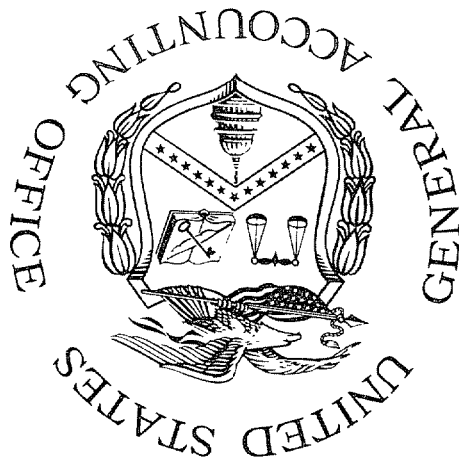


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THE GAO REVIEW



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WINTER 1971

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Potentials for Management Improvement

By Elmer B. Staats

Comptroller General of the United States

This article is based on the address given by the Comptroller General at the Federal Management Improvement Conference sponsored by the Office of Management and Budget on September 21, 1970.

The term "management" in a broad sense involves the marshaling of three primary resources—people, money, and physical assets—so as to achieve a specific objective or set of objectives.

Management implies action; requires affirmative attention by the manager; and cannot succeed for long if a manager plays a passive role. Action by a manager must be based on available information—reliable or unreliable, complete or incomplete—concerning the resources at his command and their utilization, concerning the environment within which he must put these resources to the task of meeting desired objectives, and concerning the extent to which the objectives have been or are being met.

It may be a truism to say that the manager must assess this information and act in the manner which will do the job most effectively and efficiently.

However, I cannot stress too much that complete and reliable information is a key to sound management. I will not say that management decisions cannot be better than the information on which they are based, because this anomaly does happen. Nor will I say

that reliable information insures sensible decisions, because often this is not the case. But the proposition that the overall effectiveness of the manager can be strengthened by improving the adequacy of the information upon which he must make his judgments cannot be questioned seriously.

As a corollary, in making decisions managers must have the ability to obtain and use effectively the best information available. A manager, chosen for this ability, must be convinced of the worth of the objectives sought, must believe that he plays an important part in their achievement, and must know that he will be rewarded through appropriate recognition commensurate with his success in using efficiently the resources at hand to accomplish the objectives sought.

These propositions apply at all management levels in every type of endeavor. Where do we, in the Federal Government, stand in relation to giving them full effect? Where are the areas in which we must do a better job?

I would like to discuss two broad areas of management—management for program objectives and management

of resources—and to suggest some methods or techniques which seem to warrant particular consideration.

Management for Program Objectives

A sharp and precise statement of objectives is essential to effective management of any program. This statement is the basic device by which the manager communicates his ideas and thoughts to the staffs that are to do the work. It sets objectives which the staffs must strive to fulfill.

Those objectives must be well thought out and clearly stated. If not, the staffs may not do the work which the manager intended. It is as simple as that. Worse yet, they may pursue entirely different end results. Vagueness or ambiguity in the statement of the objectives can result in indecision and frustration. Staffs cannot be expected to perform satisfactorily without a clear understanding of their purpose or goal.

A clear understanding of objectives is also necessary for the manager himself, so he can design the activity to accomplish the desired result. He must also create an organization, develop policy guidance for the conduct of activities, and assign responsibilities to the operating staffs.

The manager must also provide the system and mechanics for monitoring the performance of the organization and individuals concerned and their success or progress toward the objectives. In essence, this requires a continuing measurement of their performance to see how they are progressing toward their established goals and benchmarks.

Productivity Measurement

Productivity measurement is an essential management tool. It should be used as a positive tool, not a negative one. Productivity is an index of progress in the way resources and efforts are organized. Used in conjunction with other improved management techniques, it can contribute substantially to the general upgrading of management.

Needless to say, Government activities are conducted because there is a need for whatever they provide or accomplish; i.e., outputs. The productivity of those activities is, therefore, a prime management concern. Thus measures for productivity must be developed.

The productivity actually accomplished must also be evaluated. How does it compare with the goal, if one has been established, or with the results last month, or last year, or with the performance of a similar activity at another location? Of course, you can't always realistically determine what the productivity should be. Obviously it is generally desirable to establish goals. Even if they are somewhat imperfect at first, they will tend to become more realistic with experience and evaluation of results. There is frequently a tendency to give up on the use of productivity measurements and goals because of their lack of perfection. However, good management cannot abandon its basic responsibility to monitor the productivity of its assigned activities.

Management of Resources

Government activities require extensive use of such resources as personnel,

property, and funds. Management has the responsibility of caring for those resources and using them in an economical manner. It must see that:

- Personnel resources are not wasted.
- Property is not used inefficiently or lost.
- Money is not spent needlessly.
- Revenues or benefits which should be derived from the activity are in fact obtained.
- Controls are maintained over the liabilities incurred—liabilities for which the Government must make payment.

One of the most important resources used is personnel. It is also probably the most difficult to manage effectively and efficiently. Personnel costs are high; also they are an extremely important element in the control over and effective use of all other resources devoted to the activity. For this reason, top management must try to get the active participation of employees all up and down the line in the “management” function.

The familiarity of the employees with what actually goes on enables them to contribute to management as well as to exercise their ingenuity and initiative to promote effective management. One of the tasks of the manager today is to provide maximum incentives for the employees to work for better management—through recognition of the contribution they make as both individuals and groups and through reward for their contribution by giving them increased responsibility.

Consumption of resources, if possible, should be related to productivity

and normally to a financial plan. The use of operating budgets is a classical use of a plan for financial control over the use of resources. Both techniques need to be considered fully and used where possible. Obviously, mere conformance to a financial plan without consideration of the productivity derived under that plan does not effectively discharge management’s responsibility.

Information Systems

Effective management requires systematic reporting on the results accomplished and resources used—preferably compared with established goals or standards of performance. Those goals or standards could be the number of units produced, conformity with a financial plan, pounds of scrap per widget produced, tons of coal consumed per unit of production—any one of an almost endless variety of measures. The information system should measure both productivity and efficiency and should be designed to flag the exception or departure from acceptable performance—to identify the problem areas in need of attention, the drop in efficiency or productivity—or whatever aspect of the activity that should be of concern to management.

Computers afford tremendous opportunities for sophisticated and useful management information systems.

Accounting Systems

A sound accounting system is also essential to effective management. As Comptroller General, I am directed by law to prescribe the principles, standards, and related requirements for ac-

counting to be followed by all executive agencies. We at GAO also have a duty to cooperate with the agencies in developing their systems and to approve them when we consider them satisfactory. Further we must review them in operation from time to time.

Reliable accounting systems make possible good financial reports—an essential ingredient of effective management. Reliable accounting makes it possible to pinpoint costs, identify weak and wasteful operations, provide comparative costs, and relate costs to program activities. It should measure the effectiveness of management and the effects of corrective actions, flag areas requiring concentrated attention, and help in many other ways to promote better and more economical operations.

Better Federal agency accounting is one of GAO's important objectives—one that we have to keep working toward throughout the Federal establishment. It requires overcoming such obstacles as resistance to change, lack of personnel with the needed skills, and lack of managerial sophistication in the use of cost and financial information as an instrument of control.

Internal Audit

Internal audit or internal review—or whatever name it carries—is also an invaluable tool to management. We have urged the strengthening of the internal audit function in the Federal agencies over the years. The expansion in recent years of internal auditing in the agencies is due, in part, to our strong endorsement of this function. Our advocacy is based on the precept—recognized by the Congress itself—that it is

the agency management which is basically responsible for agency activities. To discharge that responsibility, the agency needs an effective internal audit. To be effective, the internal audit:

- Must be independent of the activities examined.
- Must be broad in the scope of its review and be directed particularly to known or potential problem areas.
- Findings must be given proper attention by top management.

It is important that operating officials have a proper attitude toward the internal review activity. There is a corresponding need for the internal reviewers to be fair and objective in their examinations so that they will have the respect and cooperation of the operating people. Operating people do not always wholeheartedly accept the presence of internal reviewers. This attitude can seriously impair the internal review function as well as the ease with which it is carried out. Top management has the right to expect, and should insist, that both the reviewer and the reviewee fully support the common objective of promoting the best and most productive operation possible.

Planning-Programming-Budgeting

No discussion concerning management would be complete without mentioning planning, programming, and budgeting. This concept, which had worked well in the Department of Defense, was prescribed by the President in August 1965 for use in all major Federal agencies.

It was to be used for three essential purposes:

- To define national goals and identify those considered most urgent.
- To determine alternative ways of attaining those goals and the probable costs.
- To improve performance by attaining the best possible program return for each dollar spent.

Stated another way: PPB is a method for analyzing and deciding on programs in terms of measured results related to costs. It is a system:

- For dealing with difficult problems of choice by considering alternative objectives and programs.
- For defining programs, outputs, and resource requirements with increased precision.
- For developing multiyear planning of desired objectives in relation to systems costs.
- For carefully considering the benefits and costs of existing programs and for comparing alternative courses of action.

Since 1965, installation of PPB systems has moved steadily forward under the direction of the Director of the Bureau of the Budget—more recently the Office of Management and Budget.

In some agencies the system has contributed to more effective management and more efficient program operations. In others, it appears more a promise than a reality. As indicated earlier, the Defense Department has been in the vanguard in applying the new analytical techniques involved in PPB. There the classic application of these problem-solving approaches has focused on the complexities of force structure and sup-

port. These things are more readily quantifiable. For example, planners can evaluate whether a given quantity of airplanes, weighing a given tonnage, and costing a specific amount to produce and support, can fly a given distance in a specific time and penetrate enemy defenses with a specific number and tonnage of bombs. The planners can also evaluate the same kind of information about the cost and capability of one or more missiles to do the same job. They can then compare the relative effectiveness with the related cost of bombers vs. missiles and thus furnish our top military command with bases and data for rational decisions about force structure.

In many cases, the solution of these and other difficult problems, such as the evaluation of alternative goals and the identification of the best means of achieving the goal selected, will take time. But the problems must be addressed, and the big contribution of PPB is to bring these problems to the surface and set in motion the required chain of problem-solving events.

A note of caution on the PPB system is needed, however. There is nothing magic or self-executing about this or any other management system. PPB must be applied carefully and properly, recognizing that experience and judgment must play a vital, if not decisive, role in decisionmaking. It is a tool—nothing more—to supply the facts and the discipline for analyses essential to more effective program decisions.

However, the potential, significant improvements in the allocation of resources associated with PPB make it essential that we take whatever steps are necessary to have the trained employees

available and to develop the improved analytical techniques.

Certain Members of the Congress have indicated an interest in making fuller utilization of PPB in the review of annual appropriations.

There is no way that you can develop a system such as PPB, in my opinion, that will resolve the basic priorities among different broad purposes of Government. In terms of specific programs and specific objectives, however, PPB can play an important role. It can help you to select proper alternatives and to develop an analysis which will project for you the long-term consequences of those alternatives in terms of achieving the greatest output. Whether we continue to call it PPB or program budgeting, or what have you, this basic type of analysis is essential to appraising alternative ways of attaining national goals.

GAO Views on Potential Management Improvement Areas in Government Activities

I can't give you an overall evaluation of management practices within the Government, or even within one department or agency. But I will try to give you some views on particular activities within the Government where, we believe, there is a great potential for improvement.

Computer Problems

The managers of today are fortunate in being able to obtain needed information on a timely basis by the use of electronic equipment. Its speed and accuracy—with proper programming and input—are amazing.

Literally billions of dollars are spent

annually in buying and using computers, and the end is not in sight. Computers have made possible many significant technological advancements. However, a high percentage of computer installations have been found seriously lacking in important respects.

Feasibility studies have been inadequate; capability has been overprocured; output utilization has, in some cases, been scant; necessary interface of systems and programs has been neglected; and cost-effectiveness calculations have been slanted by the siren lure of sophistication. These and other problems of computer management must be addressed if our society is to obtain maximum benefit from these highly sophisticated creations.

On July 1, 1970, I spoke before the Subcommittee on Economy in Government, Joint Economic Committee, concerning the need for procurement procedures which would afford free and full competition to all qualified potential bidders, including the small manufacturers of peripheral equipment.

The reviews we have made support the committee's recommendation that the General Services Administration should make it possible for smaller manufacturers of ADP equipment to furnish part of the Government's requirements. Specifications should not be designed around specific products with the effect of eliminating competition and stifling the incentives of smaller manufacturers. Our studies of the potential savings available by the acquisition of peripheral equipment from independent manufacturers showed that, if compatible components were rented from independent manufacturers rather than from systems manu-

facturers, annual savings would amount to at least \$5 million. We estimated that, if such components were to be purchased, they could be purchased for \$23 million less from the component manufacturers than from the systems manufacturers.

Executive agencies have been and are now required to submit information on their computer resources in accordance with Bureau of the Budget Circulars A-55 and A-83. Our reviews have shown, however, that the reporting system does not produce the accurate, complete, and useful information needed for proper management decisions on procurement, utilization, and reutilization of ADP resources. More realistic and timely projections of acquisitions and releases of equipment are needed to improve reutilization and Government-wide contract negotiations and to prevent unneeded purchases. More information on software and its use in Government operations is needed to reduce duplication of effort and unnecessary costs.

Financial Management Problems

Some operating managers tend to look upon financial management as just another "thorn in the side," interfering with their day-to-day operating responsibilities. It is too bad, perhaps, that we must worry about money—it would be great if we had so much that it wasn't a concern in or a limitation on reaching our objectives. But the competing needs for our limited resources make it essential that we put money to the best use and stretch it as far as possible. That's what financial management is all about, and, despite

the current disdain for our materialistic society, good financial management is essential.

It is the means of directing our resources to the objectives determined to have the highest priority; the safeguarding of those resources to prevent their loss, theft, or waste; the stretching of those resources to do the most good—in essence, the technique of getting the most out of what we put in. It includes identification of what is to be done, what we have to do it with, and what more is needed, as well as monitoring of the use made of those resources and their productivity.

A good financial management system will provide the information needed for the manager to function. He must recognize its value and know how to use it. Those responsible for the system must see that it provides this service.

The Importance of Work Measurement Development to Financial Management

As previously stated, financial data becomes much more useful when it is associated with appropriate nonfinancial data. How meaningful is it to know that a given organizational unit cost \$300,000 this year compared with the cost of \$350,000 last year for an organizational unit with the same title? The two units may be alike in title only, for there may be different workloads and different objectives. However, when comparable work measurement units are used to express financial data in terms of unit costs, real meaning is brought to the financial data.

Our experiences in the Department of Defense with Project PRIME are a

case in point. This financial management system was well conceived, and it is producing quantities of financial data—more than some levels of management can use effectively. Management cannot fully use the data until it is possible to align the financial data with meaningful work measurement units.

Control of Federal Grant-in-Aid Programs

It would be hard to find an area of Government activity today with problems of financial management more pressing or more difficult than Federal grants-in-aid. From rather modest beginnings, quite a long time ago, this means of assisting the financing of services provided by State and local governments has reached gigantic proportions.

This growth is the result of political decisions made in response to problems brought on by technological, economic, and sociological changes in society. In 1968 Federal grants-in-aid amounted to about \$18 billion a year, an increase of about \$13 billion in the 10-year period from the beginning of 1959. Federal grants-in-aid are now running over \$27 billion a year, or over 13 percent of the total Federal budget, and represent an increase of over \$9 billion in the last 2 years. Apparently this form of assistance will continue to grow, unless major changes are made in our system of financial services to be performed by governmental bodies.

The Federal Government has been drawn into the picture because of its financial resources and concern for the general welfare of the residents of all States, as well as the fact that certain problems transcend the jurisdiction of

individual State and local governments.

A major problem facing Federal managers is the need to strengthen the audit function at State and local levels. Some States have developed good audit programs which serve to assist in the management of State government operations and at the same time provide an extension of the Federal audit effort which benefits the Federal manager. Some States have audit programs which are in a developmental status. However, others are still making primarily voucher-type audits, which are helpful but which do not provide appraisals of efficiency of operation or of extent of compliance with prescribed requirements.

Many public accountants, who perform the bulk of the work for cities and counties, see their responsibilities as being related only to the fairness of financial statements. Most do not perform operational or management audits, nor are they urged by their clients to do so.

In October 1969, under an agreement with the Bureau of the Budget, the General Accounting Office assumed responsibility for a project of directing the organization and operation of an interagency working group to develop standards and guidelines for the audit of Federal assistance programs.

The long-range objective of this effort is to improve program operations through improved auditing by Federal, State, local, and outside agencies and through effective coordination between them.

Management problems similar to those in the Federal grants-in-aid to State and local governments are also present in programs where U.S. aid funds are turned over to international

organizations and lending institutions.

Federal assistance programs probably will increase in the future, and there will be a corresponding need for more effective management of these programs.

Measuring Human Productivity

Much of our recent work has indicated to us that managers everywhere are developing new or increased awareness of the importance of human effort as a critical resource. As one Defense official recently observed, so much attention has been given to money as a resource that the term "financial management" and its concepts are well defined and are widely accepted, but comparatively little attention has been given to manpower *as a resource*. We agree that the time is ripe to build some "manpower management" concepts.

This is not meant to imply that nothing is now being done. Many projects have been undertaken that appear to be solid groundwork for a new direction. There are many indications that agency management is giving intensified attention to such matters as staffing standards, performance appraisals, performance goals, and personnel training and development. These are needed for better manpower management.

However, most of these concepts and techniques have been in the area of measures of productivity of people in physical operations. Little has been accomplished in measuring productivity of people engaged in administrative work. This problem has, to date, not been resolved and constitutes a real challenge for management.

Our work in the manpower area has demonstrated the significance of manpower factors in program management. We are convinced that there is a constant need for more emphasis on manpower training as an essential part of an agency's overall management.

Some factors affecting manpower are within the control and authority of operational managers. Others are controlled from the outside or from higher levels. One of the most obvious of the controls beyond the discretion of managers is the ultimate limit on resources which can be made available. The most familiar is personnel ceilings or limitations or, more recently, the hiring limitation imposed by the Revenue and Expenditures Control Act of 1968. There is also the overall limit on money which comes down to the managers through budgetary processes.

Availability of skills within our total national manpower resources is also an important limitation. This scarcity causes competition for services in which compensation, mobility, fringe benefits, and job challenges are important considerations. This critical resource requires management's close and continuing attention.

Cost Reduction-Value Engineering Problems

Recently we were asked for our observations and suggestions concerning statements to the Chairman, President's Advisory Council on Management Improvements, relative to the results of Congressman Larry Winn, Jr.'s survey of the effectiveness of cost reduction programs and on the current degree of utilization of value analysis-engineering within the Federal Government. We

share Congressman Winn's view that more can be done to promote cost reduction-value engineering programs within Government agencies.

Because of the significance and the long-range nature of the cost reduction program, we reviewed the operation of the program in five departments and agencies. Our objective was to consider possibilities for improving the program. We concluded that a cost reduction program is a useful tool of management in developing cost consciousness in employees and in motivating the development of cost saving ideas and techniques. We noted that in some departments and agencies the program had been aggressively implemented but that in others little effort had been made to use the program forcefully for the purposes intended.

In 1969 we furnished to the Congress our observations on opportunities for increased savings by improving the management of value engineering performed by Department of Defense contractors. The Department had reported value engineering cost reductions of about \$170 million for the 5 fiscal years through 1968. Many contracts under which value engineering effort was voluntary, however, had not produced the desired results. The contractors had not been stimulated to develop proposals to reduce costs of design and manufacture of products even though they would share in the cost savings.

We believe that new techniques are needed to stimulate the interest and participation of contractors in value engineering. For example, improvements in the value engineering performance of contractors can be achieved if Department of Defense officials will identify

specific programs that are most susceptible to value engineering and will suggest to contractors that they concentrate their efforts on these programs.

Value analysis-engineering and cost reduction programs are needed to insure that opportunities to reduce costs are identified and implemented.

Defense Procurement Problems

During past and present GAO examinations in the research and development areas, we have found opportunities for improvement in the management of the development and procurement of Department of Defense weapon systems. Improvement is needed (1) in the generation and approval of specific performance, schedule, and cost requirements for the end items and (2) in the commitment of material to production and use prior to the completion of development, as evidenced by satisfactory results obtained in all necessary tests.

The first of these problem areas is more simply termed "requirements determination." The second of these areas is commonly referred to as concurrent development and production, or concurrency. These two problem areas are regarded as the basic causes for most of the substandard performance, schedule slippages, and cost overruns which have occurred and continue to occur on major weapon systems.

Deputy Secretary of Defense David Packard emphasized these problems in a memorandum in July 1969 to the Secretaries of the three military departments. He pinpointed three areas of immediate concern: (1) cost growth, (2) a need for increasing insistence on hardware demonstration with less de-

pendence on "paper analysis," and (3) widespread deficiency in the amount of test evaluation of weapon systems prior to the commitment of significant resources to production.

Mr. Packard further emphasized the need for improved management in his address to the Armed Forces Management Association in Los Angeles in August 1970. The major thrust of his message was that:

- Defense should be buying only what it actually needs—not what industry or anyone else thinks it can develop.
- The Department has been overly optimistic on cost estimates and overly demanding in its requirements.
- Industry has been unrealistic in its promises with respect to performance and cost.
- If the Department and industry do not take needed steps, the Congress will try to take them—probably by inflexible rules that wouldn't necessarily provide the best solution.

We have emphasized examinations of the problem areas since early 1967, and the results of this work have been given extensive coverage in congressional hearings and in discussions on the floor of the Congress. The receptivity of the Department of Defense to the results of this work has been excellent.

We shall continue to emphasize management improvement opportunities in our reviews of Defense procurements.

Commission on Government Procurement

In November 1969 the Congress established the Commission on Govern-

ment Procurement to conduct broad studies of the Government's current procurement statutes, regulations, policies, and procedures.

In our opinion, Government procurement is so burdened with complex statutes and regulations and is so interrelated with other governmental, social, and economic programs and policies that substantial improvements can be made which would benefit both Government and business. We believe that the problems have grown out of the following factors.

- In general, the piecemeal evolution of Federal procurement law was designed to solve or alleviate specific, and sometimes narrow, problems as they arose.
- Federal procurement statutes are chiefly concerned with procurement authority and procedures and do not contain clear expressions of Government procurement policies.
- Implementing procurement regulations are voluminous, exceedingly complex, and at times difficult to apply, and they have great impact on the rights and obligations of contractors.
- The level of spending for Government procurement is high. For fiscal year 1968 the Department of Defense alone awarded contracts totaling about \$43 billion for supplies and services which represented about 80 percent of total Government procurement expenditures.

We will give our full cooperation and assistance to the Commission during its study.

Concluding Remarks

I have attempted to outline, in general terms, some of the potentials for improvement in the management of Government activities today. Much of what I have said is not new. But I have dealt with areas which, I believe, are fundamental and need underscoring and emphasis.

These and other improvements are

urgently needed. They are basically your responsibility as managers. We in GAO will do all we can to help by examining into problem areas and assisting in finding solutions. Experience has demonstrated that we can be helpful in the difficult task of managing Government operations. But the major burden of identifying and correcting management problems is yours.

Formal Advertising Versus Negotiation

Due to a printer's error, the author of the article "Formal Advertising Versus Negotiation" (p. 15) in this issue is incorrectly shown as Elmer B. Staats rather than J. Edward Welch, former Deputy General Counsel of the General Accounting Office.

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vertising is the preferred method because it is considered to be the method best designed to obtain the most advantageous contract for the Government and to give all interested parties an opportunity to compete for the Government's business on an equal basis.

In the following article, the author analyzes these methods of procurement and presents the case for preferring formal advertising in Government procurement. The article is adapted from a speech presented before the Washington, D.C., Chapter of the National Contract Management Association on September 16, 1970, on "The Proper Role of Formal Advertising in Securing Competition." Mr. Welch was Deputy General Counsel of the General Accounting Office until his retirement on January 9, 1971 (see p. 101). However, the opinions expressed in this article do not necessarily represent the official views of GAO.

The Armed Services Procurement Act of 1947, as amended, now codified in Title 10, United States Code,¹ provides that purchases of and contracts for property or services covered by the act shall be made by formal advertising in all cases in which the use of such method is feasible and practicable under existing conditions and circumstances.² Is this an appropriate and necessary requirement? The answer has to be "yes." The General Accounting Office has traditionally taken the view that, as a general proposition, formal advertising should be the preferred method of Government procurement.

The Office believes that method is best designed to obtain the most advantageous contract for the Government and to give all interested parties an equal opportunity to compete for the Government's business on an equal basis. The Comptroller General, *Elmer B. Staats*, testified to this effect on April 15, 1969, before Congressman Holifield's Subcommittee at the hearings on the bill, H.R. 474. "To Establish a Commission on Government Procurement."³

GAO's preference for the formal advertising over the negotiation method is sound. It is based on the obvious dif-

¹ 10 U.S.C. 2301, *et seq.* (Chap. 137).

² 10 U.S.C. 2304.

³ Hearings Before the Military Operations Subcommittee of the Committee on Government Operations, House of Representatives, on Government Procurement and Contracting, 91st Cong., Part 3, p. 685.

ferences between the two methods; also on the Office's many years experience in auditing Government contracts made under both methods and in handling the many bid protest cases (about 600 annually) submitted to the Comptroller General for decision.

Formal Advertising Procedure

The elements of the formally advertised procedure are clearly and precisely set out in the act. They are: ⁴

1. "The advertisement shall be made a sufficient time before the purchase or contract."
2. "The specifications and invitations for bids shall permit such free and full competition as is consistent with the procurement of the property and services needed."
3. "The specifications in invitations for bids must contain the necessary language and attachments, and must be sufficiently descriptive in language and attachments, to permit full and free competition." otherwise, "the invitation is invalid and no award may be made."
4. "Bids shall be opened publicly at the time and place stated in the advertisement."
5. "Awards shall be made with reasonable promptness by giving written notice to the responsible bidder whose bid conforms to the invitation and will be the most advantageous to the United States."
6. "All bids may be rejected if the head of the agency determines that rejection is in the public interest."

As indicated, GAO has always considered these provisions to be for the

⁴ 10 U.S.C. 2305.

benefit and protection of bidders as well as the Government. Beginning with the famous *Scanwell* decision of February 13, 1970.⁵ the courts now take the same view. That decision reversed a longstanding rule in holding that aggrieved bidders for Government contracts have standing to sue in the Federal Courts and further that they may sue directly without first protesting to GAO.

