups need to read a new book by Dr. Robert E. Pugh on evaluating policy simulation models. Dr. Pugh recommends what one might call the three P's as criteria for assessing models—perspective, principle and practice.

Perspective deals with evaluating the subject area the model addresses and assessing the questions the model attempts to answer. The second facet, principle, is concerned with supporting theory and assumptions behind the model. Thirdly, practice deals with the model's performance.

The book goes into considerable detail on explaining these three facets of evaluation. It illustrates the concepts by applying them to an evaluation of Jay Forrester's urban dynamics model. The model's capability of representing real-world problems is tested on socioeconomic parameters of the District of Columbia. Another more specific test is made on an analysis of housing problems in D.C.

My interpretation of the author's report card for the urban dynamics model is:

A for perspective. He considered

it comprehensive and boldly representative of interrelationships among model sectors.

C for principle. He found serious deficiencies in the supporting research.

D for practice. He felt there was little connection with reality.

The author also emphasizes the importance of model evaluation as feed back to model research and development. This evaluation is essential if simulation models are to be useful to policy making. If one is going to make an objective evaluation of computer models for policy analysis, I believe this book is a necessity.

Heber D. Bouland

Assistant Director

Financial and General

Management Studies Division

Legislative Review of Government Programs: Tools for Accountability

by Edgar G. Crane, Jr.;
Praeger Publishers, 1977.

This book is comprehensive in its treatment of the function of legislative overview and program control by American State Legislatures and the potential for use of the techniques of program effectiveness analysis and program evaluation in that function. The research basis of the study is stated to be a national study of State legislative program review, including in-depth study of 5 States, field work in 15 States, surveys of 14 States through meet-

ings and interviews and by telephone, and studies of the remaining 16 by written inquiry. In addition to the survey data, the book contains an extensive bibliography and is well referenced to that bibliography.

The discussion of program review is placed in the context of a concept of legislative control, designed to include legislative policy formulation, appropriations actions, and program overview or oversight in addition to program review. Legislative control is discussed from historical references, in terms of some early results of the use of program reviews in legislative control, and in terms of a conceptual model.

There is an interesting and helpful description of tradeoffs in the selection of alternative organizational structures for program review, including post-audit (either under the legislature or under an independent elected office), special-purpose agencies (e.g., expenditure review, economic and fiscal program review, audit and oversight, budget, performance evaluation, and audit and review), fiscal or appropriations offices (both partisan and nonpartisan), augmented standing committee staffs, general research agencies, and hybrid agencies (including, for example, budget review, post-audit, and program evaluation or fiscal analysis). The discussion of alternative operating procedures and methods of utilization in program control is interesting as a checklist of some important considerations, but the value in guiding any particular State is not entirely clear. Some of this infor-

mation was not updated between the issuance of the original survey report in 1975 and the issuance of the book (e.g., reference 15, p. 85, should have been replaced with a reference to a final document issued by GAO entitled "Evaluation and Analysis to Support Decisionmaking," PAD-76-9, Sept. 1, 1976).

The chapter on environmental characteristics associated with legislative review efforts describes and attempts to establish a numerical scale for the degree of intensity with which program review is conducted, and a numerical scale for the degree of integration with the legislative process characterized by the different types of organizations for program review. These variables have been related, through the use of several statistical techniques, with a large number of variables describing characteristics of the State such as total State employees, total Federal aid, etc. This reviewer finds, as a minimum, some interest in the fact that there is even any significant relationship at all between the product and organizational variables and the other variables. However, the author indicates the substantial judgment needed to classify States unambiguously in accordance with the variables established. The experimental nature of this particular analysis suggests the need to test its usefulness independently in a selection of States and, if found useful, to establish a confidence level in the data through some reanalysis by independent analysts.

The discussion of requirements for success of legislative program

review is both theoretical and descriptive. Many readers might have found the book more helpful if the assessment of legislative experience in States had been expanded in the seven States which are described and perhaps broadened in its coverage of the States. The book would have benefited here particularly by inclusion of case studies describing typical reviews conducted and the kind of problems and constraints encountered in each. This would have set the stage more convincingly for the proposed practical application and research opportunities in the final chapter. The author mentions the limitation in finding enough reviews completed for a case study approach and suggests that there can be more definitive conclusions on the success of these decision tools from more adequate scrutiny of legislative utilization and program impact.

The referenced 1975 report by the author, "Legislative Review of Program Effectiveness for Government Accountability," contains more extensive descriptive analysis of developments in legislative program review in New York State and in the United States Congress. It is understandable that, when the later book went to press, describing "Washington" methods as a guide to State audiences might have seemed unattractive. However, it seems unfortunate in a book as comprehensive as this one that the opportunity was missed to discuss and demonstrate the increasing common interest of State legislative evalu-

ation functions and Federal evaluation functions, both executive and legislative.

The author does credit GAO with taking the lead in establishing and integrating governmental audit standards and evaluation guidelines covering this kind of comprehensive program review. The author indicates also the many similarities—as well as definitional peculiarities—which relate audit work to program evaluation and which distinguish national legislative (congressional) program review from that of the States. Citing the sizable Federal budget for conducting program evaluations, the author indicates also how GAO has attempted to serve congressional needs by appraising, verifying, and synthesizing the work already performed in the executive branch. This is contrasted with recent initiative in legislative program review by the States in which various offices of the legislatures have conducted intensive and pioneering reviews without much reliance on the executive.

The author indicates that both performance of intensive evaluations and effective utilization of existing evaluations require a high degree of interdisciplinary competence. The book should be quite useful to those considering the nature of staff development and training needed to provide for evaluations which will be, and should be, used by decision-makers.

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