In his testimony on the Procurement Commission bill the Comptroller General said that GAO realizes that formal advertising is not "feasible and practicable" in a substantial portion of defense and space procurement and in certain other types of procurement. Furthermore, he said GAO would be the first to concede that, if the Government negotiation procedure were used on the basis of including full discussions with all offerors within a competitive range together with disclosure and comparison of prices and the terms offered by the interested competitors, such procedure could be expected to result in more advantageous contracts for the Government. He then pointed out that the negotiation procedure as set forth in the Armed Services Procurement Act and prescribed by the Armed Services Procurement Regulation ⁶ nevertheless falls far short of being that kind of negotiation.

⁵ *Scanwell Laboratories, Inc. v. Thomas*, C.A.D.C., Feb 13, 1970 (424 F. 2d 859).

⁶ ASPR 3.101 *et seq.* Although this article refers specifically to the Armed Services Procurement Act and the Armed Services Procurement Regulation (ASPR), Title III of the Federal Property and Administrative Services Act, 41 U.S.C. 251, *et seq.*, together with the Federal Procurement Regulations (FPR), provide similar procurement procedures to be followed by the civilian agencies of the Government.

Negotiation Procedure

To understand why this is the case one naturally has to look to the statutory and regulatory provisions which prescribe and limit the negotiation procedure. Under those provisions, price proposals are required to be solicited in "all negotiated procurements in excess of \$2,500 * * * in which time of delivery will permit" and "written or oral discussions shall be conducted with all responsible offerors who submit proposals within a competitive range, price, and other factors considered."⁷ However, there is an important statutory exception to this latter requirement for discussions contained in the same section of the act. The exception applies when the contracting officer determines that, based upon the existence of adequate competition or accurate prior cost experience, acceptance of an initial proposal without discussions would result in a fair and reasonable price, and the request for proposals notifies all offerors in advance of the possibility that award might be made without discussions. Thus, no negotiations of any kind are required to be conducted in many cases. In fact, it is understood that the Defense Department considers the so-called negotiation procedure under which initial proposals may be accepted without holding discussions to be a preferred procedure which should be used whenever possible by the military contracting agencies and that, as a result, the procedure is used extensively.

Although the initial-proposal procedure is referred to as negotiation, it

is quite similar to formal advertising. Yet it is unaccompanied by the usual safeguards required in formal advertising, such as the requirements for (1) public advertising for bids, (2) conducting a public opening where bidders are free to examine the bids of their competitors, (3) furnishing bidders complete and definite specifications under which they and the Government can be assured of competition on an equal basis, and (4) award to a responsible bidder only on the basis of the most advantageous bid which is responsive to the advertised invitation.

It should also be pointed out that in using this procedure not only are the Government and potential contractors deprived of the benefits and safeguards of formal advertising, but the usual negotiation procedures are not required to be followed either. Under the initial-proposal method the requirement for written or oral discussions and the requirement for obtaining cost and pricing data are not applicable and may be disregarded.⁸ The Comptroller General said in his testimony on the Procurement Commission bill that, in GAO's view, these are serious deficiencies in using this method of so-called negotiation.

It is interesting to note from the legislative history of the Truth In Negotiations Act, which amended the Armed Services Procurement Act, that the Department of Defense requested the authority to make an award without discussions to the lowest initial offeror on the grounds that such procedure is

⁷ 10 U.S.C. 2304(g).

⁸ ASPR 3.805-1(a)(5); ASPR 3.807-3(a)(4).

necessary to induce offerors to submit their best price proposals, exclusive of contingencies, at the outset. GAO recommended strongly against including this authority in the act but the Defense Department prevailed.⁹

Obviously, in the absence of a public exigency, any authority or attempt to avoid discussions would be inconsistent with the nature and purpose of negotiation. Negotiation is authorized when it is determined that formal advertising is not feasible and practicable. It would seem that unless an emergency or the need to make a sole source procurement exists, the only situations in which formal advertising would not be feasible and practicable would be those where competition could not be obtained on an equal basis but then it would necessarily follow that the Government's and contractors' interests would require that discussions be conducted with all offerors within a competitive range.

Furthermore, how can the contracting agency accept an initial offer without discussions with any reasonable assurance that the lowest price quoted is fair and does not include any contingencies if the solicitation was not accompanied by specifications sufficient to enable offerors to quote on an equal basis? As indicated, absent an exigency situation or the need to make a sole source procurement, the only justification for not advertising would be the lack of adequate specifications. But, if adequate specifications are not available to advertise, offerors cannot

compete on an equal basis. As an example, without the benefit of adequate and definite specifications for a passenger vehicle one offeror might quote on a high-priced station wagon and his competitor might quote on a low-priced automobile. Therefore, it would generally be against the interests of the Government and the other offerors to accept the lowest initial proposal on the assumption it is truly competitive and quotes the offeror's best price on what the Government really needs.

Additionally, it is hardly reasonable to expect an offeror to submit his best price initially if he has no assurance that negotiations will not be conducted. The request for proposals is required to inform offerors that award might be made on the basis of the lowest initial proposal without discussions as a prerequisite to using that procedure but it does not and properly could not advise them that there will not be any discussions if the procedure is not used.¹⁰ Moreover, it appears to be common knowledge that price leaks are not unusual in negotiated procurements. Complaints concerning price and technical data leaks are so numerous it would be naive indeed to assume that they do not occur rather frequently in negotiated procurement. Because of this situation and the fact that offerors can never be certain discussions will not be conducted, it is quite likely that many sophisticated offerors consider they cannot take the risk of submitting their best prices initially.

Another question presents itself. If the procurement is such that it can

⁹ Public Law 87-653, approved Sept. 10, 1962. Also see Hearings before the Senate Committee on Armed Services on H.R. 5532, 87th Cong., and S. Rept. 1881, 87th Cong.

¹⁰ 10 U.S.C. 2304(g) and ASPR 3.805-1(a)(5).

properly be conducted on the basis of accepting the lowest initial offer without negotiation, how can the contracting agency properly make the determination required by the act that it would not be feasible and practicable to formally advertise? The concept that a low initial offer may be accepted presupposes full and free competition on an equal basis. Consequently, the authority to do so is in direct conflict with the requirement that formal advertising must be used when that method is feasible and practicable.

Other equally serious defects in the Government's negotiation procedure are that in using the procedure the contracting agency can limit the number of potential offerors to be solicited.¹¹ The agency is not only free to operate in secrecy, the procurement regulations require it to do so. The agency is precluded by the procurement regulations from using auction techniques,¹² that is, it cannot disclose pricing or technical information or the number or identity of any competing offerors.¹³ In a great number of negotiated procurements it is solely within the agency's discretion whether to conduct written or oral discussions. The agency is free to decide that it does not have to hold discussions on the basis that it has prior accurate cost experience or has obtained adequate competition. If the agency decides to conduct written or oral discussions it is free to limit the number of offerors it considers to be within a competitive range and therefore will be privileged to participate in the discussions,¹⁴ but

there are no general guidelines as to what constitutes competitive range. When the contracting agency makes the award the only information of any significance it is required to announce is the name of the contractor and the amount of the contract.¹⁵ An unsuccessful offeror can request and probably obtain at some later date a debriefing, that is, additional information why his offer was not accepted, but, since this cannot take place until after the award has already been made, he is virtually precluded from filing a timely protest.

Admiral Rickover's Testimony

Admiral Hyman G. Rickover in testimony of May 13, 1970, before the Subcommittee on the Department of Defense, House Committee on Appropriations, made several observations which conform generally with the views here expressed. He said:

The real problem is the Defense Department's unwillingness to face up to the lack of competition in defense procurement and take the necessary steps to protect itself and the public against overcharging. In 1969 the Department of Defense spent over \$40 billion for military procurement. Of this, \$36 billion was spent in negotiated procurement. Negotiated procurement means that the bidding is limited to a very small number of firms—often only one. More than half the \$36 billion was sole source procurement.

The Department of Defense categorizes nearly all the rest of its negotiated procurements as "competitive-negotiated" contracts. In competitive-negotiated procurements, the Department of Defense can select which firms may bid on the contract, and then award the contract based on the bids received, as if it were a formally advertised procurement.

Competitive-negotiated procurements en-

¹¹ ASPR 3.802-2.

¹² ASPR 3.805-1(b).

¹³ ASPR 3.507-2 and ASPR 3.805-1(a)(5).

¹⁴ ASPR 3.805-1(a).

¹⁵ ASPR 3.508-3.

joy the simplicity of formally advertised procurements without having to bother with the safeguards that protect the Government in non-competitive procurements. For example, contractors under the competitive-negotiated procedure, do not have to provide cost and pricing data required by the Truth-in-Negotiations Act. There are virtually no pricing safeguards in these procurements.

True competition in defense procurement is the exception, not the rule. * * *

Despite this situation, defense procurement regulations are primarily oriented toward treating most defense procurements as competitive. * * * I believe the rules for non-competitive procurement should be applied to all contracts that are not formally advertised.

It is apparent that the Admiral, who is in a position to have firsthand knowledge concerning military procurement procedures, would agree that negotiation as used by the military agencies is not a competitive procedure in any real sense of the word. From the foregoing, it also seems apparent that negotiation does not afford interested parties an equal opportunity to share in the Government's business on an equal basis; can be almost any procedure the contracting agency chooses to make it; is conducted in secrecy and is based on subjective, discretionary determinations; does not in many cases protect the Government against unreasonably high prices; and is provided for by statutory provisions and regulations which are so loosely drawn that the usual safeguards for the protection of the Government and those interested in competing for Government contracts may be disregarded.

Views in Previously Published Article Questioned

This brings into question an article written by *Robert B. Hall, Jr.*, who is

an assistant director of GAO's Defense Audit Division. The article dealt with this same problem area. It was entitled "The Armed Services Procurement Act of 1947 Should Be Reformed" and was published in the Spring 1969 issue of the *National Contract Management Journal*. It received additional publicity and considerable acclaim.¹⁰ Nevertheless, for the reasons already apparent and hereinafter explained, the conclusions and implications set out in the article are for the most part impractical if not unsound.

The article concedes that formal advertising is very efficient in its proper area but, in glaring contradiction, it says that there is "a fetish" for formal advertising and that "formally advertised procurement is out of touch with the real world." Its overall theme seems to be that formal advertising is an antiquated, outmoded, and impractical technique which today has little, if any, justifiable application to defense and space procurement and should not therefore be stated in law as the preferred method. In the same vein it recommends that the act should be "modernized" to make negotiation the rule rather than the exception and to recognize what are said to be the "more relevant methods" of procurement, such as, according to the article, competitive negotiation and single source negotiation.

The article attempts to support its position in favor of negotiation as against formal advertising by quoting a statement from a paper presented at

¹⁰ Reprinted in the Spring 1969 issue of the *GAO Review* and in the May 27, 1969, *Congressional Record*, p. S5684. Reviewed favorably in Letter to Editor published in the Fall 1969 *NMA Journal*.

the 1959 Hearings on S. 500 by an official of Western Electric Company, Inc.¹⁷ The official said that "the solution for business was not to retain an outmoded and impractical technique such as advertised bidding—but to improve the negotiation process." The clear implication is that the same solution would be appropriate for the Government as well as business. However, this overlooks one all-important factor. The Government through rigid restrictions unnecessarily self-imposed, mentioned above, has precluded itself from using meaningful negotiation procedures. Also, the act in its present form may make formal advertising the preferred procedure but it does not make negotiation an exceptional procedure. It devotes more coverage to negotiation than to formal advertising. It authorizes negotiation in 17 different clauses¹⁸ which collectively are sufficiently broad to cover any conceivable method of procurement, including competitive negotiation and sole source mentioned in the article.

This exception objection is a red herring anyway. If there is a problem it is one of form not substance. Suppose the act were amended to provide that contracts shall be made by negotiation except where it is feasible and practical to formally advertise. So far as the language of the act would be concerned, that would make negotiation the rule and formal advertising the exception

¹⁷ Introduced by Senator Saltonstall. It would have amended Title 10 of the United States Code with respect to procurement procedures of the Armed Forces. Although hearings were held, the bill never received any action. See statement by *J. Edward Welch*, Deputy General Counsel, U.S. General Accounting Office, at Hearings before a Special Subcommittee of the Senate Committee on Armed Services, 86th Cong., 1st sess.

¹⁸ 10 U.S.C. 2304(a) (1)-(17).

but the overall effect of the act would remain the same.

The article states that the act as now drafted discriminates against the "more relevant methods" of procurement "by loading on unnecessarily burdensome (and ineffectual) requirements." Apparently the requirements referred to are (1) the requirement that in negotiating certain types of contracts the prime or any subcontractor shall be required to submit cost or pricing data and certify it to be accurate, complete, and current¹⁹ and (2) the requirement that contracting agencies make determinations and findings to support certain types of actions in the negotiation process.²⁰

As to the requirement for furnishing cost or pricing data in negotiating contract prices one needs only to remember the numerous over-pricing audit reports released by GAO which resulted in the enactment of the Truth in Negotiations Act to understand that the need and justification for the requirement outweigh to a considerable extent any additional burden resulting from imposition of the requirement.²¹

Also, considering that the purpose of the requirement for determinations and findings is to assure that contracting agencies make a conscientious effort to justify the actions they propose to

¹⁹ 10 U.S.C. 2306.

²⁰ 10 U.S.C. 2310.

²¹ See testimony of the Comptroller General at the Hearings before the Procurement Subcommittee of the Senate Committee on Armed Services, 86th Cong., 2d sess., p. 146. See also two GAO reports to the Congress: "Examination of Selected Department of the Navy Contracts and Subcontracts," B-132942, July 14, 1959; and "Review of Extent to Which Military Procurement Agencies and Prime Contractors Have Obtained Certifications as to the Accuracy and Completeness of Cost Data Used in Negotiation of Contract Prices," B-125050, Oct. 4, 1962.

take, the value of and necessity for this requirement is apparent even though it too might impose an added burden on the agencies.

Summary and Recommendations

Summarizing then, while formal advertising may not be a perfect system, it is the best yet established when it appropriately can be used. Ample support for this may be found in the fact that the procurement laws of all of our 50 States and the District of Columbia require competitive or sealed bid procedures in making their public procurements, with exceptions being authorized for negotiation in the usual situations such as emergencies and small purchases.²² In view of the defects inherent in the initial proposal authority and restrictions on the negotiation procedure as authorized for use by the Federal Government, formal advertising is the only procedure thus far devised under which real competition in Government procurement can be obtained. Therefore, the requirement to formally advertise in appropriate cases should be retained in the procurement statutes, and application and use of formal advertising should be expanded to every reason-

able extent by the contracting agencies as intended by Congress.

It must be concluded further that the statutory authority to accept an initial proposal without discussions in the negotiation process should be eliminated immediately by an appropriate amendment to the Armed Services Procurement Act. Finally, some way must be found to broaden and relax the restraints now imposed on the negotiation process by the procurement regulations so as to better protect the Government's and contractors' interests.

The act itself does not need to be amended to accomplish these reforms, except for the purpose of withdrawing the authority to accept a low initial proposal. Otherwise, the problem lies with the regulations which implement the act, not with the act itself. The regulations impose the procedural restrictions which make it impossible to conduct true negotiations.

This whole problem is one of great magnitude and is an extremely serious one. It is inherently involved in the procedure used in "negotiating" almost \$40 billion worth of Government contracts a year. That is a great amount of taxpayers' dollars and makes a great number of Government contracts. It is therefore imperative that solutions be found if at all possible in the interest of sound Government procurement. The Comptroller General recognized this in his testimony on the Procurement Commission bill. He said that:

* * * the obvious problems which result from the authorization to accept the lowest proposals without negotiations or discussions and from the complete prohibition against the use of "auction techniques" deserve thorough study and consideration with the view

²² The Bids and Protests Committee of the Section of Public Contract Law, American Bar Association, undertook a "Survey of State Procurement and Protest Procedures" as its 1969-70 project. The survey results are set forth in Report of the Committee on Bids and Protests, June 1970. In the conduct of the survey, 41 States responded "Yes" to the question "Must sealed bid procedures be used," one State replied "No," and eight States did not participate in the survey. An independent check of the procurement laws of the one State which answered "No" and the eight nonparticipating States disclosed that all nine of these States also require competitive bid procedures with exceptions for negotiation in the usual situations.

to determining satisfactory solutions to these problems.

The right to accept a low initial proposal and the prohibition against auction techniques are the main roots of the problem. If that right were abolished and if it were possible to eliminate the auction-technique prohibition and at the same time establish some kind of safeguards to protect contractors

against cutthroat competition, the problem would be substantially solved. In any event, the Procurement Commission which has now been established²³ and is now in operation hopefully will be able to find the solutions and to come forward with recommendations for appropriate corrective actions.

²³ Public Law 91-129, approved Nov. 26, 1969, 83 Stat. 269.

The Legislative Reorganization Act of 1970

By L. Fred Thompson

This important act, passed by the 91st Congress, is 65 closely packed pages long. Many provisions refer to or affect the operations of the General Accounting Office. This article provides a limited review of major provisions of the act.

Examination of the Legislative Reorganization Act of 1970 by Members and congressional staffs and other interested people has resulted, it seems, in opinions of its true effect as diverse as those which the six blind men of Indostan expressed after examining the elephant. Some say its principal significance is its place in history as the first congressional reform bill in 25 years. Others, equally sincere, say that, when put into practice, many of the bill's seemingly mild provisions will have startling effects on the legislative process. Some say the process will be slowed almost to a halt; others believe the process will be quickened and, most of all, enlightened. Somewhere, enthusiasm could be found for almost every provision but so could despair, or at least disdain.

By the time this is printed, the 92nd Congress will have convened under its new rules and these diverse opinions of the skeptics and the enthusiasts will have begun to be tested in the crucibles of practice and time. Wary of speculation in such matters, the writer here

will content himself with a simple discussion of some of the act's major provisions as they appear in Public Law 91-510 and, briefly, its history.

History

Not of premature birth, the Legislative Reorganization Act of 1970 would have been known as the Legislative Reorganization Act of 1966 if it had arrived as planned. The act was first conceived by the Joint Committee on the Organization of Congress after most extensive hearings during the 89th Congress. The Joint Committee's bill, the major characteristics of which are embodied in the bill finally enacted as the 1970 Act, was introduced as S. 3848 and H.R. 17873 on September 21, 1966, too late in the session for consideration and for passage.

S. 355, an identical bill, was introduced in the Senate early in the next Congress and, after 17 days of debate, 31 rollcall votes, and the adoption of 40 amendments, it passed the Senate 75 to 9 on March 7, 1967. Referred in the House to the Committee on Rules, which

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held one hearing on the bill on April 10, 1967, the bill never moved any further during the 90th Congress.

In the 91st Congress, the Senate Government Operations Committee again took the lead and reported out another bill, S. 844, incorporating virtually all the provisions of S. 355, the major omission being a title dealing with the regulation of lobbying. Meanwhile, in both the Senate and the House various reform measures were introduced from time to time but no action was taken directly on any of these bills, including S. 844 in the Senate.

Instead, the House Committee on Rules, perhaps in atonement for having been somewhat negative in its attitude toward reform up to that time, began in the 91st Congress to develop its own bill. An *ad hoc* subcommittee under the chairmanship of Congressman Sisk of California was appointed and, in time, reported out H.R. 17654. Contrary to the predictions of many observers at the time, Congressman Sisk successfully guided the bill through lively floor debates extending over several weeks and the House passed it, with several amendments, on September 17, 1970.

The Senate, after amending the bill to incorporate provisions pertaining solely to its own operations, passed H.R. 17654 on October 6. The bill became Public Law 91-510 with the signature of President Nixon on October 26, 1970.

Aims of the Act

Except for Title IV, which affects only certain internal and housekeeping functions, each provision of the bill

seems to thrust in at least one of two directions:

1. Toward reform of the committee system.
2. Toward providing better information on which to base legislative decisions.

Of these, the General Accounting Office would appear to be affected most by the latter, but, as part of the legislative branch, the Office has more than an idle interest in the committee system and changes in those procedures. Hence, some discussion seems in order.

Committee System Improvements

Readers of the act will note with some distraction that most provisions are stated twice in similar, if not identical, terms—once relating to House committees and once relating to Senate committees. Comity recognizes the unqualified right of each body to make its own rules and, therefore, all the provisions of Title I (as well as certain others) were enacted as an exercise of the rulemaking powers of both Houses, and thus, are stated in each body's own terms and format. All of them concern procedures, authority, or responsibility of committees including, in some respect, the Committee of the Whole House, which is another way of saying the House of Representatives while in session to vote on legislation (for example, sec. 119 permitting, after debate is closed, 10 minutes debate on amendments previously printed in the Congressional Record).

It would be an invitation to argument to attempt a classification of the provisions affecting rules changes as to their relative importance. Disclaiming any attempt at such a classification, a list of

some of the more significant changes would include:

Sec. 102. Permits any three members of a standing committee to demand and obtain a special meeting of the committee even over the objections of the chairman or, for that matter, a majority of the members.

Sec. 104. Requires record and rollcall votes in committee to be made public.

Sec. 106. Prohibits general proxy votes in committee. Under present practice, a member may by proxy permit his vote to be cast at the holder's discretion in the absence of the member. Sec. 106 permits proxies (except on reporting measures by Senate committees) but requires each one to be in writing, specifying the single measure or matter for which it is given.

Sec. 108. Prohibits floor consideration of any bill until printed hearings and committee reports have been available for at least three days (Saturday, Sunday, and legal holidays excluded). A similar provision in the 1946 Act applied only to House general appropriations bills.

Sec. 110. Grants the minority party the right to not less than one-third of the committee's funds for staff of its own choosing. (Applies to the House only but section 302 provides for the minority to appoint two of six professional staff members authorized for committees of both the House and Senate.)

Sec. 111. Requires at least a week's advance public notice of hearings. This requirement can be

overcome by the committee for good cause.

Sec. 112. Requires all committee hearings (excluding those of the Senate Appropriations Committee) to be open to the public except that in certain cases the committee by majority vote could determine otherwise. In view of the fact that, by and large, most other hearings have been open to the public, perhaps the greatest effect of this section will be to open up the hearings of the House Appropriations Committee which have traditionally been closed. Of course, the committee itself may "determine otherwise," in which case, it would seem that this section would merely serve to preclude an arbitrary decision by a committee chairman to close any hearing to the public.

Sec. 114. Gives to the minority the right to call witnesses of its choice to testify during at least one day of hearings on any measure or matter under consideration by a committee. Will this preclude reporting a controversial majority-sponsored bill after "quickie" one-day hearings or even without hearings? It would seem so.

Sec. 115. Provides (for the House only) that a point of order made by a member of a committee will lie with respect to any measure reported by that committee on the ground that sections 111, 112, 113, and 114 above were not complied with in the hearings. This is true, however, only if the member made the point in committee in a timely manner and it was "improperly overruled or not properly considered." Section 115,

insofar as the House is concerned, is the enforcer of the new rules on hearings procedures because, as the House Committee on Rules stated in its report accompanying H.R. 17654, it is unlikely "that, upon the proper and timely raising of a question of order, any committee would continue in an improper manner and risk the question of order being raised on the floor."

Sec. 118. Places greater emphasis than the 1946 Act did on the responsibilities of legislative committees for "oversight," that is, the review and study on a continuing basis of the application, administration, and execution of those laws within their jurisdiction. New with the 1970 Act is a requirement that each such committee submit to its respective body at or after the end of each Congress a formal report on its oversight activities during the past 2 years. Depending on the vigor of its implementation, this section could have an accelerating effect on some committees' activities and might result in greater use of reviews and reports of the General Accounting Office by legislative committees.

Other provisions of the act deal also with the committee system and some of those may prove in time to have more far-reaching consequences than those specifically mentioned here.

To many of the outspoken critics of the committee system, the 1970 Act probably represents only a small step forward. However, an act such as this is not the only means of congressional reform. Those who believe the 1970 Act is not enough are continuing to work

for additional reforms through other means; for example, the caucuses of both majority and minority parties. With the beginning of the 92nd Congress, a strong effort will be made in caucus to change the rules for electing chairmen of committees—the much-maligned seniority system—a change which, if made, could have greater total effect on the committee system than all the provisions of the Legislative Reorganization Act of 1970.

The Search for Information

Without doubt, the major thrust of the 1970 Act is toward providing better information on which to base legislative decisions. Although only Title III is specifically labelled "Sources of Information," all of "Title II—Fiscal Controls" may be said to aim in the same direction. In fact, much of Title I relating to the committee system, as can be seen from the earlier discussion, seems to be designed to contribute in one way or another to serving the need for knowledge and facilitating its use in the legislative process. The committee system provides the refinery through which must pass much of the fiscal and budget data and other information dealt with in Titles II and III.

Titles II and III, taken together, call upon various resources in the executive branch, the General Accounting Office, the Library of Congress, and the staffs of the standing committees of Congress for greater input to the information-gathering and evaluating process.

From the executive branch, an automated, integrated, and standardized data processing system provided for in the act will bring a steady flow of budget and fiscal data to serve all the Govern-

ment's needs, including those of the Congress. The balance of Titles II and III, besides authorizing actual increases in committee staffs, supplements those staffs by mobilizing certain resources of the General Accounting Office for that purpose and revamping the Legislative Reference Service of the Library of Congress into a new semiautonomous organization to be known as the Congressional Research Service.

Budget and Fiscal Data From the Executive Branch--Automation

The Secretary of the Treasury and the Director of the Office of Management and Budget, in cooperation with the Comptroller General as the agent of the Congress, are required by section 201 to "develop, establish, and maintain insofar as practicable, for use by all the Federal agencies, a standardized information and data processing system for budgetary and fiscal data." Section 202 requires the same three officials in the same manner to develop standard classifications of programs, activities, receipts, and expenditures and requires an annual report by Treasury and OMB (with whatever comments the Comptroller General chooses to make) on their progress. The initial classifications are to be established by December 31, 1971.

Concerning this system and the Comptroller General's role, the report of the House Committee on Rules on H.R. 17654 says on page 11:

During the past half decade the executive branch has been developing a system for collecting and analyzing budget data which promises to improve its ability to prepare and to evaluate the Budget. In brief, the system involves identifying basic budget ele-

ments, structuring those elements in standard classifications applicable, insofar as possible, to all Federal agency activities, providing for a regular flow of data pertinent to those classifications, and manipulating the whole by automatic data processing techniques.

This system, it is hoped, will ultimately assist the executive branch in making more meaningful comparisons between the costs of Federal programs and their benefits. Moreover, it will permit the extraction of many other types of specialized information about the fiscal aspects of Federal activities.

Properly constructed, this project can make incalculable contributions to congressional knowledge of the fiscal operations of the Government and enormously enhance the ability of Congress to analyze those operations. It is, therefore, vitally important to the legislative branch that those who evolve the system make adequate provision for congressional needs and applications.

To assure that result, sections 201 and 202 involve the Comptroller General, in effect as an agent of Congress, in the development, establishment, and maintenance of the system. And section 202 instructs the responsible officials to go about their tasks in a manner that will meet the needs not only of the executive branch but of all the branches of the Government.

Apparently, to bridge the gap in time before the automatic system is ready and to provide an auxiliary source of available program and fiscal data, section 203 requires Treasury and OMB to be ready upon request to identify what is available, where it can be obtained and, to the extent feasible, prepare regular summaries of such data.

The Committee Staffs and GAO

In a recent *New York Times Magazine* article, a prominent congressional staff member is quoted as saying:

There is a heartfelt need by members of all other parliamentary bodies—in Germany,

France, England—for what exists only in the Congress of the United States. Those bodies are rubber stamps. If a member is with the Government, he votes for the Government's legislation. If he isn't, he doesn't. They would like to make contributions of their own. They can't because they don't have staffs. The U.S. has—in a way that hasn't been recognized anywhere in print that I know of—responded correctly to what is an absolute necessity for a technological age: a competent staff.

The House Rules Committee report likewise lays great emphasis on the importance of strengthening committee staffs to enable the standing committees (1) to better perform the vital function of keeping watch over the way the laws are administered and authorized programs are executed and (2) to intelligently determine the advisability of enacting legislative proposals and to evaluate the probable results of such proposals and alternatives.

Of major importance to GAO in this regard are the provisions of section 204, as follows:

Sec. 204. (a) The Comptroller General shall review and analyze the results of Government programs and activities carried on under existing law, including the making of cost benefit studies, when ordered by either House of Congress, or upon his own initiative, or when requested by any committee of the House of Representatives or the Senate, or any joint committee of the two Houses, having jurisdiction over such programs and activities.

(b) The Comptroller General shall have available in the General Accounting Office employees who are expert in analyzing and conducting cost benefit studies of Government programs. Upon request of any committee of either House or any joint committee of the two Houses, the Comptroller General shall assist such committee or joint committee, or the staff of such committee or joint committee.

(1) in analyzing cost benefit studies furnished by any Federal agency to such committee or joint committee; or

(2) in conducting cost benefit studies of programs under the jurisdiction of such committee or joint committee.

Although the House committee report refers to Section 204 as "new statutory authority," GAO has not considered that it lacked authority to undertake reviews to determine whether on-going programs and activities are achieving the results intended by Congress. In fact, in the past few years it has undertaken such reviews in increasing numbers including, in some instances, reviews of programs involving administration by more than one agency. The most ambitious undertaking of this nature was a review of the Federal antipoverty program which the Congress expressly directed GAO to do by statute. Although ordinarily GAO would not undertake a task of such magnitude on its own because of the enormous staff effort required, it is reasonable to assume that the express authority contained in section 204 will stimulate GAO to intensify its program evaluation work.

Two other provisions of the act which may become of considerable importance to GAO and the committees are contained in Title II, Section 236, which was incorporated in the act as a result of a Senate amendment, requires the head of each Federal agency to report the actions taken on recommendations included in GAO reports. He must file with the Senate and House Committees on Government Operations within 60 days after the date of the report a written statement of the actions taken by the agency on the recom-

mendations. In addition, the agency head must file a similar statement with the Appropriations Committees with any request for appropriations submitted after 60 days from the date of the report.

Section 252 requires committee reports accompanying bills or joint resolutions to contain:

(1) an estimate, made by such committee, of the costs which would be incurred in carrying out such bill or joint resolution in the fiscal year in which it is reported and in each of the five fiscal years following such fiscal year (or for the authorized duration of any program authorized by such bill or joint resolution, if less than five years), except that, in the case of measures affecting the revenues, such reports shall require only an estimate of the gain or loss in revenues for a one-year period; and

(2) a comparison of the estimate of costs described in subparagraph (1) of this paragraph made by such committee with any estimate of such costs made by any Government agency and submitted to such committee.

This requirement could have considerable impact on GAO if the committees, lacking perhaps the in-house capability to devise such cost estimates, turn to GAO for assistance in preparing the estimates and comparisons. Considering the accounting and fiscal expertise lodged in GAO, it seems logical that this can be expected frequently.

Several provisions of Title II merely write into law practices GAO has followed in its relations with committees and Members of Congress for many years but they represent actions which can materially assist the staffs:

Sec. 231 requires discussion of GAO reports with committees by the Comptroller General to assist the committees in considering proposed

legislation, including requests for appropriations, or in reviewing agency programs and activities.

Sec. 232 requires that copies of GAO reports to the Congress be furnished to the Appropriations and Government Operations Committees, and to other committees who have requested information on any program or activity of any Federal agency.

Under sections 233 and 234, copies of reports must be furnished to any committee or joint committee or Member on request.

Section 234 creates a new reporting responsibility in requiring the Comptroller General to furnish once a month to all committees and Members of the House and Senate a list of reports issued and a cumulative list annually.

In summary, certainly the emphasis the Congress has placed on GAO's potential in Title II for assisting the committees in their legislative and review functions is likely to stimulate greater demand for such assistance.

Congressional Research Service

Section 321 redesignates the Legislative Reference Service of the Library of Congress as the Congressional Research Service and comprehensively redefines its duties and relationships with the Congress and with the Library of Congress.

The new duties of the Congressional Research Service are spelled out in considerable detail but may be summarized as follows:

- Assisting committees in analyzing and evaluating the advisability of

enacting legislative proposals submitted to the Congress by the executive branch, and in estimating the probable results of the proposals and alternatives thereto.

- Informing committees of programs and activities scheduled to expire in the current Congress.
- Providing committees with lists of subjects and policy areas suitable for analysis in depth.
- Making studies having a bearing on legislation, and providing information, research, and services to committees and Members.
- Preparing summaries and digests of bills.
- Preparing, upon request, memoranda with respect to legislative

matters upon which committee hearings are to be held.

There may be occasional instances where the new Congressional Research Service and the GAO will be doing work in the same area. This should not be a problem, however, since the two agencies will be arranging to coordinate their work in carrying out their respective duties. This CRS-GAO cooperation is set forth clearly in the House report on the bill.

Effective Date

The provisions of the Legislative Reorganization Act relating to the General Accounting Office and the Congressional Research Service are effective January 3, 1971.

Evaluating Agency Management

By Gregory J. Ahart

In this article the author addresses himself to the subject of evaluating agency management from the perspective of his background in the GAO and the role the GAO plays in the Federal scheme. The article is based on presentations made by Mr. Ahart on September 21-22, 1970, at the Federal Management Improvement Conference sponsored by the Office of Management and Budget in Washington, D.C.

The GAO, now in its 50th year, has a very broad charter to operate in the arena which is the subject of this discussion. This charter, embodied in the Budget and Accounting Act, 1921, is to "investigate * * * all matters relating to the receipt, disbursement, and application of public funds" and to "make recommendations looking to greater economy and efficiency in public expenditures."

Because the essential mission of agency management is the effective and efficient marshaling and utilization of public resources—monetary resources and the physical and personnel resources acquired therewith—toward the accomplishment of public objectives, our job in the GAO clearly involves evaluating agency management and making suggestions and recommendations for its improvement.

GAO's Role

Being in the legislative branch, and clearly independent of executive branch agencies, it is easy to distinguish GAO's role from that of agency management. Also, although our modes of operation are often quite similar, it is easy to distinguish our role from that of the executive agencies' internal audit, inspection, or other management evaluation organizations. From our perspective, such organizations, set up by agency management to be directly responsive to its needs, constitute part of the agencies' management systems and are subject to our evaluation as such.

Our role is more analogous to that of the outside public accountant who is brought in by the corporate board of directors to examine into and render a report on the accountability of cor-

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porate management. As we define our role, however, it goes beyond "fiscal accountability," relating to the quality of accounting practices and the integrity of financial reporting, which is often the principal focus of the outside accountant's service. Our role extends to what may be called "management accountability," relating to the efficiency with which resources are used, and "program accountability," relating to the effectiveness of program operations in accomplishing objectives.

In essence, our job is to serve the Congress by assisting it in the exercise of its constitutional responsibility for overseeing the use of public resources. The fact that our prime responsibility is to the Congress does not, however, mean that we cannot, should not, or do not serve agency management, anymore than the fact that an internal audit organization's prime responsibility may be to the head of a department or agency means that it cannot, should not, or does not serve lower management echelons. We play different roles, but we have a common objective—to endeavor to see that the objectives established through our democratic political processes are achieved and that they are achieved as efficiently and economically as possible.

Application of Resources

At the present time, the GAO has a professional staff of about 2,700, located in Washington, D.C., in field offices throughout the country, and in several offices overseas. Our audit responsibility extends to each of the 12 departments and numerous independent agencies in the executive branch, which, with bud-

gets aggregating approximately \$200 billion, are engaged in the full spectrum of Federal activity.

Our work is carried out not only at the departments and agencies themselves, but at those organizations with which they have contractual or other relationships. These organizations are of many types and are engaged in a great variety of activities in support of Federal or federally assisted programs. They include:

- Private contractors performing research, development, and/or production operations in support of defense, space, nuclear energy, and other programs.
- The many units of State and local government through which Federal funds are applied to a great number of purposes, such as transportation, housing, health, education, and the alleviation of the plight of our low income population.
- A great variety of educational institutions, standing both as recipients of Federal funds in aid of educational goals and as performers in support of many other types of programs.
- Health care institutions, such as hospitals and nursing homes, which provide care to eligible persons under a number of programs.

The list could go on.

The preceding perspective of the scope of our job is important to what is meant by "evaluating agency management" from GAO's standpoint. With rather limited resources, we obviously cannot, even over a long period of time, evaluate agency management in any

total sense. We have to be selective in our approach.

In fact, you might call us opportunists because, to the extent that we can, we deliberately apply our efforts where we judge we have the greatest opportunity to stimulate improvements. Our judgments in this regard are based on several factors, including, of course, indications of weaknesses in program management or a low level of program effectiveness; our past experience with the agency concerned or with the program or type of program involved; the degree of congressional and public interest in the area; the amount of Federal money involved or other measure of significance; and, by no means the least important factor, the attention which has been given to the area by others, including the agency's internal audit organization.

Management Evaluation Process

The process of management evaluation is not easy to define. As I've indicated, we start with a general assessment of a program area or an activity from the standpoint of the likelihood of our having an opportunity to make a significant contribution. From that point on, the process involves gathering and assessing information to more specifically define just what opportunities are present and which should be pursued.

At this stage of the game, we try to keep a broad viewpoint. We have to gain a good understanding of what the program or activity is intended to accomplish. We have to get a good knowledge of the policies established either by

the Congress or by the executive branch to govern the manner in which the program or activity is to be conducted. We have to know the organizational framework and the assignments of responsibility and authority. And we need to know what mechanisms management has established to assure that the program or activity is carried out as intended and to inform itself as to what is being accomplished.

Lack of clarity in or inconsistencies among stated objectives or policies, or questions as to their relevance to current conditions; fuzziness in lines of authority and responsibility; gaps or indicated weaknesses in the management control system; or the absence of reliable information concerning the utilization of resources or program accomplishments—each of these is a clue to where productive efforts can be applied.

Establishing Credentials

For the evaluator, the process of gathering and assessing information, identifying his evaluation objectives, and proceeding to make his contribution is not an easy task. He must, if he is to do his job well, educate himself in what is often an unfamiliar program area—in a very real sense he must create his own credentials. He must learn enough to be able to identify a problem area, to judge its significance in terms of either economy and efficiency of operation or program effectiveness, and to reach some conclusion as to what might be done, and by whom, to correct the situation. He must do his job well enough to convince agency management, or often the Congress,

first, that the problem exists, and second, that it is important enough to warrant attention and action. It is his skill in doing this type of analysis and demonstration, together with his independent viewpoint, which he brings to the scene.

Psychological Aspects of Management Evaluation

References sometimes made to the "defensive management syndrome" and to the "prosecuting audit syndrome" bring in the psychological aspects of management evaluation. I don't think either syndrome should have a place in the Federal Government today, and I would hope that they are going out of style. But that the syndromes might exist in some degree is not hard to understand. The evaluator or auditor gets his satisfaction out of successfully stimulating an improvement. To do this he must demonstrate that something is not as it should be—that something needs improving. It's somewhat natural in this circumstance for someone to perceive the evaluator's job as one of getting the goods on somebody, utilizing the so-called killer instinct.

The manager, on the other hand, in whose domain the evaluator is working, tends to be somewhat apprehensive, not knowing just what the evaluation will disclose and to what extent his performance might be criticized, not so much by the auditor but by higher echelons of management or by some congressional committee. I'm sure most managers think that they are doing a good job, and I'm equally sure from my experience that, on balance, most of them do a good job given the conditions

under which they operate. It's natural that they tend to be a little defensive of the way they run their operation.

It used to be said, and perhaps still is, that the two biggest lies in the world are told when the GAO auditor has his first meeting with the agency manager. The first lie is when the GAO type tells the manager that he is there to help him. The second is when the manager replies that he is glad to have him.

I hope that these "lies" are becoming closer to truth; I feel sure that the trend is in that direction. The independent evaluator, whether he be GAO or internal audit, has a valid and useful role to play. He looks at things from a different vantage point and can and does see things which have been overlooked by agency management.

The manager, at whatever level, must recognize this and strive to use the evaluator's input to the greatest advantage from the standpoint of the public good, which of course operates in his own best interest as well. Actually, the best defense against the auditor's findings—if defense is the proper word—is to consider the findings as objectively as possible and do everything possible to effect corrective action where indicated.

The evaluator's best approach, it seems to me, is to recognize that the greater the extent to which he can achieve management's respect and cooperation through a constructive and fair attitude, avoiding anything which might be viewed as vindictive, the greater his opportunity to successfully do his job. Management at any level, as you may know, can make the auditor's job pretty tough if it wants to.

Need for Effective Communication

The proper relationship is enhanced through real communication between the evaluator and the evaluatee, and at the appropriate organizational level. The manager, if he is to appreciate the evaluator's effort, has to know what the objectives are and has to have a timely opportunity to react to and take action on the evaluator's findings. The evaluator, on the other hand, needs to pick management's brain, so to speak, sometimes rather extensively, to assist in his determination as to whether he is on the right track and whether his ideas for improvement have real merit and are workable. He has to realize that, just as the outsider brings a fresh and independent point of view to the situation, there are often factors known to agency management which are not so obvious to the outsider and which may have a critical bearing on his case.

When we in GAO propose to issue a report to the Congress or, often, when we propose to issue one to a department or agency head, we follow the practice of furnishing a draft of the report to the agency concerned for its review and comment. This practice gives the agency a chance to critically review the findings and conclusions presented in the draft and to officially respond to the recommendations for actions by the agency itself or comment on recommendations to others, such as the Congress. In fact, every organization that might be affected directly by the report is generally afforded this opportunity, including State and local agencies, contractors, and so on.

If our job has been done right, the

contents of our draft reports should come as no great surprise to these parties. Our staff is expected to discuss tentative findings and their significance with responsible people in the entities being audited, both during the review and, upon completion of the review, in a formal exit conference. At the latter point, our thinking as to what action seems to be in order should be fairly well firmed up. Ideally, these discussions should be held at the management level that is in a position to take action for the agency, if action is necessary, or in any case to respond authoritatively for the agency or other entity.

This practice has great advantages, both to the evaluator and to the agency. The evaluator has the opportunity to modify his thinking where the agency or other organization offers information not previously considered or, perhaps, points out where information has not been considered in the proper light. The agency or other organization in turn has the opportunity to act in a timely manner on the information and suggestions brought forward by the evaluators.

Importance of Validation

The importance of validation in the process of evaluating agency management also must be considered. The various echelons of management, in the agency, in the executive branch generally, and in the Congress itself, need to have a reasonable degree of assurance that the information upon which they act is reliable.

Often we think of the function of validation in the context of the classi-

cal financial audit, which has as its objective the rendering of an opinion on the financial statements of an enterprise. The financial audit is important and we engage in it quite extensively, although principally in connection with government corporations and other business-type government enterprises.

The validity or reliability of other information—particularly information as to what is actually being accomplished as a result of a program or activity—is just as important and often, perhaps, more so. Often, we in the GAO find that the case is not so much one of misinformation being used by management but, rather, a case of information on some important aspect of its activities not being available. The mission of the evaluator in this case is usually one of simply pointing out that some class of information is not available and demonstrating why it is important to the management of the operation.

Questions To Be Answered

In conclusion, I'd like to briefly summarize the types of questions the GAO tries to answer in its work in evaluating agency management.

—Is the program accomplishing the results intended as spelled out in the governing legislation, the legislative history, or the implementing directives of the executive agency?

Or, perhaps, does the legislation and other relevant expressions of intent provide adequate guidance to the agency as to the objectives of the program and the manner in which it is to be conducted?

- Is the program or activity being conducted and are expenditures being made in compliance with requirements of applicable laws and regulations?
- Will the intended results be accomplished within the costs anticipated at the time the legislation was enacted?
- Does top management have the essential information to exercise supervision and control and to ascertain direction of trends?
- Have clear lines of authority and responsibility been established?
- Does management have adequate internal review or audit facilities to monitor program operations, identify shortfalls, and assure integrity?
- Are there opportunities to improve economic efficiency?
- Are there overlappings of jurisdiction and duplications of effort which serve no useful purpose?

These are questions which I think all of us should try to answer in connection with our work, whether we are agency managers, internal auditors, or auditors from the GAO.

Let's Recognize Depreciation in Government Operations

By William A. Paton

A renowned teacher and author in the fields of accounting and economics, and a former consultant to the Comptroller General, turns his attention to the knotty question of accounting for depreciation in government operations.

Depreciation accounting has developed largely in the area of private business, including the public utilities and other enterprises subject to government regulation. Systematic recognition of accruing depreciation is still widely neglected in the accounting of governmental entities—local, State, and Federal. The writer believes, however, that this state of affairs is not fully justified, even when it is admitted that government operations often have characteristics which set them apart from the typical private business concern.

Where government is engaged in an ordinary, revenue-producing activity, such as the production of electric power for sale to individuals, other governmental agencies, or private business

organizations, there is a strong presumption in favor of accounting and reporting on substantially the same basis as is standard practice for private companies. In other words, for such government operations it seems quite clear that there should be periodic comparisons of revenue received or earned with the total cost incurred in acquiring the revenue, and where depreciable plant is required this means the recognition of depreciation—plant capacity consumed—as an element of such total cost. This position is sound even where the financing of replacements is in full or in part taken care of by funds acquired from other sources than customers. It is also true where the price charged some or all of the customers is

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not strictly comparable with the price being charged in the same market area by private producers (generally an undesirable condition). Those in charge of government business, like the managers of their counterparts in private enterprise, want to know what the costs of production are from period to period for purposes of determining net earnings, developing internal operating controls, comparing results with those achieved by private companies, and formulating and reviewing general policies.

Where government activities provide services or functions for which no charges are regularly made to those benefiting from the operations (except in the form of taxes, which may be levied with little or no relation to benefits received), the case for complete cost accounting is not as obvious. In these situations, however, it is still reasonable to assume that good administration and efficient use of resources are objectives, and that accordingly it is desirable to determine periodically the full costs of production, by operating departments and for the responsible government agency as a whole. As will be emphasized later, the view that, where the activity is not expected to pay its way, it doesn't matter what the costs are is not acceptable.

The subject of depreciation is usually discussed primarily in terms of the business enterprise engaged in producing and selling a product on the market, with the overall expectation that revenues will be sufficient to cover all costs incurred and provide a level of earnings sufficient to attract capital to the particular undertaking. It may be insisted, however, that the nature of deprecia-

tion cost—plant capacity consumed—does not vary as between private operation and government activity, and that the technical accounting procedure for recognizing depreciation that is appropriate in the private business area is generally applicable in the government sector.

Service Life

There is some tendency in government economic activity to ignore or minimize the risk factor, particularly with respect to the probable service lives of government plants and installations. This tendency is fostered by the monopolistic and relatively sheltered status of many government operations. Those in charge of such operations not only don't always feel a strong pressure in the direction of efficient performance but they also often have a feeling of relative freedom from the impact of the technical and economic developments that force private managements to change their methods and replace existing facilities with more modern structures and equipment. There is also the fact that in the case of some government activities, notably water resource projects, an installation can reasonably be expected to have a long *physical* life. Thus a structure such as a dam may well be built to last a century or more as far as the material condition of the property is concerned, and it is a temptation in such cases to shift from a financial to an engineering point of view in dealing with the problem of service life in the determination of periodic depreciation.

The fact is that "property" in general is an economic, not a molecular, con-

cept. It is true that physical deterioration has a bearing on economic service life in many cases, but the process of depreciation is the expiring of the capacity to render service, not the using up of the material of which the asset is composed. It is not the brick wall as such that we are concerned with but the function or service that the wall can render in a certain setting. And when conditions make it impossible for the wall to continue to render service it is 100 percent depreciated (ignoring a possible net salvage) regardless of physical condition. In other words, the brick wall is nothing but hard dirt, usually in the way, when it no longer has economic usefulness.

It is also an incontestable fact that in American business operation through the past 50 years the impact of "wear and tear" has been a minor factor in the decisions made to retire the old and install the new, especially in the area of substantially built structures. Every time I visit New York or any other large city I see buildings of relatively modern type, of reinforced concrete construction, being torn down to make way for larger and still more modern buildings, often adapted to new uses. Indeed it is rather amazing, in view of the actual developments of recent decades, to find so many people whose thinking regarding service life is still dominated by the physical condition conception.

The essential point is that government activity is not immune (or certainly should not be regarded as immune) from the impact of changing conditions that are so fully manifested in the history of depreciable assets in the private business field. And this is

true even when we are considering such a property as a well-built dam on a river. No one knows how long such a structure will render service, and it is surely dangerous to treat it as having an indefinite life. Population shifts, new technical developments, changing regional weather patterns—these and other factors are likely to result in loss of capacity to render service long before the structure has suffered serious physical decay. Who would have predicted 30 years ago, for example, the great improvement in the efficiency of coal-burning electric generating plants—an improvement so marked as to make such plants, even in many areas where water power is available, superior to typical hydroelectric installations? And now we are seeing the beginnings of a still more striking development, with a tremendous potential, in the form of nuclear powerplants.

No rigid rule can be laid down for all cases, but I can see no justification for estimating the effective service lives of dams or other government structures or plants in excess of 40–50 years, at the most. Assuming longer lives is equivalent to ignoring the risks of change inherent in the situation. Past experience in this country supports a conservative position in this matter, and recent amazing scientific progress suggests that we may see even more rapid changes in the future. Productive efficiency in either private or government operation appears to be depending more and more on keeping abreast of technological and other developments. And the moral in measuring depreciation is: avoid nonconservative estimates of service life in both

government and private sectors. Above all let's not make the silly mistake of assuming that government can be expected to continue to make enormous investments in depreciable structures and equipment, with no pressure on those in charge to operate efficiently and keep in step with the technological advance. This is acutely dangerous philosophy in the military area; and it represents poor administration of our economic resources in any other field of government operation.

Methods of Spreading Depreciation

With respect to the spreading of the total depreciable amount over an estimated service life there is very little that need be said here. This subject has been discussed at great length—and somewhat fruitlessly—in accounting and financial circles for many years. In general there are only four main types of procedures, as follows:

1. Spreading strictly in terms of elapsed time from date of installation—the well-known “straight-line method.”
2. Spreading on a decreasing-charge basis (heavy charges in the earlier years with a gradual tapering off as the property becomes older). There are several systematic plans that have been proposed, and this approach has received increasing attention since it has been explicitly recognized—in some forms—in the Internal Revenue Code.
3. Spreading on an increasing-charge basis—as provided by various

forms of the “interest method.” This approach has never been popular in practice.

4. A fluctuating charge in terms of periodic activity (for example, spreading the depreciation of a truck in proportion to ton-mile performance).

Those in charge of government activity, like private managements, should give careful attention to this subject, and there is no good reason for assuming that a method which can be demonstrated to be sound and realistic in private business should be taboo in government operation. It should be borne in mind, however, that since government enterprises are not in general subject to income taxation, government managers are free from the anxieties and compulsions of the tax structure which press heavily on private business managements.

On the whole the simple straight-line procedure, with service life conservatively estimated, seems to be generally acceptable in government activity.

Cost Accounting in Government Enterprises

In the above discussion it has been indicated at several points that there is good reason for periodic determination of the full cost of carrying on government activities, including those operations which are not dominantly revenue-producing enterprises. This subject is of such importance, and so controversial, that it deserves some further emphasis.

In the case of projects which are

intended to be self-sustaining, like a typical private business enterprise. The case for complete cost determination, including depreciation (plant capacity consumed), is very strong and need not be further stressed. Many government commercial enterprises, it is true, are not fully comparable with private concerns, due to pricing products below competitive market level, partial financing through government appropriations, "civil service" employment conditions, ability to issue bonds with interest tax free, and so on. On the other hand there are examples of governmental "authority" activities, particularly at the non-Federal levels, that are self-supporting, with respect to both initial and subsequent financing, to which the terms, classifications, and procedures that are used in private accounting are quite clearly applicable. In any event it may be permissible at this stage to assume that the case for systematic recognition of depreciation and full costing is sound and essential in all government activities in which a dominant characteristic is the production and sale of some commodity or service.¹

Let's turn, then, to the case of activities that either produce no explicit revenues or in which the revenues are nominal or incidental. A dam built with Federal funds (that is, funds raised by the Federal Government) solely for flood control or recreational purposes is an illustration. Those in

charge of such an operation may argue that it is rather silly to go to the trouble of computing periodic depreciation on the assets committed, since there are no revenues against which to charge costs, and no earning power, and hence no possibility of providing funds for current operations, or for replacement and expansion, otherwise than from governmental grants. However, this point of view, although not surprising under the circumstances, is not justified and should not be permitted to dominate the thinking of either project officials or legislative and other interested government bodies.

The fact is that full cost determination becomes of special importance in a non-revenue-producing operation. Whether it is wise for the service provided by the operation to be furnished free to the persons, enterprises, or area interests in a position to take advantage of it may well be a moot point. But certainly it can't reasonably be assumed that in providing "free" services of one kind or another we are going to throw overboard all considerations of maximizing the usefulness of the scarce funds committed to the undertaking. The United States is not blest with such an abundance of savings—as current high levels of interest rates make very plain—that the country can afford to throw money around, in huge amounts, on projects that are never subject to review or financial evaluation. "Effective utilization" and "first-class performance" are goals that should never be ignored where a substantial amount of productive resources (including current operating funds) is required. Some may question this

¹ It should hardly be necessary to point out that statements of operation of government enterprises reported to legislative bodies or other interested parties should avoid the use of such captions as "net income" unless all significant costs, including depreciation, are in fact deducted in arriving at the net results of operation.

position but it is hard to see how it can be ignored as a matter of public policy in a world of scarce resources, with competitive pressures from the outside bearing down heavily, and increasingly, on our economy at almost every point.

The simple fact is that where a project is not specifically revenue producing and is entirely free from the pressures and controls afforded by the market, there is an especial need for accurate, complete cost determination. For such projects the only available financial measure, for the purpose of judging performance or providing a basis for periodic review and appraisal to legislative and executive branches of government, is the cost of the project. Moreover, it is not sufficient to determine such cost haphazardly, occasionally, or carelessly. What is needed is regular, complete cost determination, at the least on an annual basis.

It may also be noted that good cost accounting for a nonrevenue project requires much the same type of cost classification that is generally useful in revenue-producing operations, public or private. Only by observation of well-classified costs, as compiled from period to period, is it possible to test the performances of particular persons and operating functions and departments.

There is another phase of cost measurement pertinent to government operation that might be mentioned. Where such an operation is free from taxes, acquires funds at an interest rate materially less than the prevailing rate in government financing (as in the rather notorious REA case), or enjoys other indirect advantages and subsidies, there

is much to be said for periodic computations of the amounts by which the explicit costs of operating the activity would be increased if the effect of such concealed advantages were taken into account. This point applies, of course, to both non-revenue- and revenue-producing operations, and is especially important in the latter type of case.

Impact of Inflation on Computation of Depreciation

The significance of replacement cost and the problem of measuring the "actual cost" of plant capacity consumed under inflation conditions also deserves attention. In the writer's opinion there is a particularly strong case in government operation for conversion of recorded plant costs to current dollars in the process of measuring depreciation expense. From a management standpoint, including the broad question of effective allocation and utilization of available resources, the true cost of plant capacity can be ascertained only by expressing such cost in current dollars, the prevailing monetary unit, and the yardstick in which the other costs of operation—employee services, materials, and supplies, etc.—are expressed. Failure to adopt some form of conversion procedure, during a period of severe and persistent increase in the price level, means that depreciation cost, and hence total operating cost, is understated.

In governmental enterprise there is special reason for stressing the managerial point of view, particularly in those activities that are not primarily revenue producing. Where an enterprise is selling a product on the market on a

competitive commercial basis, the prices determined by the interaction of market forces furnish a considerable measure of guidance to those in charge of operation as well as a means of appraising the degree of success achieved from year to year. In government enterprise the thermostat of the market is generally either entirely inapplicable or is present in an impaired form, and hence—as previously stressed—the data of cost of production become especially important for control and evaluation purposes. It may also be noticed again that since government enterprises are in general not subject to income tax, the people in charge of such operations don't need to worry about restrictive tax rules in setting up their accounting systems and in measuring costs. In other words, in government tax-free operation there is every opportunity to move in the direction of the highest possible standards of managerial financial measurement.

In the case of relatively long-lived government plants, such as are characteristic of water resource projects, there is a very special reason for recognizing the basic impropriety of computing depreciation cost in terms of originally recorded dollars without conversion to the common denominator of the

current dollar. Here the difference between the purchasing power of the monetary unit in effect when a dam—for example—is constructed and the monetary yardstick in effect many years later is likely to be very substantial. A dollar invested in the building of a dam in 1940, for example, represents more than twice the economic significance of a "dollar" so invested in 1970. In contrast, the error made in the conventional computation of depreciation in the case of short-lived depreciable assets is much less serious.

In the field of government operation and cost determination, to repeat, there is a great opportunity to set the pace in sound financial measurements, as opposed to the prevailing policy of ambling on behind, and rather reluctantly at that, the practices found in private business enterprises. A notable example of this opportunity exists in the area of depreciation measurement under inflation conditions. The United States at present is the only important industrial country in which there has to date been an almost complete failure to adopt appropriate procedures for taking into account the change in the value of the monetary unit in determining true plant cost and periodic depreciation.

The Role of GAO in the Seventies and What GAO Is Doing To Prepare for It

By Harold H. Rubin

This article is based on an address made by the author on May 8, 1970, before the Quad-Cities Chapter of the Federal Government Accountants Association, Rock Island, Ill.

It is impossible to begin to assess the role of the General Accounting Office in the seventies without taking a moment to reflect on the period which preceded them—the decade of the sixties. Unprecedented growth, both in population and in the economy; rapid technological advances; and new social awareness and reforms keynote the major trends of the past decade and provide a key to what lies before us during the seventies. Throughout the past decade the role that the Government plays in the life of an individual and in the foreign arena has increased.

The 1960 Decade

In order to provide services for a population which has increased from 180 million in 1960 to over 205 million in 1970, the Government's fiscal budget has doubled from its \$101 billion level in 1960 to \$200 billion for the present fiscal year. Much of this increase is for

programs which did not exist in 1960, or for programs which have undergone rapid expansion during the last 10 years. In 1960, we had just orbited our first artificial satellites, yet only 10 years later four men have walked on the moon.

The price of social conscience has been high. Ten years ago the Model Cities program and the Office of Economic Opportunity did not even exist and the term "antipoverty" was little known. In 1961, the Department of Health, Education, and Welfare administered about 100 programs with annual outlays of \$16.2 billion. This Department now administers some 275 programs involving about \$46.8 billion annually—approximately a triple increase! Similar increases have occurred in the Department of Housing and Urban Development; and Federal aid to State and local governments, which rose from \$7 billion in 1960 to \$25 billion

Mr. Rubin is the associate director of the Defense Division responsible for GAO work on research and development programs and activities. Prior to his assignment to the Washington office, he served as regional manager in St. Paul, Minn., and in Dayton, Ohio. He is a CPA (Illinois) and has been with the General Accounting Office since 1936.

in 1970, is expected to triple during this decade.

Today's Problems and the Budget

Probably the most vital problem today involves pollution; that is, trying to live in the ravaged environment which we, through our affluence and wasteful extravagance, have created. People are becoming increasingly aware of the fact that plentiful supplies of clean air and water, which we previously took for granted, are commodities that are becoming increasingly short in supply, and they are demanding that action be taken to protect those areas of the United States which are still clean and to clean up those areas which have been ruined through the neglect of both the Government and the private sector. Government expenditures for air and water pollution control were over \$1.2 billion during the sixties; the future costs of combating water pollution alone are unbelievably huge.

There has been a growing awareness of these problems and a recognition of the need to spend a substantial part of our resources to overcome them. However, other governmental costs have also continued to rise. Thus the need to devote a greater portion of the national resources to essential nondefense programs has to a great degree stimulated the extreme concern over the size of the Defense budget and its mission and goals.

Evolution of the GAO Audit

These various changes have had a very significant impact on the opera-

tions of GAO, particularly as they affect its future activities. Two of the principal responsibilities of the Office are to make independent audits and reviews of the executive branch and to provide assistance to the Congress. Our activities in both of these areas have been changing rapidly and are likely to continue to change.

Our approach in conducting audits and reviews has changed materially since I began with the Office many, many years ago. And, although these changes have been accompanied by outcries that we are intruding into areas outside our competence and jurisdiction, there has been eventual recognition that the new audit approach is desirable.

Thus, when we embarked on a review some 15 years ago into how the Air Force computed its needs for aircraft engines, we ran into general resistance on the basis that this was an area requiring expertise beyond the capabilities of an auditor. However, as our audit revealed the need for improvement in the management of the requirement computation process and led to savings of vast sums of money, it became evident that this was an area which probably should have been explored earlier. At any rate, the audit of material requirement computations has become a recognized area for internal as well as external audit.

I cite this case to illustrate the evolutionary nature of the GAO audit. Our audit used to be more of a fiscal nature, primarily designed to account for the money spent rather than to be concerned with the merits of the expenditure. Now the audit is directed more to-

ward evaluation of the effectiveness of the management of the program and appraisal as to whether it is achieving the planned program results. It is quite clear, from the events of the last several years, that this shift in audit emphasis will continue—and probably will accelerate—during this decade.

Reorganization of Defense Division

Let me illustrate by describing the changes that occurred in our Defense Division in its reorganization in June 1966—about 4 years ago. Prior to this change, the Division was organized on a departmental basis—Army, Navy, Air Force, and DOD. In order to permit a more penetrating analysis into certain areas on a Defense-wide basis, particularly those areas which had received relatively little audit attention, the Division was reorganized along functional lines.

Of the seven functional groups that were established, I had the good fortune to be given the responsibility for directing a very challenging one—and also a very frustrating one—namely, research and development. Four years later we are still conducting research and development into how we can be most useful in this nebulous area.

Approach to the Audit of R&D

The term, “research and development” covers a multitude of diverse projects, ranging from a relatively inexpensive scholarly study at the university level to a multibillion dollar conglomerate involving a myriad structure of industrial giants and Government

agencies, such as the SAFEGUARD antiballistic missile program.

In addition, there are many related activities that must operate cohesively in order for the research and development effort to be useful and for the results to be properly used. Of course, appropriate organizational arrangements and well-stated policies and procedures are needed, as is true for any operation. But, in addition, because R&D is expensive not only moneywise but also in the use of scarce talents, it is essential that there be some means of coordination of the many studies going on simultaneously so as to avoid unnecessary duplication of effort.

Consequently, in order to develop some expertise in this area and at the same time to produce some worthwhile results, we have delved into various aspects of the R&D spectrum. Some of our studies have been of a somewhat traditional nature, such as reviewing the utilization of laboratory equipment. Other studies have required a more radical approach. It is the latter type of audit activity which I believe is likely to expand during this decade.

As I mentioned earlier, two of our principal responsibilities are to make independent audits and reviews of the executive branch and to provide assistance to the Congress. These responsibilities are closely related inasmuch as an essential objective in our independent audits and reviews is to provide assistance to the Congress. Thus, we bring to the attention of the Congress the results of our self-initiated work which we believe merit consideration, and we also provide service to the Congress in response to specific requests.

Two actual cases will help to clarify how we conduct these roles.

The Sheridan Reconnaissance Vehicle

The first case concerns the Sheridan Reconnaissance Vehicle which was developed under the direction of a project manager stationed at the Army Weapons Command in Rock Island. This audit involved some very fine and imaginative work on the part of two GAO auditors, *Lee Stevens* and *Ray Hautala*, stationed at Rock Island.

Shortly after the survey began, our staff noted that the Sheridan vehicles were being placed in storage after production because of the lack of acceptable ammunition. We also noted that the M-60 tanks were being modified to use the same turret and ammunition as that planned for the Sheridan. It seemed to us somewhat illogical and unnecessarily expensive to continue to produce the Sheridans and to modify the M-60 tanks when there appeared to be insurmountable problems in developing safe and suitable ammunition. We met with the Vice Chief of Staff of the Army and with officials of the Office of the Secretary of Defense to discuss this situation and were informed it would be given thorough consideration. We then wrote to the Secretary of Defense and were informed in reply that programmed quantities had been reduced or canceled.

Up to this point we merely had determined that a problem existed and had alerted top management officials to the need to consider this problem and to take appropriate corrective steps. Our

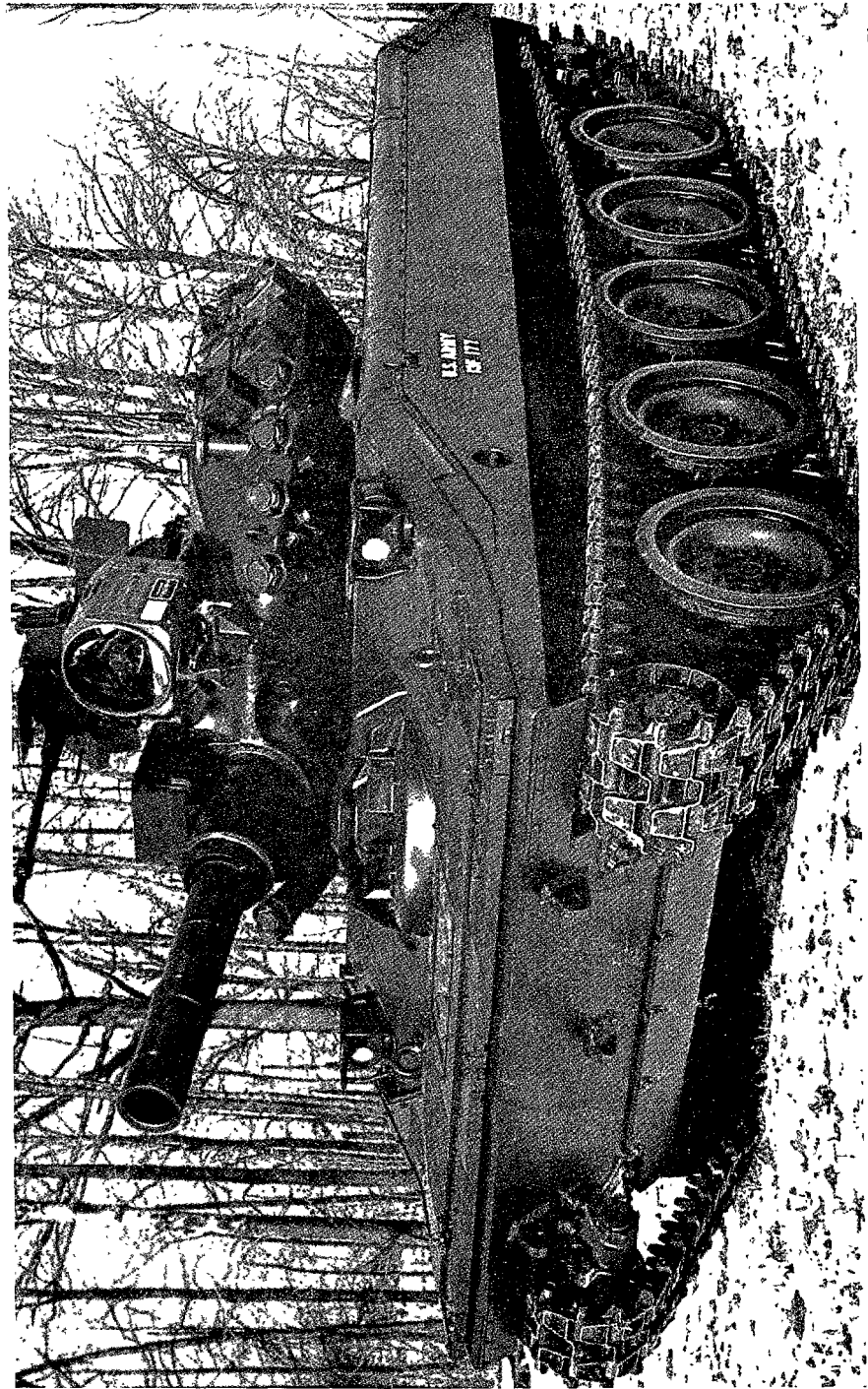
next step was to find out why the problem occurred and what could be done to preclude recurrence of such problems. This phase of the audit required extensive work in many locations.

In the meantime, the staff of the House Committee on Armed Services had become aware of the imbalance in the Sheridan program and had asked us for information on this matter. Consequently, shortly after our draft report was sent to the Secretary of Defense for comment in February 1969, a special subcommittee began hearings which continued into April 1969. We testified at these hearings and, pursuant to requests, provided assistance to the subcommittee staff in preparation for testimony by Army representatives.

Main Battle Tank (MBT-70)

Thus, in this case, an audit initiated by GAO led to a major congressional review. This then led to a congressional request for a special GAO review of the Main Battle Tank, 1970 program, a cooperative tank development plan conducted jointly by the United States and the Federal Republic of Germany.

The request for a special GAO review of the MBT-70 program arose during the heated debate on the Senate floor on the fiscal year 1970 authorization bill for defense. The MBT-70 program costs had been rising sharply and the planned production date had been set back several times. Consequently, a Senator proposed that the program be suspended for 6 months while GAO looked into the reasons for the cost increases and delays and determined whether there was a need in modern



U.S. Army Photo

General Sheridan Armored Reconnaissance Airborne Assault Vehicle.

warfare for such programs as this tank program.

This proposal was followed by a vigorous discussion as to whether it was appropriate or feasible for GAO to make such a study. One Senator commented that GAO had made a very useful review of the Sheridan/M-60 program and that requesting GAO to make a special inquiry into the MBT-70 program would be a test of its ability to serve the Congress. A compromise was reached whereby the bill suspending the program was withdrawn by its sponsor on condition that GAO be directed to conduct a study into the MBT-70 program and submit a report within 3 weeks. The report was to show the reasons for the cost increases and whether there were any other feasible alternatives to development of this program. GAO was also requested to evaluate the cost feasibility of each alternative suggested.

Needless to say, it was extremely difficult to do this job within the time limitation. Apart from the tremendous technical problems involved, it was necessary to cancel vacations and upset all other Office priorities to meet the deadline. However, we had extremely good cooperation from the Department of Defense and the Army, including personal discussions with the Deputy Secretary of Defense. Our report, consisting of 66 classified pages and a 6-page unclassified digest, was delivered on schedule.¹

¹ EDITOR'S NOTE.

See also the article on this review by Robert R. Lindemuth and Lee M. Stevens entitled "Planning, Doing, and Reviewing - All in Three Weeks," p. 62.

Changing Trend in GAO Reporting

We were asked to report as to whether there were any other feasible alternatives to development of the MBT-70 program and, if so, to evaluate the cost feasibility of each alternative. This obviously is quite different in nature from the traditional type of audit assignment. Many studies assessing major programs had been made within the Department of Defense and the military services, and we were able to obtain access to these studies in this particular case. From our analyses of these studies, we were able to report alternative ways of achieving the military goals of the MBT-70. In addition, we listed six feasible alternative procedures relative to the funding of this program. This reporting approach has received favorable comment in congressional hearings on the future role of GAO.

This case illustrates the type of information that the Congress is beginning to expect and to demand from us. More and more we are being asked such questions as: Is this program really effective? Is it meeting the goals that the Congress intended? I believe that an increasing proportion of our future work, in this decade and beyond, will be directed toward such evaluations of program results.

Much work has already been done in this area. I have mentioned two cases from my own group that I am quite familiar with. Other recent reports prepared elsewhere in GAO also show this trend toward program evaluation. These reports involve such varied subjects as a method of maximiz-

ing procurement competition through greater use of parallel development programs, an evaluation of the antipoverty programs, the usefulness to decision-makers of information on the status of major weapons systems, the effectiveness of construction-grant programs to assist State and local governments to meet water pollution control needs, countrywide reviews of U.S. assistance programs, and the readiness of deployed forces.

GAO Preparation for the Seventies

In discussing what I believe the role of GAO will be in the seventies, it is obvious that we cannot just decide to change our approach—we must prepare for such a change. What have we done recently and what are we doing now to be able to meet the demands of the Congress for reports which will be more helpful in determining the future course of our Government activities?

To begin with, we have broadened our recruiting objectives. When *Elmer Staats* was appointed Comptroller General 4 years ago, our professional staff consisted almost entirely of trained accountants. In order to provide an interdisciplinary approach in our management audits, we began to expand our recruiting efforts to include other professional fields, such as systems analysis, computer technology, actuarial science, economics, business administration, mathematics, and engineering.

During the past 5 years, there has been a substantial increase in the segment of our professional staff whose

major field of concentration has been in areas other than accounting or auditing. At June 30, 1970, our professional staff included 398 members trained in other fields—an increase of 328 since 1965. Two hundred and eighty-five were recruited at the university level, and they therefore represent mainly potential for the future.

In addition, in order to more rapidly develop expertise in these other disciplines in our upper level positions, we have added during the past 2 years 56 staff members in such disciplines as economics, engineering, computer sciences, and systems analysis.

A considerable amount of effort and expense is also being devoted to increasing the capability of our staff through internal and external career development programs. Internal training seminars and workshops are conducted in such fields as systems analysis, automatic data processing techniques, and report development. External training is provided in such subjects as management information systems; logistics management; research and development management; operations research; procurement techniques; economic analysis; planning, programming, and budgeting; statistical sciences; and manpower utilization.

Although the employment of personnel trained in various fields and the exposing of existing personnel to new approaches will undoubtedly strengthen our ability to make useful evaluations, we recognize that there are areas where special expertise will be needed. Consequently, expert consultants are used to provide necessary expertise where required. Their advice

has proved very helpful in reviews of the effectiveness of the antipoverty programs and the water pollution control programs, and consultants are presently being used in a study as to possible proliferation of missile systems. Undoubtedly we will make increasing use of consultants as we move into new areas.

We believe that the seventies will pro-

vide a real challenge to GAO, in that useful, meaningful evaluations will be expected by the Congress to assist it in allocating the limited resources of this Nation to meet its growing needs. We believe that our recent efforts have been moving in this direction, and we hope to improve through continued education of our staff and cross-fertilization from other professions.

Educational Program in Systems Analysis

By Morton A. Myers

This article discusses the training received by GAO staff members who attend the Educational Program in Systems Analysis.

The Federal Government has used long-term training (courses of more than 120 days duration) for many years. Prior to 1958, such use usually took the form of university courses of study for very specific scientific occupations. With the passage of the Government Employees Training Act in 1958, the use of this particular method to improve competence in the Federal system increased, until, in fiscal year 1969, about 2,050 people participated in long-term training programs.

Not until the 1960's, however, did the Federal Government begin to utilize universities to help develop the administrative and analytical abilities of its future managers and executives. Although the number of students currently enrolled in such programs is relatively small—about 10 percent of all long-term training participants—in the past few years there has been a moderate increase in the investment of resources to help develop the adminis-

trative and analytical abilities of Federal personnel. One of the long-term training programs designed to close this gap is the Educational Program in Systems Analysis (EPSA).

According to the Civil Service Commission, which in cooperation with the Office of Management and Budget of the Executive Office of the President administers EPSA, the primary purpose of the program is to train analysts.¹ EPSA offers Federal agencies an opportunity to develop systems analysis capability for public program analysis. In general, the program includes intensive work in a variety of subjects with application to emerging issues of public policy and management.

Typical subject matter includes courses and seminars in microeconomics, quantitative methods, public expenditure theory, and operations re-

¹ Description of the Educational Program in Systems Analysis was drawn from publications of the U.S. Civil Service Commission.

Mr. Myers is a member of the Systems Analysis Group of the Office of Policy and Special Studies and a previous contributor to the *GAO Review*. During the 1969-70 academic year he participated in the Educational Program in Systems Analysis at the University of California. He is a member of the Association for Public Program Analysis and the Federal Government Accountants Association.

search. In addition, workshops and seminars are offered which have a specific substantive focus. These include such fields as transportation, education, and natural resources. The universities participating in the program are:

- University of California at Irvine,
- Harvard University,
- University of Maryland,
- Massachusetts Institute of Technology, and
- Stanford University.

Persons attend these participating institutions in groups of seven to 15 for one academic year.

Persons nominated must have a bachelor's degree and meet the admission requirements of the universities they attend. Universities believe that ability to utilize what they have to offer is indicated by previously demonstrated capacity for academic achievement. Generally speaking, universities expect candidates to have a previous academic record of at least B+ and to have taken the Graduate Record Examination, the Miller Analogies Test, or the Admission Test for Graduate Study in Business. Normally the program is open to career officials between the ages of 25 and 30 with at least 3 years of civilian experience with the Federal Government. In general, those who participate are in the grade-level range of GS-9 to GS-13.

GAO Interest in EPSA

In addition to GAO's interest in the improvement and overall quality of the analytical capability of Federal departments and agencies, it has been apparent that there is a growing need for the

Congress to be supplied with more information which would assist Members in determining the relative benefits and costs of Federal programs. More and more Members of Congress are calling for GAO to provide this kind of assistance.

In line also with the desirability of the GAO playing a larger part in monitoring, analyzing, and reporting on progress and problems arising in the carrying out of existing programs or analyzing and reporting on proposals under consideration by the Congress, the Comptroller General has used the training afforded under EPSA as one means of increasing GAO staff capability of performing such work. During the 1969-70 academic year three GAO staff members participated as EPSA Fellows at the University of California at Irvine (UCI). Eight GAO staff members had participated in EPSA previously (at UCI and elsewhere) and two GAO men are enrolled in the program for the present academic year.

University of California at Irvine

While particular variation or emphasis may exist in the educational formats of the universities participating in EPSA, the overall EPSA objective—to develop administrative and analytical capability—is reasonably pursued in a common manner by each of the universities. For instance, the UCI-RAND Educational Program in Systems Analysis is conducted by UCI's Graduate School of Administration together with the RAND Corporation of Santa Monica, and is administered by

UCI's Public Policy Research Organization. According to UCI, the purpose of the program, simply stated, is to develop the capabilities of each individual to enable him to make a stronger impact on public policy through the use of analysis. There is particular stress on training in quantitative methods based on the assumption that many Government officials are not familiar with modern quantitative methods and that some rather simple tools, from operations research and economics particularly, would be of great value to them.

The unique feature of the UCI program is the inclusion of actual research experience at the RAND Corporation.

Student Participants

The complement of students who participated in the UCI-RAND program during the 1969-70 academic year totaled 15—12 Federal employees and three employees from the State government of California. The number of participants listed in accordance with their organizational affiliation were as follows:

Organization	Number participating
Civil Service Commission	1
Department of Defense	3
General Accounting Office	3
Department of Health, Education, and Welfare	3
Department of Housing and Urban Development	1
Department of Labor	1
State of California Department of Mental Health	2
State of California Highway Patrol	1

Through personal association and interaction, the diversity in the backgrounds of the students added to the educational experience of the academic year.

Study Program

The program began in August with a 6-week intensive institute in mathematics, which was designed to provide the students with a background in probability theory and calculus to prepare them for the analytical topics covered during the academic year. Also in-

cluded in the curriculum of the mathematics institute were aspects of advanced algebra, analytical geometry, and statistics. This portion of the program boiled down to long hours and hard work with many of the students suffering from fatigue as well as cultural shock. Tutelage during this period was provided by six university instructors, the use of three assigned mathematics texts, and 12-hour periods of formal instruction given 5 days per week.

Below are listed the UCI-RAND

mathematics institute “range” of grades and the “mean” scores in algebra, calculus, and probability for all students attending the institute during the sum-

mer of 1969. Test 1 refers to the score at the beginning of the 6-week course, and Test 2 is at the conclusion of the course.

	Algebra		Calculus		Probability	
	Test 1	Test 2	Test 1	Test 2	Test 1	Test 2
Range....	15-93	40-98	0-25	18-53	15-52	35-90
Mean.....	55	71	8	37	33	63

Despite the short duration of the institute the change between the group scores in the two tests is consistently positive and of high magnitude.

During the academic year the core courses of the UCI-RAND program consisted of economics, statistics, and operations research. There were two courses in economics—one involving microeconomic theory and the other public finance.

The course in microeconomic theory had two components: (1) abstract economic analysis of our economy’s microstructure (producing firms and consuming publics, and the market mechanisms that interrelate them) and (2) the application of microeconomic analysis to issues of governmental policy and decisionmaking. The course in public finance examined major issues in the theory of public revenue. Topics covered included analysis of alternatives, cost-benefit analysis, program budgeting, taxation policies, and criteria for public expenditure.

In the area of operations research, an entire scholastic quarter was devoted to linear programming. Specific topics included problem formulation and

model building; the simplex algorithm, duality with economical interpretation; and transportation and optimal assignment problems. Other topics in operations research covered during the year included sequential decisions, stochastic processes, dynamic programming, inventory and queuing problems, and maximum flow in networks.

The courses in statistics—as those in operations research—continued during the entire year. Among the areas of emphasis in statistics were preferences and utility, Bayesian decision theory, point and interval estimation, analysis of variance, regression analysis, nonparametric methods, sampling techniques, and the gathering and use of data.

A one-quarter course in decision analysis was also given. Although much time in this course was spent on the techniques of profit-motivated investment decisions, classes were also devoted to the study of management information systems and planning, programming, and budgeting systems. However, as a complete change of pace, UCI also provided the EPSA students with a guest lecture series during the winter and spring quarters. The follow-

ing is a list of the topics presented during the lecture series:

- Population and Population Growth in the U.S.
- The Function of the University.
- Competitive and Cooperative Societies.
- Black Studies—What and Why It Is.
- High Leverage Education in Rural Liberia.
- Operations Research.
- Some Research in the Area of Job Attitudes.
- Virtues and Vices of Bureaucracy.
- What the Strike Is All About.²
- Some Theoretical Problems in the Analysis of Organizations.

In keeping with the intent of the lecture series, the wide diversity of subject matter to which the students were exposed is evident upon scanning the list of topics.

The RAND Corporation

During the first quarter of the program, the students were introduced to the RAND Corporation and became acquainted with some of the research projects that were being conducted there. The emphasis of this portion of the program was on problem formulation and application of analytical techniques. Students were given the choice to participate in research at the RAND Corporation or to pursue research at the UCI Graduate School of Administration Workshop in Administrative Problem-Solving.

²This discussion dealt with the UCI student body strike in protest to United States involvement in Cambodia during 1970.

Only three of the students chose research projects at the workshop. Research at the RAND Corporation or participation in the workshop at UCI provided students with the opportunity for the practical application of techniques of systems analysis. The effort of student research was expected to result in the publication of individual research papers or contributions to group research papers. Examples of student research papers with which GAO participants were involved during the 1969-70 EPSA program follow:

- “The Effects of Transportation System Changes on Housing” (group effort).
- “Federal Agencies Involved with Accident Statistics on Household Hazards” (individual effort).

Additional information on the above studies may be obtained from the GAO Systems Analysis Group, Office of Policy and Special Studies.

Participants' Evaluation of EPSA

At the conclusion of the academic year, the Civil Service Commission sent questionnaires to the student participants. The purpose of the questionnaire was to help provide a measure of the value of each university's program, as well as of EPSA in general. One portion of the questionnaire requested participants to list the skills which were taught at their university, indicate numerically the quality of the training received, and estimate (if possible) the frequency of use on their job of that skill. Information obtained by

EDUCATIONAL PROGRAM IN SYSTEMS ANALYSIS

the Civil Service Commission relating to the quality of the teaching of skills and the on-the-job frequency of use of skills is presented below.

Skill	Times mentioned	Quality of teaching skills					Times mentioned	On-the-job frequency of use						
		Bad 0	1	2	3	Excellent 4 5		Never 0	1	2	Constantly 3 4 5			
Operations research...	16	...	2...	7	5	2	14	2	2	4	4	1	1	
Statistics and probability...	14	..	3	1	5	5...	12	2	1	3	3	2	1	
Economic analysis...	13	...	1	3	5	4	12	2	4	2	1	3...		
Computer programming...	8	1.....		1	6...		7	2....	1	1...	3			
Cost-benefit analysis...	4	... 1 ..		1	1	1	4	1....	1	1	1...			
Systematic analysis...	4	... 1 ..		1	2		4	1	1.	.....	2		
Decision theory...	4	.....		1	3		4	2..	.....	1	1		
Probability.....	3	.....		3	.....		3	1..	.....	2	.....		
Policy analysis.....	3	.....		2	1		3	.....	1	.....	2		
Algebra and calculus...	2	.....		1	1		2	2.	.....	.....	.....
Model building.....	2	.....		1	1		1	.....	.....	.....	1		
Other.....	7	.....	1	1	1	4	7	.....	3.	.....	2...	2	
Totals.....	80	1	7	3	24	27	18	73	15	12	11	14	8	13

The data shown in this schedule represent responses from about 50 percent of the students participating in EPSA.³ Included in the data are 11 responses from UCI-RAND participants, five from participants at the Massachusetts Institute of Technology, and seven from the University of Maryland. One questionnaire each received from Stanford University and Harvard University did not include information on the skills taught.

A rapid analysis of the responses pertaining to the quality of the training shows that almost 54 percent of the training received was rated by the stu-

dents as "near-excellent" and "excellent" (columns 4 and 5 on the quality scale). This contrasts sharply to the 10 percent rating of "bad" and "near-bad" training received (columns 0 and 1 on the quality scale). The particular skill identified most often in the area of excellent training received (column 5) was economic analysis, whereas the only skill associated with bad training (column 0) was computer programming. Also of interest is the fact that the skills mentioned most frequently by the students—operations research, statistics and probability, and economic analysis—and the high quality ratings associated with these skills would seem to be in line with achieving the overall objective of EPSA to train analysts.

The data pertaining to the frequency of use of the skills—as a group and

³ Charles F. Gorton of the Civil Service Commission staff informed the author that the Commission expects to receive additional questionnaires from students enrolled in last year's program. Mr. Gorton cooperated in making the statistics received by the Commission to Nov. 30, 1970, available for presentation here.

for individual skills—contain a much lower degree of variability than the data on the quality of training. One possible reason for this could involve the amount of definitive information that the respondents to the questionnaire had in regard to their jobs at the time the questionnaire was answered.

Closing Remarks

At the conclusion of EPSA training GAO participants are assigned to the Systems Analysis Group, Office of Policy and Special Studies, at GAO headquarters in Washington, D.C. Work of the Systems Analysis Group affords individuals ample opportunity to apply systems analysis techniques. The Systems Analysis Group is responsible for:

- Making or reviewing special studies of Federal programs, policies, and activities which involve the application of systems analysis concepts and techniques.
- Providing consulting advice and assistance in this area to congressional committees, Members of Congress, and Federal agency officials, and other GAO staffs as required.

Examples of assistance to the Congress during fiscal year 1969 included:

- Participation in work on a request from Members of Congress which required calculations related to comparisons of the net Government costs under two Department of Housing and Urban Development programs for college housing—one, a direct loan program, and the other, an interest subsidy program.

- Participation in GAO work for the Senate Armed Services Committee in reviewing cost-effectiveness aspects of air-to-ground missiles.
- Participation in GAO's examination into the effectiveness of the construction grant program for abating, controlling, and preventing water pollution.
- Participation in work at the request of the House Committee on Ways and Means to monitor a special review of the program under which aid is provided to families with dependent children in New York City.

Other duties of the Systems Analysis Group involve direct consultation and technical assistance to operating division audit sites. This work includes participation in planning approaches and strategies to GAO reviews and identifying potential areas for the application of systems analysis techniques. The Systems Analysis Group also assists the Office of Personnel Management in developing and conducting in-house training in systems analysis for GAO professional personnel. About 160 GAO staff members have received this training since the spring of 1969 when this program was undertaken by the GAO. This training effort is a continuing one.

In summary, participation in EPSA leads to increased capability and understanding of systems analysis concepts and techniques in GAO, and to this end GAO has gained from its participation in EPSA.

EDITOR'S NOTE:

The Systems Analysis Group of the Office of Policy and Special Studies has 12 mem-

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bers. Four of these come from outside of GAO. The other eight are transplants from other parts of GAO, either from the Civil Division or from regional offices, and have received EPSA training. The eight individuals and the EPSA universities they attended are identified below:

Joseph D. Comtois, Massachusetts Institute of Technology

Robert V. Farabaugh, University of California

Arthur R. Goldbeck, University of California

Dale W. Harrison, University of California

Robert D. Jones, Stanford University

Morton A. Myers, University of California

Ted M. Rabun, University of Maryland

James P. Wright, Massachusetts Institute of Technology

Problems in Estimating Costs for Acquiring New Weapons

By Carl F. Bogar

Great congressional concern has developed in the past few years about the problems of accurately estimating the cost of acquiring major new weapon systems. This article discusses some of these problems.

Public scrutiny is being focused on military spending more intensely now than at any time in our country's history. As a result, the Department of Defense is facing strong pressure to reduce personnel strengths and spending. A significant portion of the Defense budget is spent on acquiring new weapon systems, and since July 1969 GAO has been examining this acquisition process.

During our reviews, we have found a need for the Department of Defense to improve its cost estimates for acquiring major weapon systems. We found, for instance, that the current estimates for the acquisition of 38 weapon systems were \$21 billion (about 50 percent) higher than the original planning estimates.¹ The original estimates often lacked validity due to omission of

known costs, overly optimistic estimates of costs, and lack of program definition. This cost growth in weapon systems, of course, is attributable only in part to poor cost estimates. Examples of other factors contributing to the growth are changes in quantity and changes in specifications.

Recognition of the Problem

Congress is aware of the importance of valid cost estimates and has been paying increased attention to them during authorization and appropriation hearings. In fiscal year 1969 the cost of purchasing specified weapon systems grew so substantially from the original estimated cost that the House Appropriations Committee characterized it as the "Year of the Cost Overrun."

During fiscal year 1970 budget hearings, the Secretary of Defense testified before the House Appropriations Com-

¹ See Comptroller General's Report to the Congress "Status of the Acquisition of Selected Major Weapon Systems," B-163058, Feb. 6, 1970.

Mr. Bogar is a supervisory auditor in the Major Acquisitions Group of the Defense Division. He is a graduate of Susquehanna University (B.S. in accounting) and has been with GAO for 7 years. He has also worked several years with the Internal Audit Division of the Small Business Administration.

mittee that cost increases for certain specified weapon systems totaled \$16 billion over a period of several years. The major reason given for the cost increases was identified as poor estimates, accounting for 49.2 percent of the identified cost growth.² In other words, poor estimates resulted in 49.2 percent of the net increase from the original planning estimates to the more accurate current estimates to complete the total acquisition of weapon systems.

Industry is also well aware of this problem. The Blue Ribbon Defense Panel³ and the National Security Industrial Association⁴ issued reports in July 1970 citing unrealistic cost estimates as a major problem in acquiring weapon systems.

The Role of Cost Estimating in Acquiring Major Weapons

Estimates of costs for acquiring major weapon systems serve several different purposes. Some of these purposes are to continuously reflect the probable cost of the system as it moves through the acquisition cycle, to support congressional authorization and appropriation requests, and to control the physical work.

The process of acquiring major weapon systems has key points of decisionmaking that must provide a reliable basis for evaluating the progress being made to determine whether the program should be continued,

modified, or stopped. Cost estimating must support this decisionmaking process by providing estimates that are credible and valid.

Key decision points in the acquisition cycle occur during these phases.

1. *Conceptual Phase*—This is the first phase in the weapon system life cycle. During this phase, the technical, military, and economic bases for an acquisition program are established through comprehensive system studies and experimental hardware development and evaluation. The conceptual phase is highly iterative. Its stages overlap rather than occur sequentially; however, flowing from interacting inputs of operational need and technology, generally the following stages occur:

Identification and definition of conceptual systems.

Analysis (threat, mission, feasibility, risk, cost, trade-offs, etc.).

Experimentation and test (of operational requirements, key components, critical subsystems, and marginal technology).

The outputs of the conceptual phase are alternative proposals for systems (including a preferred system) and their costs, schedules and operational parameters. After reviewing these alternatives, a selection is made and the selected program proceeds to the next phase. The cost estimate developed during concept formulation is in most cases considered to be the initial program estimate for acquiring a system.

2. *Validation Phase*—This is the phase in which the major program characteristics, (technical, cost, and

² H.R. Rept. 91-698, "Department of Defense Appropriation Bill, 1970."

³ Report to the President and the Secretary of Defense on the Department of Defense by the Blue Ribbon Defense Panel, July 1, 1970.

⁴ National Security Industrial Association, "Defense Acquisition Study," July 1, 1970 (See "Readings of Interest" p. 137, for a review of this report)

schedule) are validated by the contractors who will do the full-scale development. The validation is in the form of commitments that contractors are willing to make (i.e., contracts they will sign) on these major program characteristics. The cost estimates developed during this phase play a vital role in determining whether the system should proceed into full-scale development or whether alternatives, such as canceling the program or developing high-risk components, should be pursued.

3. *Full-Scale Development Phase*—During this phase, the weapon system including all of the items necessary for its support (training equipment, maintenance equipment, handbooks for operation and maintenance, etc.) is designed, fabricated, and tested. The intended output is a hardware model and the documentation needed to produce the item. An essential product of this phase again is a meaningful estimate of how much it will cost to produce the item. At the conclusion of this phase, the Secretary of Defense decides whether to produce the item for operational use, the initial quantity to be produced, and the plans for future production.

4. *Production Phase*—This is the phase in which the weapon system is produced for operational use. Periodic cost estimates are necessary during this phase to insure the program is on track.

Discussion of the Problem

The need for realistic cost estimating is the greatest in the initial stage of the acquisition process because that is

the time when a new program is “sold” within the Department of Defense and to the Congress. The initial planning estimate tends to become “cast in brass” and is used as a baseline for measuring the monetary success for acquiring a particular weapon. Despite the need for realistic cost estimates, they tend to be inaccurate (most often on the low side) for many reasons. Some of the more important ones are lack of adequate program definition, overoptimism of the technical personnel, the long length of time to complete an acquisition, and competition for a limited amount of funds.

The requirements for a new weapon stipulate the performance needed to counter a given threat, the degree to which the state-of-the-art must be advanced, and the resources required to satisfy these requirements. It is difficult to anticipate and place a price tag on the technical problems which might be encountered in converting these requirements from paper to a workable weapon system. The degree of realism is related to how precisely the new system can be defined and to the skills and techniques available for converting this definition into a cost estimate.

Technical personnel, recognizing that management may defer or refuse authorization of a project if it appears too costly, are inclined to minimize the difficulties as a means for getting approval of a project. In other words, the pressure to reduce the Defense budget encourages submission of the maximum program at the minimum cost. Hence, contingencies and real predicted costs are often cut from estimates. Likewise the most favorable scenario is pre-

dicted by a service to obtain approval of a program or by Defense reviewers to enforce economy.

The difficulty in making an accurate initial estimate is compounded by the length of the acquisition cycle. It can take from 10 to 15 years to complete the acquisition of a new weapon. During this period many factors come into play. For instance, the complicated factor of inflation has to be reckoned with and the acquisition process reacts to shifting requirements, technological breakthroughs, and a changing social, political, and economic environment. All these factors must be considered.

Competition for military contracts, fostered by the desire to maintain or increase business growth and backlog, has resulted in a pattern of overselling by contractors. The original planning estimate has a great influence on contractors' bids. They are wary of challenging the estimate because of competitive pressures. This leads to proposals which tend to support the original cost estimates rather than take into account the possible effects on costs of the inherent uncertainties.

Possible Solutions

First, recognition must be given to the fact that original cost estimates for sophisticated new weapon systems will continue to be "guesses." It is impossible to accurately estimate the cost of a new effort which contains many unknowns. Nevertheless, methods of making estimates can be improved.

Generally, cost estimates for acquiring weapon systems are based on detailed, grassroots calculations (the

engineering approach) for weapons for which the design is complete and firm, but for proposed new weapons too much reliance has often been placed on informed guesses. While the judgment of high level, experienced engineers must be used, there are decisionmaking aids which have been in development for the past decade and can reduce much overoptimism in engineers' guesses.

One of these aids, called the parametric approach to cost estimating, uses cost relationships derived from histories of prior programs for acquiring similar commodities. The parametric approach has demonstrated so much promise for improving the dependability of cost estimates for the work to be done during the early stages of acquisition that the Blue Ribbon (Fitzhugh) Defense Panel recommended that the Department increase its use. This approach is particularly suited to making estimates based on limited physical and performance information. The historical systems used as a basis for the parametric estimate will have experienced the uncertainties and associated setbacks characteristic of high performance hardware development. Later, when detailed contractor proposals are being prepared, the more definitive engineering approach can be applied via the firm statements of system and subsystem characteristics which are required.

A new environment must be created within industry and Government to encourage realistic estimates. Presently, the budgetary process by which new weapon programs are initiated, considered, and sent to the Congress for ap-

proval encourages overoptimism. Perhaps this entire process needs revamping. Some of the revisions now under consideration in the Department of Defense reflect an awareness of that need.

The Deputy Secretary of Defense addressed this problem in July 1969. He suggested several ways of improving cost estimates:

Impress upon Defense contractors the need for cost realism in their proposals and make this a major factor in source selection.

Make a distinct improvement in the Department's cost estimating and validating capability and insure that this capability is fully and effectively applied by the source selection authority.

Establish an independent capability in the Office of the Secretary of Defense to validate cost estimates.⁵

Concluding Remarks

GAO is currently engaged in a study to determine how the cost estimating

⁵ Memorandum from the Deputy Secretary of Defense to the Military Services, July 31, 1969, Subject: Improvement in Weapon System Acquisition.

process can be improved. It is apparent that there is room for improvement. However, by its very nature, cost estimating for major weapon systems will continue to be a difficult task, particularly during the early phases of the acquisition process. Estimates during these early phases are based on broad parameters. As a weapon proceeds through the acquisition cycle, cost estimates become more precise through increased identification of the design details.

The Department of Defense is now actively engaged in improving its cost estimating practices and procedures. These improvements will be given attention during our review.

Unrealistic cost estimates are just one of the problems that show up as cost growth on a weapon system. Excessive numbers of contract changes, buying-in, failure to identify risks, and poor system identification are among other problems which must be addressed. It appears that in order to make significant improvements in cost estimates, a concerted effort is needed to improve the weapon acquisition process as a whole.

Planning, Doing, and Reviewing— All in Three Weeks

By Robert R. Lindemuth and Lee M. Stevens

One of GAO's primary functions is to be responsive to the requests of the Congress. In this article the authors describe the expedited response to a congressional request for a study of a complex major weapon system in which they were involved.

On September 2, 1969, a 66-page report, classified secret with an unclassified digest, was issued to the chairman, Senate Committee on Armed Services, entitled "Study of the MBT-70 Program."

The report was the result of about 3 weeks of concentrated effort during which time a review was performed and a report written, referenced, processed, and issued. Of course, the normal way of doing business was not followed.

Request for the Study

Following debate on the Senate floor on August 8, 1969, on Amendment No. 36 to Senate bill 2546 (the Military Procurement Authorization Act), the chairman, Senate Committee on Armed

Services, requested GAO to perform a study of the Main Battle Tank, 1970 (MBT-70) program. The MBT-70 program was a joint cooperative tank development plan between the United States and the Federal Republic of Germany. The chairman requested that the study be available for committee consideration by no later than September 2, 1969, which required that it be done on an expedited basis (in about 3 weeks).

The chairman requested answers to the following questions:

1. Why the research and development cost estimates for the MBT-70 program had to be revised steadily upwards since 1965?
2. What other feasible alternatives there were, if any, to the develop-

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ment of the MBT-70, and the cost feasibility of each alternative?

Capability of GAO Questioned

Much of the debate on the Senate floor concerned not the MBT-70 but whether GAO had the capability or the expertise to review a complex program such as the MBT-70. For example, the question was raised as to whether it was GAO's function to answer a question, such as whether the MBT-70, considering its revised estimated production costs, would be the most effective weapon to meet the contingency for which it was originally planned.

One of the proponents for requesting GAO to perform the study, Senator Thomas F. Eagleton of Missouri, stated that the GAO is more than just a book-keeper's office.

It is composed of talented people who are analysts, who have the expertise and talents to go beyond the printed word, beyond the diagrams, beyond the schedules, beyond the figures, and to get into what we may call the area of substance and the area of theory.

It was also stated by Senator Eagleton that he was asking GAO to give Congress the benefit of its talent, which he knew it possessed, because of the "magnificent work" it had done on the Sheridan Tank program.

After the request was made, it was a matter of the utmost importance to make a satisfactory study in the time required. The Comptroller General directed that this assignment have priority over all other GAO assignments.

Responsibility for the Study

The responsibility for conducting the study was given to the Research and

Development Group of the Defense Division. Assistance was requested from the Chicago, Detroit, and New York Regional Offices. These regions were selected because Chicago had just completed a detailed review of the Sheridan Weapon System,¹ which has the same main armament as the MBT-70. Detroit had performed some earlier work on the MBT-70 at Warren, Mich. And the ammunition to be used on the MBT-70 was being developed at a location within the New York region.

Unlimited Overtime Approved

It was recognized at the beginning of the review that the job could not be done if the staff worked the normal 40-hour week. Therefore, unlimited overtime was approved and the staff worked day and night, including weekends. In addition, several staff members had to postpone their vacations.

Planning the Study

At the outset of the study, it was agreed that in order to meet the time requirement, an audit program would have to be written which could be used as the report outline. It was mandatory that this "program" be reviewed and approved by all levels of management in GAO so that when the draft of the report was given for review the inevitable questions of "why didn't you do this?" could be avoided.

In addition to the "program," a milestone schedule was prepared. The

¹ EDITOR'S NOTE:

A brief description of this review is included in the article by Harold H. Rubin on "The Role of GAO in the Seventies and What GAO Is Doing To Prepare for It," p. 45.

schedule was broken down into daily major accomplishment segments which permitted us to gauge our progress in meeting the reporting deadline.

Doing the Study

There were two questions which had to be resolved:

1. Why the cost estimates had been revised steadily upwards?
2. What other feasible alternatives there were, if any, to the development of the MBT-70?

In order to perform the study in the time allowed, the responsibilities were divided; the Detroit Regional Office was given the first question and the Washington staff with the assistance of the Chicago Region was given the second. The necessary audit work was accomplished in 1 week.

We had the full cooperation of the Department of Defense (DOD), especially the MBT-70 Project Manager and his staff. Records and reports were made available upon request, including certain types of documents which in the past had not been available to us. We had immediate access to the MBT-70 Project Manager and his staff. Our many questions and requests received prompt attention.

Due to the short time available, the study was confined necessarily to various studies and program decision documents plus discussions with knowledgeable DOD and Army officials.

The advantage of having special in-house expertise was demonstrated by the participation of the GAO Systems Analysis Staff who evaluated DOD cost-

effectiveness and cost-benefit analyses. Their services were of great value.

Reviewing the Report

After the report was prepared and referenced, copies were forwarded one afternoon to the GAO directors involved in processing reports. The next morning, a meeting was conducted in the Comptroller General's conference room with the Comptroller General, the responsible directors, the General Counsel, and the audit staff in attendance.

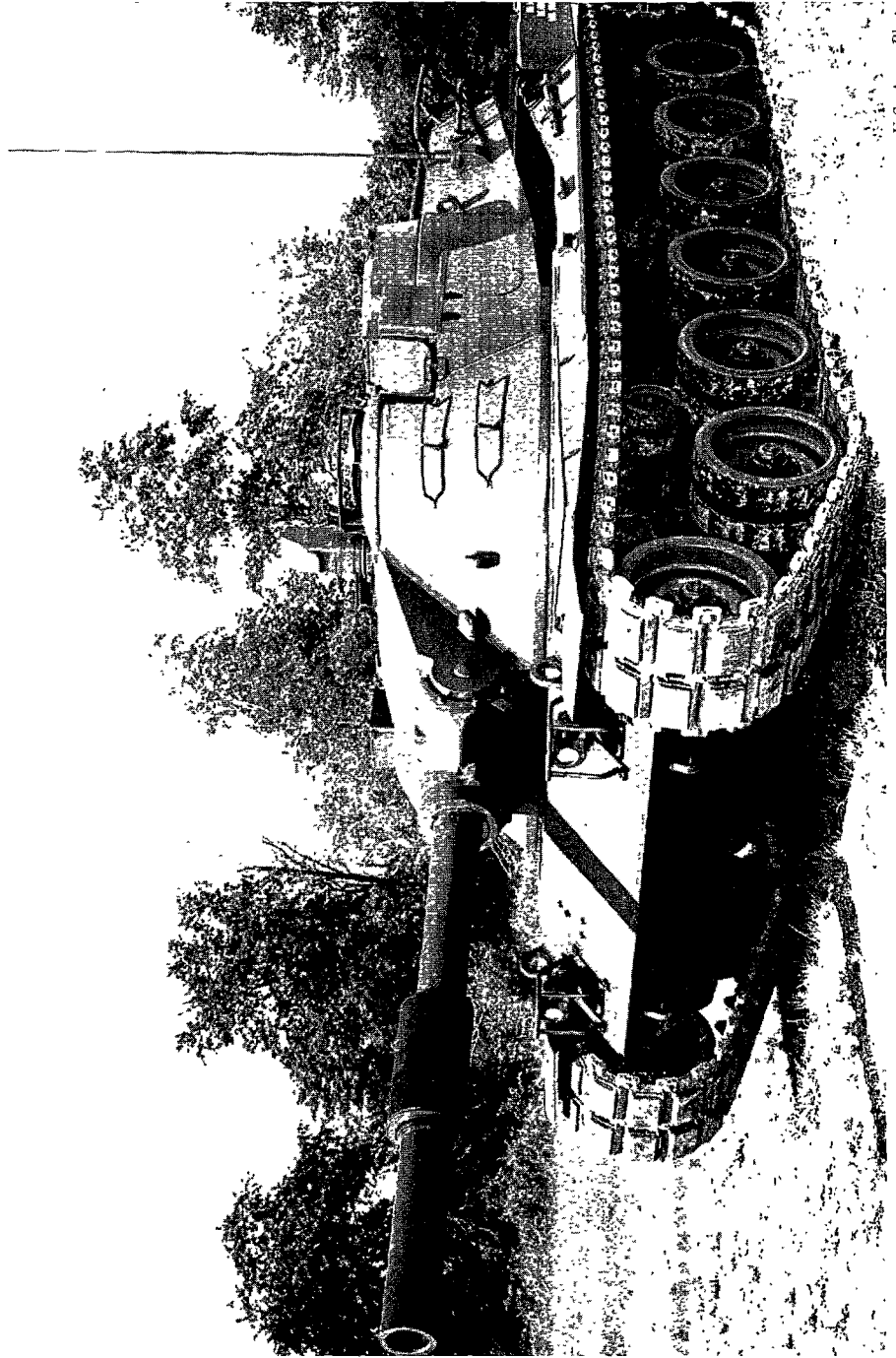
The report was reviewed sentence by sentence with agreed upon changes being made immediately before continuing to the next paragraph. The atmosphere was one of "speak now or forever hold your peace." Some good points were raised and the report was improved.

The meeting lasted about 7 hours and the agreement among all parties was that the report as changed was satisfactory, that some additional work was necessary for support purposes, and that the report should be issued.

The Report

The report showed that the estimated costs for development of the MBT-70 had increased 525 percent since inception. These cost increases were attributable to (1) the lack of sound bases for original estimates, (2) unanticipated dual development of subsystems, (3) problems in administering a joint development program with a foreign government, (4) need for additional testing of guns and ammunition, and (5) inflationary factors.

As background information, so that



U.S. Army Photo

Main Battle Tank, 1970 (MBT-70).

the committee could get a better feel for the role of a tank, the report contained information dealing with the (1) role of tanks in modern warfare, including tank operations and future roles of the tank, (2) tank threat to U.S./Allied tanks, (3) U.S. antitank weapons, and (4) Soviet antitank weapons.

The report listed alternatives for the MBT-70 program as it was then being performed. These alternatives ranged from continuing the program pending an analysis being performed at the request of the Deputy Secretary of Defense to terminating the program completely and devoting research and development efforts to other alternatives.

Comments Relating to the Report

Within 2 weeks after issuance of the report, hearings were held by the Senate Committee on Government Operations pertaining to the capability of GAO to analyze and audit defense expenditures. During the hearings which were conducted by Senator Abraham Ribicoff of Connecticut, the only report referred to in discussion on GAO capabilities to analyze and audit defense expenditures was that on the MBT-70. It was suggested that the report could serve as a prototype for similar reports on military and civilian programs.

A suggested GAO approach presented by Senator Ribicoff at the hearings was:

If they [GAO] give you the alternative, they make the analysis and list the alternatives without making the judgment as to which alternatives should be taken, then, of course, it is up to Congress to choose the alternatives. I think as to questions of policy they cannot substitute their opinion for yours or mine, but * * * they should have the alternatives for us so that we can make our own judgments as to which ones we prefer?

Conclusions

The MBT-70 study showed that GAO has the capability and expertise to review the management of the development of a major weapon system.

The study also showed that GAO can issue meaningful and useful reports in a timely manner to congressional committees. In this study, the authors were greatly pleased that during the entire study the usual "I don't like this, improve it" attitude was not accepted since it was expected that if one didn't like something, he was to improve it or keep quiet. The authors would like to think that a happy medium can be achieved between the extremes of this report and the conventional auditing process which requires a time frame a good deal longer from initiation of an audit to final reporting.

The Time-Sharing Computer Terminal as a Modern Audit Tool

By Donald Ingram

On October 1, 1969, the Denver Regional Office installed a time-sharing computer terminal. This article describes some of the decisions leading to the installation, some experiences with time sharing, and some views on the potential of the terminal in GAO audits.

Time sharing is a relatively new concept in which many users are connected through terminals and telephone lines to one central computer. Each user processes his programs without any noticeable delays or indications that other users are concurrently using the same computer. This procedure gives each user access to a powerful computer with access times of one microsecond and storage capacity of 320,000 characters. The costs of buying such a computer (about \$1.5 million) would be prohibitive to the small user. By distributing the costs on the basis of actual use among many users, it becomes feasible and economical for both the users and the owner.

Feasibility Study

When we first began consideration of the feasibility of installing a time-shar-

ing terminal, we had to admit to ourselves that we really didn't know very much about this tool. Several of us had taken brief courses on the use of time-sharing terminals, but we were not yet fully aware of how we could apply time sharing to our work. Therefore, we felt it best to study the situation. We compared the many facets of our audit work with the many possibilities of the computer. There were many things that we were doing manually which could be handled nicely on the computer.

There was no question whether we could realize significant time savings. How about costs of using the computer? This was a difficult question to answer. The costs per minute of terminal connect time and the costs per second of computer run time were easily obtainable. However, the potential time sav-

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ings were difficult to correlate with the actual computer costs. The problem was that we had no historical data on how long it would take an auditor to obtain a random sample manually, how long for a regression analysis problem, how long for doing the mathematical computations on a 14-column working paper using a desk calculator, etc.

We decided that, since we could prepare no valid cost-benefit analysis, the ultimate test would depend on how much we actually used the terminal. The assumption was that any valid application run on the computer was obviously going to save the auditors' time. The costs of the computer for each of these jobs would be considerably less than the costs of doing the work manually.

By this time we had one final question. Would the time savings on each job and the potential number of computer applications be adequate to amortize the monthly fixed costs of about \$85? Analysis of our past and expected statistical sampling requirements convinced us that we could probably amortize the fixed costs just by obtaining random numbers from the computer.

Training of Staff

Then came the matter of training. Who should be trained to write programs for the computer? Should we have more than one person trained? The company whose computer we were using provided a 2-day course in terminal applications and programming in beginners all-purpose symbolic instruction code (BASIC). This programming language is relatively easy to learn and it is possible to get a good

grasp of the fundamentals in the 2-day course. To provide as wide an exposure as possible, we had most of our supervisors and audit managers attend this course.

The course was provided at no cost to our office other than the salaries of the students. Several staff members became interested in the BASIC language and continued their studies through the more advanced applications. As a result of this training program, we have several people who can write very complex programs for a variety of situations as well as a general awareness among the staff about the potential of the terminal. This was accomplished at minimum cost.

With the installation of the terminal our education really began. We found quickly that the classroom applications were nice but in actual use things were not quite so jolly. For one thing, we learned that absolute accuracy is necessary when entering programs and data into the computer. A comma instead of a period is adequate to stop the whole show. An "X" instead of an "*" to show multiplication will get you nothing but an error message. We also learned that the steps in accessing the computer and giving it commands are very precise. A correct command given in the wrong sequence can cause the computer to reject your problem.

Utilization of a Terminal

Once the operators achieved the necessary respect for absolute accuracy, we proceeded to find out what this tool could really do for us. We found that we could have site staffs telephone us



The author, Donald Ingram, at the time-sharing computer terminal in the Denver Regional Office.

information on the universe, the low number, the high number, and the quantity of random numbers needed. With this information we could furnish a printed list of the random numbers in random sequence and in ascending order in a few minutes. This selection and organization had been taking from 1 to 3 hours in the past.

We found that problems requiring repeated calculations to arrive at the needed answer could be processed through the computer in a few minutes. The computer can sort data very quickly on the basis of numeric or alphabetic fields. Regression analysis problems that would be very difficult to

solve manually can be processed through the computer in a few minutes. In all cases the terminal generates a printout of the answer and any intervening computations required.

We have found that we can write programs that will print out columnar headings and tabular data in the format desired by the audit manager or site supervisor. This product becomes a working paper with several advantages. The printout is more legible than those working papers prepared manually. Accuracy (assuming the program is correct) should not normally be subject to detailed review and verification by the supervisor.

Example of Usage

An example of an actual problem and the solution will give the reader an idea of the potential of the terminal. A Federal agency involved in the production and transmission of electric power amortizes each year's investment in power facilities over 50 years. Interest is computed annually on the unamortized investment. It has been 26 years since the initial investment and additions to the investment have been made in each of the 26 years. In effect, the agency now has 26 investments, each with a different remaining life for amortization purposes.

Revenues to date, after deductions for interest, have not been sufficient to cover the scheduled amortization. The unamortized balance of the investment is, therefore, substantially larger than if the amortization schedule had been met. This, of course, has increased and is still increasing the computed interest payments.

The interest rate used by the agency in computing interest on the unamortized investment is currently less than the cost to the Treasury of borrowing money, and an interest "subsidy" to the project is the result.

Problem

If the amortization, or "pay out" period were now changed from 50 years to 100 years, what would be the total additional interest subsidy required?

Assumptions

1. The deficit to date in amortization was prorated to each of the 26 annual investments, weighted

by the number of years they have been in service.

2. For each investment the remaining amortization period was considered to be 100 years less the period it has been in service. For example, the last year's investment would have 99 years remaining.
3. The interest subsidy was assumed to be 3 percent, the approximate current difference between the interest rate used and the cost of Treasury borrowing.
4. No additional investments will be made. That is, the computation of additional interest subsidy will be based only on the plant now in service.
5. Revenues will be just sufficient to cover the interest and amortization. In other words, none of the investment will be paid off in advance.

Approach

If we had obtained an answer manually, our approach would have been as follows:

1. Prorate the current unamortized investment to the 26 annual investments (78 calculations).
2. Using the equation for the sum of an arithmetic progression— $S = n/2 (2(x_1) + (n-1)d)$ —compute the total interest payments for each of the 26 investments for the time remaining on a 50-year schedule and the time remaining on a 100-year schedule (52 calculations, considering each application of the equation as a single calculation).
3. Before using the equation in (2),

it is necessary to determine the annual *change* in interest (the "d" in the equation) for each investment, both on a 50-year basis and a 100-year basis (52 calculations).

4. Add the total interest payments computed in (2) on a 100-year basis. Add the total interest payments on a 50-year basis and subtract the latter sum from the former (three calculations).

Since most of the annual investments were in the tens of millions, it can be seen that the foregoing calculations would take some time with a desk calculator. Since we did not obtain the solution manually we do not know how much time would be required.

In putting this problem on the time-sharing computer, we could have used the same approach as outlined above. In view of the speed of the computer, however, the number of calculations to be made is of little importance. We, therefore, used a year-by-year approach, calculating the amortization, interest, and new unamortized balance for each year in turn. This was done for the 49 remaining years of the 50-year basis and for the 99 remaining years of the 100-year basis. By using this approach we were able to get a printout for each basis showing for *each* year the amortization, the unamortized balance, the interest subsidy for the year, and the cumulative interest subsidy.

The time required to obtain our solution, plus the two detailed printouts and exclusive of programming time, was about 25 seconds of computer time and 26 minutes of terminal time for the

printouts. This represents about \$4.75 in computer costs.

Cost and Time-Saving Benefits

The question has been raised repeatedly concerning how long it may take to obtain answers once the problem has been transmitted from the site to the regional office and the terminal. On the basis of our tests, we believe we can consistently provide a 5-day turnaround time. In some cases we can provide answers immediately and relay them to the auditor while he is still on the telephone.

Our costs for the terminal have been averaging about \$300 a month. This includes the fixed cost of \$85 for the terminal and the telephone line. It is apparent to us that this cost is easily offset by the time saved by our auditors. This, in effect, allows them to spend more time on other important and demanding aspects of our work.

Time-sharing service is now commercially available in all major cities. The General Services Administration is operating a Government-owned time-sharing service in Atlanta, Ga. The Environmental Science Services Administration (now the National Oceanic and Atmospheric Administration) has time-sharing capabilities on their computer located at Boulder, Colo. I believe that we will soon have Government-owned time-sharing services available to auditors anywhere in the country.

Experience is showing that the concept of auditors using time sharing is sound. Local offices of the Defense Contract Audit Agency and the Air Force Auditor General have installed time-

sharing computer terminals. Officials at these offices tell us that they are enthusiastic about the current and potential uses of the terminal as an audit tool. As we develop more applications for our terminal, it will take on even greater importance as an extension of the auditors' capabilities.

The Work of the Youth Advisory Committee to the Comptroller General

By James R. Rhodes

This article describes the Youth Advisory Committee to the Comptroller General and its purpose and work during its first year of existence. The comments expressed in this article are those of the author and are not intended to be construed as representing those of the entire committee.

The President of the United States issued a memorandum to the heads of all Government departments and agencies on October 10, 1968, expressing his personal interest in improving agency management efforts to attract and develop talented young people for Federal service. The President asked each department and agency to create a committee through which young trainees representing various disciplines and programs could review and evaluate all aspects of the systems through which the trainees become part of the Federal work force. The President further stated that each such departmental and agency committee should include representatives from (1) present and recent past career trainees, (2) immediate staff, (3) personnel office, and

(4) line managers and supervisors who have worked with career trainees.

The President suggested four questions for initial exploration by each department and agency youth advisory committee. These were:

1. Through what channels did the agency insure that the ideas and suggestions of young employees were solicited and considered by the managers with authority to act?
2. To what extent did career trainees participate directly in the design of their training programs and in the structure and content of their work assignments?
3. To what extent could young people working in the Federal Government serve as a link between the

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Government and the student community?

4. How could minority group participation in career trainee programs be increased?

Formation of Youth Committee

The Comptroller General implemented the President's request in February 1969 by creating the Youth Advisory Committee to the Comptroller General under the auspices of the Director, Office of Personnel Management. The committee membership evolved to consist of the following professional staff members.

Civil Division

Anthony Assia
Louis Coons
Jane Davis
John Ols
Kenneth Shuman
Lawrence Zenker

Defense Division

Marvin Brown
Patricia Koczur

International Division

James Rhodes

Transportation Division

Donald Friedman

Regional Offices

Detroit
Robert Rogers
Kansas City
Jerry Pennington
Los Angeles
Thomas Schulz
New York
Joan McCabe

Norfolk

John Payne
John Ratliffe

Philadelphia

Robert Meahl

San Francisco

John Williams

Washington

Mark Heatwole
Richard Nygaard

Qualifications for Membership

In determining who should be selected to serve on the committee, it was decided that the qualifications outlined by the President would be the primary governing factors. However, to the President's qualifications were added the qualifications that a committee member should (1) be under 35 years of age, (2) be in a grade between GS-7 and GS-13, and (3) be nominated by a division director or a regional manager of the office to which the member is assigned.

Committee Objectives

The committee members, during their first meeting in March 1969, established the following committee objective.

To provide a direct method for career staff members to inform top management of their ideas for improving or implementing practices for accomplishing the purposes inherent in our system [the General Accounting Office system] for recruiting, selecting, placing, training, and utilizing career staff members.

In subsequent meetings it was established that the committee, in pursuing its objective, was not to assume an internal audit function; that is, there was

to be no formal audit work for gathering of information to supplement the conclusions of committee members resulting from informal, ongoing surveys of the opinions of other staff members.

Committee Accomplishments

During its first year, the committee met on five occasions to identify and discuss problems which concerned the young professional staff members of the Office. Three areas most frequently brought to the attention of the committee were selected for study. These areas were career counseling, promotion, and recruiting. Although information relative to each of these areas was carefully studied, the committee was limited in making a comprehensive analysis of each area due to the limited scope, authority, and time initially invested in the studies.

The results of the committee's studies were incorporated into a report submitted to the Comptroller General on March 3, 1970. A summary of the committee's report is presented below.

Career Counseling

In the area of career counseling, the report discussed the inconsistencies found within the Office in the administration of the professional development coordinator program. This program must be effectively implemented if it is to be a valuable asset to the Office. The committee found that some offices and divisions did not have a professional development program or coordinator. In others, some professional development coordinators were not coordinating their counseling effort with

other key staff members who might be responsible for counseling; that is, supervisors, managers, directors, and others. In many instances, career counseling committees were not functioning as intended since they were not composed of supervisors, professional development coordinators, and regional managers or directors or their authorized representatives.

The General Accounting Office uses the Professional and Career Development Planning Form (GAO Form 344) to provide staff members a basis for formulating their professional and career development objectives and a systematic means for reporting periodically on their progress in attaining those objectives. The committee's report to the Comptroller General pointed out that the form was not acceptable to some of the professional staff members, generally because it tended to be a stereotyped, and perhaps biased, data collection form rather than being an action-generating form to assist an individual in best achieving his goals by integrating them with the objectives of the Office. In addition, the report stated that other staff members were of the opinion that the present system of only periodically rating performance and appraising promotion potential fostered a lack of coordination of the counseling by the professional development coordinators and the day-to-day, on-the-job counseling by supervisors.

To overcome these inconsistencies and improve the administration of the counseling program, the committee suggested that management officials consider:

1. Taking the necessary steps to bring

all members of the career counseling committee into the counseling process.

2. Providing adequate guidance to establish professional development programs in those offices and divisions where none presently exist.
3. Appointing qualified professional development coordinators and granting them sufficient time to provide more comprehensive and meaningful counseling to individual staff members in all areas of professional development.
4. Abolishing the existing Professional and Career Development Planning Form (GAO Form 344) and replacing it with a data-reporting system that would adequately reflect the training needs and goals of the professional staff members, attuned to the objectives of the Office.
5. Reexamining the present forms of career and supervisory counseling to develop a workable system for providing timely attention to the professional development of staff members.

The committee concluded that there was still much to be done in the area of career counseling. It was the committee's hope that, by identifying or suggesting ways to improve and better coordinate supervisory and career counseling, it could objectively assist management in finding ways to make career counseling responsive both to the aspirations of the young professional staff member, and to the objectives of the Office.

Promotion

The committee's report on the Office's promotion system concluded that communication between management and the professional staff regarding the promotion system of the Office and promotion criteria appeared to be a problem. On the basis of a poll of a limited number of staff members (although it was considered a representative sampling), the committee concluded that a high percentage of the professional staff members in grades GS-9 through GS-13 did not consider themselves sufficiently informed on the Office's promotion program. Moreover, some professional staff members believed that the process of the annual rating of promotion potential and the career counseling program should be more effectively coordinated.

Accordingly, the committee suggested that responsible management officials consider steps which would insure that all staff members are sufficiently informed of the Office's promotion process, policies, and criteria. Such steps, in the committee's opinion, should include a thorough discussion with each staff member of his Appraisal for Promotion Potential (GAO Form 268A).

Recruiting

The committee believed that the Office's recruiting program was essentially successful. It was the feeling of the committee that the hiring of personnel with nonaccounting disciplines—39 percent of the staff members hired in 1969—was the major reason for the success of the past year's recruiting program. The committee believed, how-

ever, that there were some areas in the recruiting program where further improvements could be made and suggested that:

1. Recruiters contact as many college placement officials as possible.
2. The Office of Personnel Management conduct more faculty seminars, since such seminars offer excellent publicity potential for the recruitment program.
3. Recruiters be made aware of the staffing needs of all regional and Washington offices, in addition to the one they represent.
4. Recruiters reexamine the present language of form letters sent to prospective employees in order to provide more personal messages to the recipients.
5. The Office of Personnel Management continue to encourage offices and divisions within the Office to recruit staff members from minority groups.

Conclusions

During its first year in being, the Youth Advisory Committee to the Comptroller General demonstrated that it was an effective forum for the gathering of suggestions and critiques concerning the range of activities involved in the training and utilization of professional members of the Office.

The committee made a number of constructive recommendations to management for improving career counseling, promotion policies and procedures, and recruiting techniques. During the coming year, the committee plans to re-

view and evaluate other aspects of the system through which professional young people may become a part of the work force of the General Accounting Office. Areas under consideration are:

1. Staff members' views regarding the effectiveness of the utilization of the professional talents of young staff members.
2. Suggestions for obtaining better communication of policies, procedures, and ideas from the Washington staff to regional office staffs.
3. The ascertaining of some of the fundamental reasons and causes of staff turnover.

EDITOR'S NOTE:

The GAO Office of Personnel Management has provided the following information about the committee's recommendations:

Career Counseling

The Office of Personnel Management (OPM) was reviewing certain aspects of the career development program during the first year's existence of the Youth Advisory Committee. A number of changes resulting from OPM's review were similar to changes suggested by the committee. Career counseling in the career development program was made optional. Also the GAO Form 344 is now being retained by the division or office and only summary reports are being forwarded to OPM. Semiannual professional development coordinators' conferences have also been established.

Promotion

The Office of Personnel Management now discusses the GAO merit promotion plan in the basic supervision seminar partly as a result of the committee's report. The Office is continuously reviewing the administration of the plan and changes will be made as needed.

WORK OF THE YOUTH ADVISORY COMMITTEE

Recruiting

As a result of suggestions made by the committee, the Office of Personnel Management and the recruiting offices are attempting to convey a more personal message in written communications with prospective employees. OPM is reemphasizing the need to conduct additional faculty seminars during

the coming year and will also provide recruiters with information on GAO's overall staffing needs as well as on individual office and division needs. This reemphasis is partly due to suggestions made by the committee. GAO will continue with its present policy of hiring qualified persons regardless of race, creed, sex, or national origin.

From GAO Speeches

Elmer B. Staats, Comptroller General, speaking on "The Nation's Interest in Improving State and Local Government" at the regional conference of the American Society of Public Administration, Topeka, Kans., October 23, 1970:

I suppose there are few periods in our national history when the role of government has been under such serious challenge as to whether government at all levels can be made responsive and responsible for dealing with the Nation's problems. One point is clear, however: government is being called upon, and will be called upon increasingly, to perform more services and a growing portion of our national income is going to support governmental programs at all levels—Federal, State, and local.

* * * * *

The heightened concern about Federal-State-local relationships gave rise to the establishment of the Advisory Commission on Intergovernmental Relations in the late 1950's—the establishment of which I was much involved with personally. This agency, although clumsily organized and not designed to function in a coordinating role, has made a major contribution through its excellent studies, focusing on the need for improvement in such areas as the consolidation of grant programs, the sharing of tax revenues and tax sources, and a host of problems in programs such as welfare, education, and health.

I would personally hope that the States would take advantage of the provision in the Intergovernmental Cooperation Act which permits Federal agencies to render technical assistance to the States and local governments on a reimbursable basis. These and many other avenues of cooperation must be extended. I was much interested, for ex-

ample, in the August 1970 report of the Intergovernmental Relations Committee of the National Legislative Conference that 43 State legislatures have now appointed coordinators to work with the National Legislative Conference on Federal-State matters. The Committee has now recommended that State legislatures create permanent committees on intergovernmental relations with supportive staff. This idea strikes me as an exceptionally good one, and it could do much to promote the kind of interchange and coordination so badly needed.

* * * * *

Needless to say, auditors and auditing are not always popular subjects. Auditors are credited as being people with 20-20 hindsight, as people who simply get in the way of others who try to carry out programs or who capture headlines by pointing out errors and mismanagement. The role of the auditor was described vividly in a little poem written by Professor Kenneth E. Boulding of the University of Colorado.

"It's nice to be the drafter of a well-constructed plan
For spending lots of money for the betterment of man,
But audits are a threat, for it is neither games nor fun
To look at plans of yesteryear and ask, 'What have we done?'
And learning is unpleasant when we have to do it fast,
So it's pleasanter to contemplate the future than the past."

Paul G. Dembling, General Counsel, speaking on "It's Not the Same GAO" before Town Hall of California, Los Angeles, Calif., November 17, 1970:

As the budgets increase, as programs proliferate in complexity as well as size, as

taxes increase, as programs vie for funds, the need to place greater emphasis on results achieved has received a great deal of attention not only in the General Accounting Office and the Congress, but also in the executive branch agencies, State and local governments, and in private industry. We can no longer afford the luxury of public expenditures that are but marginally productive. It should also be noted that the Congress has specifically expressed its interest in having the General Accounting Office emphasize reviews of program results in the Economic Opportunity Amendments Act of 1967, in the Intergovernmental Cooperation Act of 1968, in the Manpower Development and Training Act, and in the recently enacted Legislative Reorganization Act of 1970.

E. H. Morse, Jr., director, Office of Policy and Special Studies, speaking on "Performance and Operational Auditing" at the Northwest Graduate Study Conference, Salishan Lodge, Oreg., October 22, 1970:

The hallmark of the effective auditor comes from what he accomplishes. Just being in operation usually has beneficial results in that his presence or prospect of showing up tends to stimulate better performance by the officials and employees of an organization.

His checks on compliance with prescribed policies and procedures that have been adopted to promote efficient operations and conserve resources can be a valuable protective service as well as often pointing the way to desirable changes.

His unending searches for better, less costly, and more effective ways of doing things can make him a vital force in the management of any organization that has to be concerned with survival in the competitive struggle to obtain and make the most of scarce resources.

And finally, the auditor's concern with providing independent expert evaluations on how well things are going and on how better results might be achieved if done differently points the way to an expanding future for the art and the profession of auditing. In this direction, I think it has a very bright

future. How bright depends on the profession's own performance.

Fred J. Shafer, deputy director, Transportation Division, speaking at the convention of the Household Goods Forwarders Association, Palm Springs, Calif., October 9, 1970:

Exclusive of Southeast Asia, we have over 250,000 Americans—many accompanied by their families—in other points in the Pacific and Far East. There are approximately 235,000 servicemen in Germany, which—with their dependents—constitute about 500,000 Americans. In terms of population this is about 20 percent of the entire population of Ireland, and almost twice as large as the entire population of Luxembourg. These huge populations are superimposed on a foreign economy and culture, but the American foods, clothing, furniture and automobiles and all of the elements of the American life style are transported into the foreign environment to sustain them, to say nothing of the purely military items required. Not only are there large American populations in Europe, but within any 18 to 24 month period the entire population is almost completely rotated and replaced. This is a huge and continuing logistics problem. Yet no single DOD organization is charged with the responsibility for management or even oversight of the through logistics support system. We hope to develop a technique for analyzing these movements on a total systems basis, and of course, the household goods program will be a part of that study.

* * * * *

The Joint Agency Transportation Study was recently completed and the report issued under the sponsorship of the Joint Financial Management Improvement Program. The report includes 58 recommendations for improvements in the Federal Government's transportation practices. The GAO is responsible for implementation of 30 of these recommendations.

* * * * *

One significant observation of the study is that the GAO role as a transportation rate

auditor should change progressively to that of checking on the adequacy of agency audit activities and agency controls over payments. This contemplates that ultimately the GAO will relinquish its role as a central voucher auditor to an agency audit concept using computerized audits where possible. Thus, at some future date, the audit of your payments will probably be performed in the agencies for which you are performing the services. Indeed, there is a strong school of thought within GAO itself which suggests that the need for us to become actively involved in the framing of the rate and service tender provision because of our voucher audit responsibilities, causes a dilution of our objectivity in reviewing the effectiveness with which DOD manages its household goods program.

Max A. Newirth, associate director, Civil Division, speaking about opportunities for improving the administrative and financial operations in the U.S. District Courts, at the meeting of the Chief Judges of the U.S. Court of Appeals, Federal Judicial Center, October 28, 1970:

Until very recently, our work in the judicial branch consisted of examining, at the Administrative Office in Washington, various documents concerning financial transactions furnished by the clerks of courts, generally for the purpose of settling accountable officers' accounts. However, as had been the case in the executive branch, we believed our efforts would be much more useful to everyone concerned, including the judicial branch, if we carried out our work at the sites of operations.

In August 1968, the Comptroller General explored this situation with the Judicial Conference's Committee on Court Administration in order to seek a mutually satisfactory agreement under which the GAO could perform reviews at the various court sites.

At its September 1968 proceedings, the Judicial Conference approved the Committee on Court Administration's recommendation that the Director, Administrative Office, enter into an agreement with GAO for "onsite in-

spection of court records." In December 1968, the Director and the Comptroller General reached such an agreement.

On October 8, 1970, we issued a report to the Congress on our findings. This report is aimed at assisting and furthering the efforts of the Judicial Conference for improved administration of the courts.

We found that there were opportunities to reduce the number of prospective jurors summoned to appear at district courts but not selected to serve. For example, in one district, over 8,000 prospective jurors reported for jury duty during calendar year 1968. However, about 60 percent or almost 5,000 were not impaneled or challenged. In another district, about 40 percent of the prospective jurors summoned did not serve.

We recognize that the courts must have more prospective jurors available than will be impaneled to allow for the uncertainty of the number of prospective jurors to be excused and challenged. However, we believe that the substantial number of prospective jurors summoned but not selected to serve indicates that opportunities exist to reduce the number summoned. This reduction would result not only in substantial financial savings but would significantly reduce the number of persons inconvenienced. In his recent remarks on the State of the Federal Judiciary before the American Bar Association, Chief Justice Warren E. Burger stated:

"Countless citizens serving as jurors have been irritated with the inefficiencies of the courts because they find themselves watching TV in the Jurors' Lounge rather than hearing cases in court."

In order to reduce costs and improve the relationship between the courts and the public, we are suggesting that consideration be given to (1) consolidating requirements for prospective jurors when two or more judges are selecting juries, (2) coordinating court calendars so that, whenever possible, judges will be selecting juries on the same day, and (3) varying impanelment starting times on the days when jurors are being selected so that the prospective jurors challenged or excused in one courtroom would be available for selection in another courtroom.

In reviewing the deposits of registry ac-

FROM GAO SPEECHES

count funds, we found that, during fiscal year 1969, there was an average monthly balance of \$56 million of registry account funds of which \$30 million was on deposit in *non-interest-bearing* accounts in commercial banks. We estimate that the Government could have realized savings of about \$1.8 million in interest cost during fiscal year 1969 if the funds had been deposited with the Treasurer of the United States in Federal Reserve banks.

Of the 93 districts, 63 used commercial banks, 12 used both commercial and Federal Reserve banks, and 18 used Federal Reserve banks exclusively without hindering their operations.

We are suggesting that a policy be established to deposit registry account funds in Federal Reserve banks and to transfer registry account funds now on deposit in commercial banks to Federal Reserve banks, so that the resultant benefits would accrue to the Government.

Our review of jury selection procedures disclosed that the three districts included in our review were using time-consuming manual systems in selecting juries. In one of

the districts, these procedures involved the manual preparation of about 44,500 cards for the initial jury wheel drawing and the manual issuance of over 33,000 questionnaires.

We are suggesting that the districts that meet the Administrative Office's criteria be encouraged to implement the automation of juror selection procedures in the interest of efficiency and economy.

In our report, we also discussed the advisability of strengthening the role of the Administrative Office and consolidating certain court locations which we believe are worthy of consideration.

The principal objective of our review was the identification of potential improvements to bring about more efficient and economical administration of court activities and to reduce the judges' administrative burdens so as to permit the judges to devote a greater portion of their time to judicial matters. We believe that improvements in the administration of court affairs would bring about better relationships between the courts and the public and would enhance the position of the judiciary.

Broadening the Focus of GAO Work

There has been considerable discussion in the Congress recently concerning additional ways in which GAO could better fulfill its obligations to the legislative branch. Many Members of Congress are of the view that one of the ways to make GAO's work more meaningful and useful would be to focus such work upon new proposals.

Illustrative of the broadening focus of GAO's work to include legislative proposals under active consideration by the Congress is its recent study to determine the savings that might be brought about for the Federal Government through programs assisting its civilian employees in the prevention and treatment of alcoholism.

This study was made by a two-man task force of the Civil Division consisting of associate director *Philip Charam* and supervisory auditor *Irving T. Boker* who have provided the following descriptive commentary about the study.

The study was made in response to a request of Senator Harold E. Hughes, chairman, Special Subcommittee on Alcoholism and Narcotics, Senate Committee on Labor and Public Welfare. The Comptroller General's report was issued to the subcommittee in September 1970. A bill providing a comprehensive Federal program for the prevention and treatment of alcohol abuse and alcoholism for all people, including Federal civil servants, passed the Senate on August 10, 1970.

GAO's report pointed out that alco-

holism has been hidden and denied for so long that no one really knows how many people are suffering from it. Data was not available on the number of Federal civilian employees suffering from the illness or on the resultant cost to the Federal Government in terms of lowered worker efficiency and morale, absenteeism, bad decisions, early retirements, and related loss areas.

Therefore, in conducting its study, GAO relied on information provided by individuals in Federal agencies, State Governments, and industry, and by others who have studied the problem of alcoholism to arrive at the following estimates of the prevalence of alcoholism in the Federal Government, the employer costs incurred as a result thereof, and the cost savings that might result from an effective Government-wide alcoholism program.

At assumed rates of prevalence of alcoholism ranging from 4 to 8 percent of the work force of 2.8 million civilian employees at June 30, 1970, it was estimated that between 112,000 and 224,000 employees were suffering from alcoholism.

Using a factor of about 25 percent of the average annual salary (\$9,800) of civilian employees, GAO estimated that the annual cost to the Federal Government, because of alcoholism among its civilian employees, was between \$275 million and \$550 million annually.

An alcoholism program for Federal civilian employees—that would involve informing all employees concerning the illness, training supervisors in identifying alcoholics and problem drinkers, and counseling and referring employees to treatment facilities—was estimated to cost about \$15 million a year.

About 54 of every 100 alcoholic employees would be likely to recover as a result of an

employer's alcoholism program. Therefore, the employer costs being incurred by the Government because of alcoholism among its employes (\$275 million to \$550 million), might be reduced by over 50 percent by the establishment of an effective alcoholism program.

Thus, by investing about \$15 million a year in an alcoholism program, the Federal Government could realize a net employer cost savings ranging from about \$135 million to \$280 million annually.

In line with GAO's widening interest in the social aspects of Government programs, the report pointed out that an effective Government-wide alcoholism program would not only bring about substantial employer cost savings, but also, by helping reduce the number of alcoholics in the total population, would contribute to the economic and social benefits which the Federal Government and society as a whole would obtain from alcoholism programs in general. Such benefits would take the form of reductions in, for example, traffic accidents, crime, and the need for welfare and medical services attributable to the misuse of alcohol.

In conclusion, GAO's report expressed the view that a program aimed at salvaging the alcoholic Federal employee would attend to a part of one of the Nation's major health problems and, at the same time, would give a group of sick Federal employees a greater chance to recover and live decent lives.

The following excerpts from statements made by the chairman of the Senate Special Subcommittee on Alcoholism and Narcotics attest to the significance and usefulness of the GAO study report in serving the interests of the Congress and the public as a whole.

* * * It is my privilege to announce to the Senate the issuance of a milestone report by the Comptroller General of the United States which points the way to very substantial improvement in the efficiency and economy of the Federal Government operation. * * * this report * * * is a breakthrough revelation of the tremendous savings in human and economic resources that can be achieved by the institution of professional, tested methods for controlling alcoholism and problem drinking that cost very little by comparison with their potential savings.

It is our expectation that the report will be of great interest not only to the Congress when seeking information on this subject, but also to State and local officials seeking an answer to the problems of alcoholism.

The Special Subcommittee on Alcoholism and Narcotics will give careful consideration to this report in the hope that it may contribute to the economic and social benefits of the Federal Government and the citizens of our country.

Comments received by the Comptroller General on the study report include the following:

From the National Council on Alcoholism, Inc.

The completed report reflects a degree of objectivity and competent professionalism which merits our most sincere appreciation and commendation.

From a firm in private industry

Efforts of this kind to establish cost/benefit estimates are very valuable in furthering a long-neglected area of human resources loss reduction.

Qualifications of Public Accountants Making Audits of Federally Chartered, Financed, or Regulated Organizations

New GAO policy on this subject as announced by the Comptroller General in a circular letter to Federal

agency heads on May 12, 1970, and noted in the Summer 1970 issue of the *GAO Review* (p. 60), was further modified on August 10. The additional change provides that public accountants licensed as of January 1, 1971, would be considered as qualifying for such audit work.

The policy as now revised provides:

1. The audits shall be conducted:
 - By independent CPAs or
 - By independent public accountants who are not certified but who are licensed on or before December 31, 1970.
2. Until December 31, 1975, such audits may also be performed:
 - By uncertified public accountants licensed after December 31, 1970, and
 - By public accountants who are neither licensed nor certified but who are considered by the Federal agency concerned as meeting the standards of education and experience representative of the highest prescribed by those States who provide for the continuing licensing of public accountants.

Under the revised policy, the head of the Federal agency concerned may prescribe even higher qualification standards than those of the States if he deems it necessary in the public interest.

The Navy Way?

During the House Appropriations Committee hearings on appropriations for the Navy for 1971, the following ex-

change took place on March 12, 1970, between Representative Minshall of Ohio and Captain W. Oller, SC, Director, Office of Information Systems Planning and Development:

Mr. Minshall. The committee has a GAO report on the installation of a computer at the Naval Postgraduate School in Monterey. It is not a very good report, to say the least. Among other things, the report points out that the computer (1) will not be fully utilized, (2) requirements were not properly planned, (3) cost was more than estimated, and (4) after installation did not meet specifications.

It seems that quite a bit has gone wrong here. Can you give us the story about what the Navy is doing about it?

Captain Oller. All these allegations are true. (Captain Oller then provided a lengthy explanation of strengthened procedures for correcting this situation and preventing recurrences.)

Mr. Minshall. I think you are to be commended. You are the first naval officer I ever heard admit before the committee that the GAO was right and the Navy is wrong.

(Hearings, Part 3, Operation and Maintenance, p. 363)

How To Be a Great Boss

From the Los Angeles Regional Office newsletter for October 1970 (basic source not identified):

The secret is learning to be a "tough nice guy." Seldom do executives realize it. The best way to do this is through actions which identify them as tough but fair. Most managers and executives are aggressive, strong-willed people; that is one of the reasons why they are in management positions.

To be an effective manager requires much more than the ability to be personally productive. It involves delegating responsibility and motivating the employees to make maximum use of their abilities. The best way to obtain maximum productiveness from employees is very simply to treat them like peo-

ple; accord them respect, courtesy and dignity. At the same time an effective executive must have the courage to use discipline when a situation demands it.

Tribute to Thomas D. Morris

At the time of the appointment of Mr. Morris as Special Assistant to the Comptroller General, the following tribute was paid to him by Senator William Proxmire of Wisconsin and presented in the Congressional Record (Sept. 30, 1970) :

Mr. Proxmire. Mr. President, over the past decade and a half, one of the most hard-working and dedicated public servants has been Thomas D. Morris. He is especially known for his work at the Department of Defense, where he served as Assistant Secretary of Defense for Installations and Logistics and, later, as Assistant Secretary of Defense for Manpower.

Numerous innovations and efficiencies followed from Thomas D. Morris' stewardship, especially the establishment of the Defense Supply Agency when knocking heads together was absolutely vital in substituting a single agency for a proliferation of individual service supply agencies which duplicated one another.

He was also responsible for the prompt and vigorous action which the Defense Department, in the 1960's, took on General Accounting Office criticism and reports; for the vastly improved procedures and large savings in the disposal of excess and surplus property; and for the reduction of "gold plating" in the procurement of defense items.

Everyone I know gives the highest marks to Thomas D. Morris for his work at the Pentagon in the area of supply and logistics. He filled one of the toughest jobs in the Government.

Now he joins the General Accounting Office as a Special Assistant to the Comptroller General. He is doing this in a period when the work of the GAO in the area of defense efficiency has taken on a new importance and a new meaning. The contributions to our national defense, the security of the country, and

to the economic well-being of all Americans can be greatly enhanced by the actions of a vigorous congressional watchdog agency.

For my own part, I am delighted that the legislative branch of the Government now has the services of Tom Morris. He is to be congratulated for choosing this avenue of service, and Comptroller General Elmer B. Staats should be praised for having the foresight and initiative to bring Tom Morris back to Government service. Only the country can benefit.

Environment of the Procurement Official

The following brief description of this environment was given by Philip N. Whittaker, Assistant Secretary of the Air Force (Installations and Logistics), during hearings on September 30, 1970, before the Military Operations Subcommittee of the House Committee on Government Operations on policy changes in weapon system procurement.

The environment in which these procurement officials work is a demanding one. They are obliged to conform to a significant number of statutes, executive orders, and a great body of other policy and procedural guidance. This material, it should be emphasized, is in a fairly constant state of change, so that it represents something of a moving target. Coupled with this is the possibility of commanders, auditors, service inspectors, the GAO, and, perhaps, a congressional committee looking over their shoulders on an after-the-fact basis; plus the pressure of the ever-present military requirement which must be satisfied—not to mention a number of possibly sophisticated and almost certainly hungry suppliers, only one of whom will win the award. This, perhaps, provides the beginning of an understanding of the environment confronting the individual buyer. These people perform a tough, demanding task with—in my judgment—a generally high level of competence.

What Is a Grant?

The 1971 Federal budget includes something like \$27 billion—about 13 percent of the total budget—for grants to State and local governments for a variety of purposes. With such a substantial amount involved, it is well to know just what a grant is. Fortunately, the Intergovernmental Cooperation Act of 1968 provides an authoritative statement of what the term means and what it does not mean. This “definition,” which is restated in Bureau of the Budget Circular No. A-98 of June 5, 1970, is as follows:

. . . money, or property provided in lieu of money, paid or furnished by the United States under a fixed annual or aggregate authorization—(A) to a State; or (B) to a political subdivision of a State; or (C) to a beneficiary under a plan or program, administered by a State or a political subdivision of a State, which is subject to approval by a Federal agency; if such authorization either (i) requires the States or political subdivisions to expend non-Federal funds as a condition for the receipt of money or property from the United States; or (ii) specifies directly, or establishes by means of a formula, the amounts which may be paid or furnished to States or political subdivisions, or the amounts to be allotted for use in each of the States by the States, political subdivisions, or other beneficiaries. The term also includes money, or property provided in lieu of money, paid and furnished by the United States to any community action agency under the Economic Opportunity Act of 1964, as amended. The term does not include (1) shared revenues; (2) payments of taxes; (3) payments in lieu of taxes; (4) loans or repayable advances; (5) surplus property or surplus agricultural commodities furnished as such; (6) payments under research and development contracts or grants which are awarded directly and on similar terms to all qualifying organizations, whether public or private; or (7) payments to States or politi-

cal subdivisions as full reimbursement for the costs incurred in paying benefits or furnishing services to persons entitled thereto under Federal laws (as defined in the Intergovernmental Cooperation Act of 1968).

Defense Management Use of Cost Data

On April 12, 1968, the Comptroller General submitted to the Congress a report on the GAO review of the implementation of the accrual accounting system for operations in the Department of Defense (B-159797). This report was brought up for discussion by members of the House Appropriations Committee during hearings in March 1970 on Defense appropriations for 1971. The following discussion between Representative Minshall of Ohio and Robert C. Moot, Defense Comptroller, on management use of data from the new system is of especial interest:

Mr. Minshall. Going on with the GAO report a little further, they point out that there is a distinct lack of progress in management use of the financial data generated by this new system. What good is there in installing an expense control accounting system of this type if the information generated is not being used by management?

Mr. Moot. It is true that we are not yet at the point where we are getting even good, no less maximum, management benefits from this system. On the other hand, as this committee said, we are moving with careful and deliberate speed in this area.

It is now necessary for us to develop another part of the system, another phase of the system, called output measurement, so we can compare what we are getting for the cost, and ultimately develop standard costs. We are moving in this direction.

Mr. Minshall. What kind of training do you plan to give to get better utilization of this management program?

Mr. Moot. We plan to develop our pro-

gram for output measurement which means we plan to develop indexes and workload measures which indicate what we are getting for the costs that we are incurring. As we can develop these, we can then compare installation to installation or military service to military service in order to stimulate better management of all of our support operations. (Hearings, Part 3, Operation and Maintenance, p. 48)

Questions About Accrual Accounting

The GAO booklet "Frequently Asked Questions About Accrual Accounting in the Federal Government" published in August 1970 was described in the Fall 1970 issue of the *Review*. Distribution of copies of this booklet by the Los Angeles Regional Manager, *H. L. Krieger*, to Government installation officials in that region elicited acknowledgments such as the following:

From a Marine Corps general

I like the laymen's language approach used...

From a Navy captain

The steady trend toward accrual accounting necessitates training management personnel as well as specialized accounting personnel at this command. The publication should be of significant assistance.

From a Coast Guard admiral

The subject has been extremely well covered and I find the method of presentation most interesting. I am certain that my staff and others concerned will benefit from this publication in applying the accrual principles to our operations.

From an Air Force colonel

I share your view concerning the usefulness of the publication in improved training of my accounting and finance operating people. We will make good use of the publication.



By MARGARET L. MACFARLANE

Chief, Legal Reference Services, Office of the General Counsel

**Reports of the House Committee
on Government Operations**

Of some 23 oversight reports issued by this committee in the second session of the 91st Congress, a considerable number reflect not only significant work efforts by the General Accounting Office but the diversification of Office activities and more importantly the use that the Congress makes of GAO studies.

These reports are as follows.

A Review of the Inequitable Monetary Rate of Exchange in Vietnam. House Report No. 91-1228, issued June 25, 1970. In this report acknowledgment was made of seven reports made by GAO pursuant to the request of the Foreign Operations and Government Information Subcommittee on how well any weaknesses and irregularities previously reported in the Agency for International Development programs in Vietnam had been remedied. The GAO reports covered (1) port situation, (2) claims against the Government of Vietnam, (3) illicit practices, (4) land reform, (5) hamlet evaluation system, (6) budgeting, control, and release of counterpart funds, and

(7) commercial import program. The subcommittee reintensified its interest in the U.S. program in Vietnam on the basis of GAO's findings and observations.

U.S. Economic Assistance to Transportation in Latin America. House Report No. 91-1229, issued June 25, 1970. This report dealt primarily with U.S. aid for construction of highways, particularly in Brazil, Bolivia, and Chile. GAO, in its study for the subcommittee issued on March 5, 1970, concluded that better advance planning of expensive construction was needed and that cost estimates increased because of inadequate planning. The text of GAO's study as well as comments on AID's reply to the findings and conclusions are included in the committee report.

Foreign Postal Debts Owed to the United States. House Report No. 91-1260, issued June 30, 1970. This report dealt with back postal debts of 15 countries totaling \$12.5 million which were the subject of a GAO report submitted to Congress on August 11, 1969. GAO had recommended that greater coordination between the Department of State and the Post Office Department would enable the United States to col-

lect amounts owed for international mail service. The committee strongly urged implementation of the GAO recommendation that payment of U.S. postal obligations be made in U.S.-owned excess foreign currencies rather than in U.S. dollars whenever possible.

A Review of Steel Purchased for the Commercial Barge Construction Program in Vietnam. House Report No. 91-1582, issued October 8, 1970. GAO developed information concerning failure of the Agency for International Development to phase a commercial barge construction program so that steel purchased by AID at a cost of more than \$1 million could be used without delay and without the resultant deterioration and loss.

Commercial (Commodity) Import Program for Vietnam (Followup Investigation). House Report No. 91-1583, issued October 8, 1970. This report was based on GAO onsite reviews and a status report relating to the commercial import program. The report concerned foreign exchange spending, licensing of importers, use of commodity analysts in determining requirements, and consolidated procurements through General Services Administration.

Civilian Medical Program for Vietnam. House Report No. 91-1584, issued October 8, 1970. The field work incident to an overall evaluation of the civilian medical program in Vietnam was performed by GAO and the information assembled provided the basis for the committee report.

Military Supply Systems: Lessons from the Vietnam Experience. House Report No. 91-1586, issued October 8,

1970. This report was based on a continuing study beginning in 1968 with a GAO report on Army supply activities in Vietnam. The report reflects the findings detailed by GAO in a study issued August 14, 1970, entitled "Need for Improving the Program for Use and Redistribution of Excess Materiel in the Pacific Area." In the committee report acknowledgment was made of GAO information covering the major weapons systems of the Department of Defense.

The Role and Effectiveness of Federal Advisory Committees. House Report No. 91-1731, issued December 11, 1970. The committee in its recommendation for terminating inactive and obsolete committees stated that it was in complete agreement with the Comptroller General's statement that—

One of the more significant problems is in the danger of committees being permitted to remain in existence beyond their usefulness.

If the continued existence of a committee serving no useful purpose involves staff and operating expenses, then an obvious waste of funds occurs. Even if continuation is in name only, involving no staff or expenses, it is undesirable merely because of the confusion it creates both in Government and in the minds of the public.

For this reason alone there needs to be a periodic and systematic review by both the agency head and the Office of Management and Budget as to the continued need for inter-agency and public advisory committees, together with a review of their membership and staff support.

GAO Report on Alcoholism

At the request of the Special Subcommittee on Alcoholism and Narcotics of the Senate Labor and Public Welfare Committee, GAO made a study to determine the savings that would re-

sult from the establishment of an alcoholism program for Federal civilian employees. (For a further discussion of this report, see p. 87.) The committee had GAO's report printed as a committee print under the title "Substantial Cost Savings From Establishment of Alcoholism Program for Federal Civilian Employees." The report was referred to in both the Senate and the House during the debate on the legislation enacted as the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment, and Rehabilitation Act of 1970.

Legislative Reorganization Act of 1970

The signing of the Legislative Reorganization Act on October 26, 1970, Public Law 91-510, with provision for greater assistance by GAO to the Congress represented a landmark piece of legislation. The provisions of this law are analyzed by *L. Fred Thompson* on page 24.

Rail Passenger Service Act of 1970

On October 30, 1970, the President signed the Rail Passenger Service Act of 1970 (Public Law 91-518). This act provided for the establishment of a mixed-ownership Government corporation subject to the Government Corporation Control Act. The law contained the following audit and access to records provision:

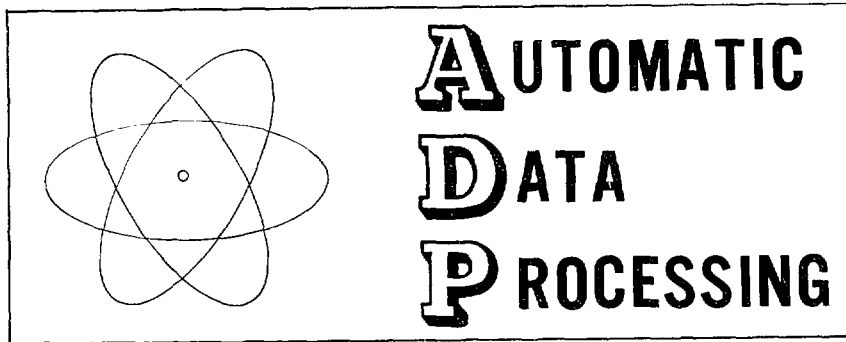
(2) (A) The financial transactions of the Corporation for any fiscal year during which Federal funds are available to finance any portion of its operations may be audited by the Comptroller General of the United States

in accordance with the principles and procedures applicable to commercial corporate transactions and under such rules and regulations as may be prescribed by the Comptroller General. Any such audit shall be conducted at the place or places where accounts of the Corporation are normally kept. The representative of the Comptroller General shall have access to all books, accounts, records, reports, files, and other papers, things, or property belonging to or in use by the Corporation pertaining to its financial transactions and necessary to facilitate the audit, and they shall be afforded full facilities for verifying transactions with the balances or securities held by depositories, fiscal agents, and custodians. All such books, accounts, records, reports, files, papers, and property of the Corporation shall remain in possession and custody of the Corporation.

(B) A report of each such audit shall be made by the Comptroller General to the Congress. The report to the Congress shall contain such comments and information as the Comptroller General may deem necessary to inform Congress of the financial operations and condition of the Corporation, together with such recommendations with respect thereto as he may deem advisable. The report shall also show specifically any program, expenditure, or other financial transaction or undertaking observed in the course of the audit, which, in the opinion of the Comptroller General, has been carried on or made without authority of law. A copy of each report shall be furnished to the President, to the Secretary, and to the Corporation at the time submitted to the Congress.

Hearings on Cost Accounting Standards Board Funds

The Comptroller General testified on September 24, 1970, and on November 24, 1970, before the House and Senate Appropriations Subcommittees on funds for the establishment of the Cost Accounting Standards Board created pursuant to Public Law 91-379. (Other participants: Messrs. *Newman*, *Dembling*, and *Cornett*.)



ADP for the Congress

In connection with the study being made by the Committee on House Administration to determine the feasibility of providing a computer-based information system for the House of Representatives, the Office of Policy and Special Studies has provided staff support throughout the effort which started in April 1969. *Edward J. Mahoney*, deputy director, has been serving as chairman of the Working Group established by the committee to carry out the committee's studies. Representatives from the Library of Congress and the Office of the Clerk of the House also serve as members of the Working Group.

In October 1970, the committee adopted the Second Progress Report of the Special Subcommittee on Electrical and Mechanical Office Equipment which had been prepared by the Working Group. This report provides detailed information on the status of the continuing planning and research for the development of information and analysis support services for the House.

In transmitting the report to the chairman of the Special Subcommittee on October 8, 1970, the chairman of the Working Group provided the following statement regarding activities

of the Working Group and an analysis of the information needs of the House.

Since the delivery of the first progress report in October 1969, the Working Group has conducted a comprehensive survey of the information and analysis needs of the House. There was participation by 284 Congressional offices, including direct contributions from 105 Members of Congress.

Extensive discussions have been held with staffs of the committees and officers of the House. Discussions have also been held with executive agencies, state legislative and executive officials, and many private organizations that provide information support for the House.

Based on our detailed analyses of the stated information needs, there are some general conclusions that can be drawn about the House user problems and needs.

1. The need for evaluative and interpretive information is very intensely felt. Information covering national issues and possible alternative solutions was held out as the most pressing area in need of attention. Examples of the expressed needs follow:

(a) Impact of proposed legislation on existing Federal law and programs, and the economy in general.

(b) Impact of proposed legislation on Congressional districts.

(c) Impact of existing Federal programs on each district.

(d) Information for evaluation of Federal programs.

(e) Information on the availability of alternative information sources and expansion of these to meet Members' and committees' needs.

(f) Expansion of independent analysis capabilities.

(g) Identification of knowledgeable and responsible sources of information with up-to-date names, addresses and telephone numbers.

(h) Supreme Court decisions relevant to pending legislation.

2. The need for procedural information was less intensely felt but was given the highest priority for early implementation. This type of information is susceptible of conversion to automatic handling more easily than is the broader based information on national issues involving the evaluative and interpretive services.

(a) An information system to maintain current, reliable, complete and accessible information about the status and content of each item of legislation before the House and in House committees; and to provide more expeditious access to legislative histories. Summaries of the status and groupings of measures by subject must be provided.

(b) Status of legislation affecting the congressional district.

(c) Information about Federal grants, projects, loans and contracts for the congressional district—programs in existence, availability of funds, and status of individual applications by constituents.

3. The need for the actual content of documents is far less than for evaluative, interpretive and procedural information—Congressmen and key staff are unable, in the available time, to read all the actual documents that are provided to them. On the other hand, the committees, the offices of the House, the Legislative Reference Service, the General Accounting Office, and the Government Printing Office are concerned with content and historic information and maintain records and files on these matters.

Cutting across all the information and analysis needs are the concern of Members and staff for such factors as the effect of improved services on existing organizational relationships within the legislative branch, the confidentiality of certain information, the accuracy and reliability of data, and the compatibility

of legislative data systems with executive and private sector systems.

* * * * *

The Working Group is looking at each expressed need and each potential service from the perspective of (1) the potential users; (2) the manager of the service; and (3) the systems designers, implementers, and operators of the services. Consideration is being given to the laws and precedents of the House, the responsibilities of existing organizations and personnel and the changes made by the Legislative Reorganization Act of 1970.

The report also contains information on the Current Working Group Planning Phase which, with contractor support, is being carried out by a staff of approximately 30 professionals.

Special Report on Automated Addressing and Mailing

The committee in December 1970 also adopted the Working Group's special report containing recommendations to install an automated addressing and mailing service for Members of the House. Also adopted was a systems design plan and an implementation plan to install this new service as rapidly as funding arrangements can be worked out.

Other GAO staff members who have served on the Working Group are:

Office of Policy and Special Studies:

Kenneth W. Hunter

Leslie D. Adams

Peter A. Smith

James G. Williams

Civil Division:

Judith L. Carrier

Washington Regional Office:

Pasquale L. Esposito

Albert F. Johnson

Computer Conference

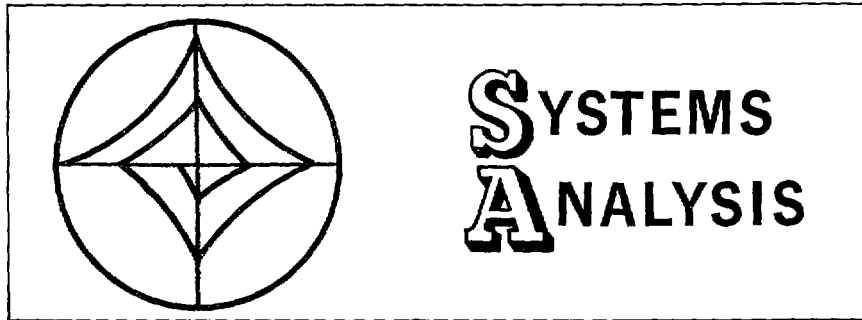
The 1970 Fall Joint Computer Conference sponsored by the American Federation of Information Processing Societies (AFIPS) was held in Houston, Tex., on November 17-19, 1970. Among the 21,000 who attended were *Charles R. Shimkus* of the Office of Policy and Special Studies and *Robert J. Kraus* of the GAO Data Processing Center.

Most of the numerous technical presentations were published in the AFIPS Conference Proceedings, Volume 37, which is available for reference by GAO staff members in the Office of Policy and Special Studies.

The technical program included a panel discussion on "The Effects of Government Requirements on the Computer Industry." Panel members were Congressman Jack Brooks (Texas), Herbert Grosch of the National Bureau of Standards, Joseph Cunningham of the Office of Management and Budget, James Poppa of Honeywell, and Grady Putnam of UNIVAC. Congressman

Brooks pointed out that the computer industry must discard the price umbrella established by the lead manufacturer and move toward true competition. He also stated that industry should make computers more user-oriented by developing sophisticated software that will enable users to operate their systems without extensive training. Dr. Grosch said that the U.S. Government could force adoption of standards that would lead to more competition, lower prices, and more efficient use of computers, but at the same time it should not impede progress. Mr. Cunningham reported that the Government now has 5,277 computers installed.

Messrs. Poppa and Putnam pointed out that unrealistic benchmark requirements, complicated bidding procedures, and payment delays by the Government increase costs on Federal computer procurements to a point where the larger company is forced to pass on these costs to business and Government users and the smaller company is forced out of Government sales.



The Systems Analysis Group of the Office of Policy and Special Studies and the Office of Personnel Management have jointly developed a training course in systems analysis concepts and techniques that is unique in Government training courses. Since the spring of 1969 a total of 141 GAO supervisors and audit managers have participated in this 2-week course.

The primary objective of the course is to acquaint the participants with a variety of analytical concepts and techniques that have not been commonly used by GAO in the past but which are becoming increasingly commonplace in Federal agency management and decisionmaking. The concepts and techniques covered in the course will become increasingly important to GAO in its evaluation of agency management and in its reviews of the results and efficiency of Federal programs.

Two features of the course make it unique. The first is the introduction to and use of several time-shared computers to use analytical techniques to solve problems. Each participant is taught to operate a teletype terminal which is connected to a computer via an office telephone. The time-shared computer systems used have literally dozens of "canned" programs which make it unnecessary for the partici-

pants to write their own programs. Most training courses in industry and in Government have concentrated almost exclusively on either computers and computer concepts or on analytical techniques. This GAO course focuses attention on the use of both computers and techniques.

The second unique feature is the use of a comprehensive GAO-oriented case which requires the participants to use a team approach, various analytical techniques, and time-shared computers. The case is hypothetical in order to focus attention on selected analytical problems and to make it possible to formulate a solution within 2 weeks. It concerns evaluations of three different manpower training programs that have the same objectives. The result of each team's analysis is an evaluation of (1) certain costs, (2) the effectiveness, and (3) alternative program approaches to the hypothetical manpower training program. On the last day of the course each team makes a presentation of its findings to the rest of the class.

The case is distributed early during the training course in order that the various discussions can be related to the case by both the instructors and the participants. Experience to date indicates that the teams require significantly more time to model the problem

SYSTEMS ANALYSIS

and to identify the questions which can and should be addressed analytically than to make whatever calculations are needed whether manually or on a time-shared computer. For this reason the course has changed somewhat over a period of time to place more emphasis on the modeling aspects of program evaluation.

The subjects discussed during the course, most of which are directly related to the manpower training case, are:

- Variables, models, and useful model forms
- Criteria selection
- Statistical sampling
- Hypothesis testing
- Analysis of variance and Chi-Square tests
- Regression and correlation
- Linear programming
- Inventory models
- Simulation and queuing

- Marginal analysis
- Benefit-cost and cost-effective analysis
- Primary and secondary benefits
- Shadow pricing and discounting
- Improvement curves
- Index numbers and time series
- Cost analysis in defense and civil programs

In order to meet the needs and interests of higher GAO officials, a 6-day seminar in systems analysis has been developed for associate and assistant directors. Four days are spent in conceptual coverage of the subject matter taught in the 2-week course. Two days are spent in discussions led by the various staff members of the Systems Analysis Group. These discussions provide up-to-the-minute knowledge of current applications of systems analysis being made in GAO, and this sets the stage for discussions about the future use of systems analysis in the GAO.

GAO Staff Changes



J. Edward Welch

J. Edward Welch, Deputy General Counsel, retired on January 9, 1971, after more than 35 years of dedicated service in the General Accounting Office.

Mr. Welch came to GAO in 1935 and served in the Audit Division until 1940 when he moved to the Claims Division in the capacity of examiner. In 1942 he was appointed as an attorney in the Office of the General Counsel. In 1949 he was designated as Assistant General Counsel and in 1956 as Associate General Counsel. In 1958 he was selected to serve in the newly created position of Deputy General Counsel, the position that he held until his retirement.

Mr. Welch attended Drexel Institute and received his B.A. degree in business administration from the University of Maryland. He received his law degree from Georgetown University in 1939. While still in law school he took the District of Columbia bar examination and was admitted to practice before the U.S. District Court for the District of Columbia in 1938.

In the Office of the General Counsel, Mr. Welch was assigned to contract work where his expertise was soon recognized. He represented GAO on the interagency committees that drafted the Armed Services Procurement Regulation and the Federal Procurement Regulations and continued to be an active participant on the procurement committees revising and updating Government-wide contract guidelines.

Mr. Welch appeared frequently before congressional committees on behalf of the Office to testify on proposed legislation such as the bill for the Commission on Government Procurement, the bill which became the Truth in Negotiations Act, and on small business procurement and labor matters. He has been a frequent contributor to legal periodicals and has authored a briefing paper on "Mistakes in Bid." His articles include "GAO's Role in Patent Infringement in Government Procurements," which appeared in the *William and Mary Law Review*; "Responsibilities, Functions and Duties of a Contracting Office"; "Mistakes in Bids"; "Subcontractors' Claims Against the Government," which appeared in various issues of the *Federal Bar Journal*; and "Formal Advertising Versus Negotiation," which appears in this issue of the *GAO Review* (see p. 15).

In 1969, Mr. Welch received the GAO Distinguished Service Award.

In announcing Mr. Welch's retirement, *Paul G. Dembling*, General Counsel, stated: "Few men have had as great an impact in the field of Government contracts as Jed Welch." Not only will GAO miss Mr. Welch's legal services but it will miss his calm understanding, and his great kindness is a legacy for all who have had the good fortune of serving with and for him.



Joseph D. Comtois

Joseph D. Comtois was designated assistant director for systems analysis in the Office of Policy and Special Studies, effective November 1, 1970.

Mr. Comtois served in the U.S. Air Force from 1951 to 1954, and joined the General Accounting Office in 1958 upon graduation from the University of Connecticut where he received a B.S. degree with a major in accounting. He attended The George Washington University Graduate School of Business. He is a CPA (Virginia) and a member of the American Institute of CPAs, the National Association of Accountants, the Federal Government Accountants Association, and the Association of Public Policy Analysis.

In 1968 he was awarded a fellowship for graduate study at the Massachusetts Institute of Technology under the Educational Program in Systematic Analysis sponsored by the National Institute of Public Affairs. Upon completion of study at MIT in 1969, he was transferred from the Civil Division to the systems analysis group in the Office of Policy and Special Studies.



Harold J. D'Ambrogia

Harold J. D'Ambrogia was designated assistant regional manager of the San Francisco Regional Office, effective November 1, 1970.

In 1954, Mr. D'Ambrogia received a bachelor of science degree in business administration from the University of San Francisco. In 1968 he attended the Executive Program at Stanford University.

Mr. D'Ambrogia joined the San Francisco Regional Office in 1954. He has been assigned there since that time and was in charge of the Honolulu Suboffice from 1963 to 1965.

He is a CPA (California) and a member of the American Institute of Certified Public Accountants. He is serving as a subcommittee chairman on the Management Services Committee of the San Francisco Chapter of the California Society of CPAs and also as second vice president of the San Francisco Chapter of the Federal Government Accountants Association.



L. Mitchell Dick

L. Mitchell Dick was designated as a senior attorney in the Office of the General Counsel, effective November 1, 1970.

Mr. Dick joined the General Accounting Office in the Transportation Division in 1948 and has been on the legal staff of the Office of the General Counsel since 1960.

Mr. Dick served in the U.S. Navy from 1944 to 1946. He attended Hampden-Sydney College and received a bachelor of arts degree in economics from Princeton University. He received an LL.B. degree from The George Washington University and was admitted to the Virginia State Bar in 1959.

He has been admitted to practice before the Interstate Commerce Commission, the U.S. Court of Claims, the Virginia Supreme Court of Appeals, the Supreme Court of the United States, and is a member of the Federal Bar Association. He received the Meritorious Service Award in 1969.



Seymour Efros

Seymour Efros was designated as a senior attorney in the Office of the General Counsel, effective November 1, 1970.

Mr. Efros joined the General Accounting Office in March 1959 and was assigned as a contract attorney in the Office of the General Counsel in 1960. He was graduated from City College of New York in 1952 with a B.B.A. degree and received his LL.B. degree in 1955 from Harvard Law School. Mr. Efros served with the U.S. Armed Forces from 1956 to 1958.

Mr. Efros was admitted to the New York State Bar in 1956. He is a member of the Federal Bar Association and the New York County Lawyers Association.



Thomas J. Gallagher

Thomas J. Gallagher was designated as a senior attorney in the Office of the General Counsel, effective November 1, 1970.

Mr. Gallagher joined the General Accounting Office in 1936 and served in the former Audit Division as an auditor and contract examiner before entering the military service in 1943. He served in the U.S. Army Air Corps from 1943 to 1946. In 1946 he returned to the General Accounting Office and was transferred to the Claims Division as a claims examiner. In 1948 he moved to the Office of the General Counsel and has served there as an attorney since that date.

Mr. Gallagher attended Columbus University Law School (now merged with Catholic University) and received an LL.B. degree in 1941. He has been admitted to practice before the District Court of the United States for the District of Columbia, the U.S. District Court of Appeals for the District of Columbia, and the Supreme Court of the United States. He is a member of the Federal Bar Association. In 1961, he received the Meritorious Service Award.



Joseph Goldman

Joseph Goldman was designated as an assistant director in the Transportation Division, effective November 1, 1970. In this position he shares with the associate director for transportation and traffic management reviews responsibility for this category of work in all agencies of the Federal Government.

Mr. Goldman entered Government service in 1940 and served in the U.S. Army during World War II. He attended American University and has completed the executive program of the Graduate School of Business, Columbia University.

Since joining the General Accounting Office in 1945, Mr. Goldman has held positions of increasing responsibility in the various phases of transportation audit, staff, and management activities of the Transportation Division. He is a member of the Delta Nu Alpha Transportation Fraternity. He received the Meritorious Service Award in 1970.



Rita D. Hornyak

Mrs. Rita D. Hornyak was designated as a senior attorney in the Office of the General Counsel, effective November 1, 1970.

Mrs. Hornyak is a graduate of Boston Business School and the National University of Law from which she received her LL.B. degree. She is a member of the bar of the District of Columbia.

Mrs. Hornyak entered the Federal service in 1940 with the Interstate Commerce Commission and began her service with the General Accounting Office in July 1943 as an adjudicator in the Claims Division. In June 1970 she was awarded a Meritorious Service Award as an attorney-adviser in the Office of the General Counsel.



Darrell L. Jones

Darrell L. Jones was designated as a senior attorney in the Office of the General Counsel, effective November 1, 1970.

Mr. Jones started with the General Accounting Office in 1938 as a messenger. He served with the Army Air Corps from 1940 to 1945 and returned to the General Accounting Office in 1945 as a transportation rate specialist in the Claims and Transportation Divisions. In 1952 he transferred to the Office of the General Counsel as an attorney-adviser.

Mr. Jones was graduated with an LL.B. degree from The George Washington University Law School in 1950. He is a member of the bar in the District of Columbia (1950) and was admitted to practice before the Supreme Court of the United States in 1967.



Samuel Kleinbart

Samuel Kleinbart has been designated as assistant regional manager of the Los Angeles Regional Office, effective September 8, 1970.

Mr. Kleinbart attended Northwestern University and Los Angeles City College. He is a CPA (California) and a member of the American Institute of Certified Public Accountants and the California Society of Certified Public Accountants.

Since joining the General Accounting Office in 1942, Mr. Kleinbart served in the Chicago and Los Angeles Regional Offices of the Field Operations Division and more recently as an assistant director in the International Division. He received a Meritorious Service Award in 1959 and a Superior Performance Award in 1965.



James Y. Kurihara

James Y. Kurihara was designated as an assistant director in the International Division, effective November 1, 1970. He will be responsible for reviews of trade and agricultural development programs and other international activities of the Departments of Agriculture and Commerce.

Mr. Kurihara served in the U.S. Army from 1946 to 1948. He graduated from Michigan State University in 1952 and is a certified public accountant (Illinois).

Prior to coming with the General Accounting Office, he was associated with a CPA firm in Chicago. In 1957, Mr. Kurihara joined GAO in the Chicago Regional Office and has served in the Far East Branch in Tokyo and in the Defense and International Divisions. His Government career also includes service with the Office of the Inspector General, Foreign Assistance, Department of State, and the Agency for International Development.



John M. Loxton

John M. Loxton was designated as an assistant director in the Transportation Division, effective November 1, 1970. In this capacity he will direct the exploration and exploitation of the use of automatic data processing to achieve greater efficiency and economy in the activities of the Transportation Division. He will also direct reviews of transportation-oriented ADP applications in the various Government agencies.

Mr. Loxton joined the General Accounting Office in 1941. He entered the Transportation Division's training program in 1950 and has served in that Division since then in positions of increasing responsibility. He has been responsible for designing and implementing all of the Division's present computer applications.

Mr. Loxton received a bachelor of science degree from American University in 1959 and a master of business administration from the same school in 1963. He was the recipient of the Career Development Award in 1969.



James E. Masterson

James E. Masterson was designated as a senior attorney in the Office of the General Counsel, effective November 1, 1970.

Mr. Masterson joined the Office of the General Counsel in 1956. He received a bachelor of science degree from Berea College in 1952, a bachelor of law degree from The George Washington University in 1956, and a master of arts degree from American University in 1963. He is a member of the Federal Bar Association and has been admitted to practice before the District Court of the United States for the District of Columbia and the U.S. Court of Appeals for the District of Columbia.

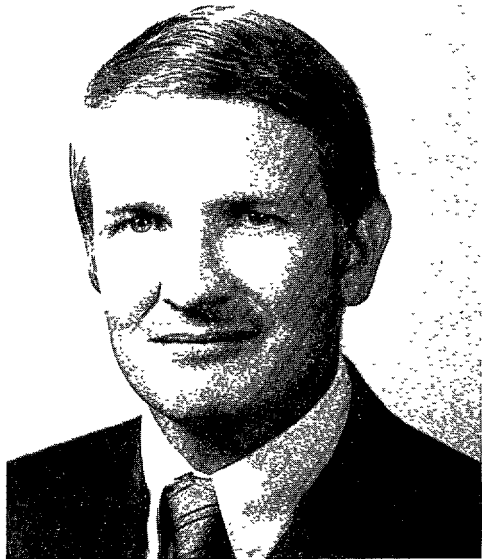


Edward C. Messinger

Edward C. Messinger was reassigned to the Civil Division as an assistant director, effective September 20, 1970. Formerly, he was an assistant regional manager in the Chicago Regional Office.

Mr. Messinger served in the U.S. Army during World War II. He graduated with distinction from Northwestern University with a B.B.A. degree. He was a staff accountant for several years with a national public accounting firm and joined the Chicago Regional Office in 1957.

Mr. Messinger is a CPA (Illinois) and a member of the American Institute of Certified Public Accountants, the National Association of Accountants, the American Management Association, the Society for Personnel Administration, the American Society of Public Administration, and the Federal ADP Council.



J. Dexter Peach

J. Dexter Peach was designated as an assistant director in the Civil Division, effective November 1, 1970. In this position, Mr. Peach is responsible for the development and review of all reports on the results of the GAO examinations at the Department of Agriculture.

Mr. Peach received a bachelor of science degree with a major in business administration from the University of South Carolina in 1960 and is presently attending the Graduate School of The George Washington University. He is a CPA (Virginia) and a member of the American Institute of CPAs and the National Association of Accountants. He received the GAO Career Development Award in 1969.



Ted M. Rabun

Ted M. Rabun was designated as assistant director for systems analysis in the Office of Policy and Special Studies, effective November 1, 1970.

Mr. Rabun graduated *cum laude* with a bachelor of science degree from the University of Florida in 1951 where he majored in accounting. In 1959 he earned a master of science degree from the University of Illinois. From 1959 to 1962 he was assistant professor of accounting at the Pennsylvania State University.

In 1966-67 Mr. Rabun attended the Educational Program in Systems Analysis at the University of Maryland where he studied economics and operations research. He is a CPA (Illinois) and a member of the American Institute of CPAs, the National Association of Accountants, the American Accounting Association, and Beta Gamma Sigma and Beta Alpha Psi honorary fraternities. He has been with the General Accounting Office since 1962, and in 1970 he received the GAO Meritorious Service Award. He had prior experience with a firm of certified public accountants. He served in the U.S. Air Force from 1952-55.



Norton H. Schwartz

Norton H. Schwartz was designated as a senior attorney in the Office of the General Counsel, effective November 1, 1970.

Mr. Schwartz began his service with the General Accounting Office in the Office of the General Counsel on August 1, 1955. He received the Meritorious Service Award in 1962, 1963, and 1967.

He has a B.A. degree from New York University and a J.D. degree *cum laude* from the University of Miami. He has been admitted to the bar in Florida, New York, and the District of Columbia. He is a member of the Federal Bar Association.



Gilbert F. Stromvall

Gilbert F. Stromvall was designated as an associate director in the International Division, effective October 18, 1970. In that capacity, he will be responsible for directing reviews of foreign assistance programs, food for peace programs, trade expansion programs, and countrywide reviews of U.S. assistance to countries in Africa, the Near East, and South Asia.

Mr. Stromvall served in the U.S. Army from 1946 to 1949. He was graduated, with high honors, from the University of Idaho in 1954, where he majored in accounting. He studied international economics at the State Department's Foreign Service Institute in 1968.

Since joining the General Accounting Office in 1954, Mr. Stromvall has had a wide variety of assignments and responsibilities in the Los Angeles Regional Office, the Far East Branch in Tokyo, and in Washington. He has been associated with the International Division since it was formed in 1963.

Mr. Stromvall received a Meritorious Service Award in 1967 and a Career Development Award in 1970. He is a member of the Federal Government Accountants Association, the American Economic Association, and the Royal Economic Society.



Harold L. Stugart

Harold L. Stugart was designated as an assistant director in the Civil Division, effective November 1, 1970. In this position he is responsible for GAO accounting and auditing work in the Office of Education, Department of Health, Education, and Welfare.

Mr. Stugart served in the U.S. Navy from June 1954 to October 1957. In 1962 he graduated from Lycoming College, Williamsport, Pa., with a bachelor of science degree in accounting. He is a CPA (Virginia) and a member of the American Institute of CPAs and the National Association of Accountants. He received a Meritorious Service Award in June 1967 and the GAO Career Development Award in June 1968.



Vasil S. Vasiloff

Vasil S. Vasiloff was designated as a senior attorney in the Office of the General Counsel, effective November 1, 1970.

Mr. Vasiloff attended Alma College in Michigan and received a B.A. degree from the University of Michigan in 1953. He received his LL.B. degree from the University of Michigan Law School in 1956.

Mr. Vasiloff served in the U.S. Army from 1956 to 1958 and began his service with the General Accounting Office in the Office of the General Counsel as an attorney in 1958. From 1959 to 1960, Mr. Vasiloff was associated with several private firms and returned to the Office of the General Counsel in 1960. He has received three Meritorious Service Awards during his service with the General Accounting Office.

Mr. Vasiloff has been admitted to practice before the Supreme Court of Michigan and the U.S. Court of Claims. He is a member of the Michigan State Bar.



Milton E. Wertz

Milton E. Wertz was designated as a senior attorney in the Office of the General Counsel, effective November 1, 1970.

Mr. Wertz is a graduate of the Law School of the University of Montana. He also received postgraduate instruction at the Law School of The George Washington University.

He was originally appointed to a position in the former Audit Division of the General Accounting Office in 1935. He served in various positions in that division and in the Claims Division until he was ordered to active duty with the U.S. Army in 1941. After World War II, he returned to the Claims Division in 1946 and was transferred to the Office of the General Counsel. He was later transferred to the Office of the Comptroller General where he was serving as a legislative attorney when ordered to active duty with the U.S. Army during the Korean War in September 1951. Mr. Wertz returned to GAO in June 1967, after military service, and was appointed as an attorney-adviser in the Office of the General Counsel.

Mr. Wertz has been admitted to practice before the Montana Supreme Court, the U.S. District Court for the District of Columbia, the U.S. Court of Military Appeals, and the Supreme Court of the United States.

Professional Activities

Office of the Comptroller General

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

The Joint State/Federal Financial Management Conference, Washington, D.C., sponsored by the National Association of State Auditors, Comptrollers and Treasurers; the Council of State Governments; and the Joint Financial Management Improvement Program on "Progress in the Financial Management of Federal Grant-in-Aid Programs," October 9.

Regional conference of the American Society of Public Administration in Topeka, Kans., on "The Nation's Interest in Improving State and Local Government," October 23.

Joint meeting of the Federal Executive Board and the Federal Government Accountants Association, Kansas City, Mo., on "Some Recent Efforts to Improve Management in the Executive Branch," October 23.

The 17th Annual School of Business Administration Alumni Institute, University of Minnesota, on "Changing Priorities in Federal Programs," November 12.

Executive dinner meeting of the Department of Transportation on "Plans and Concepts of the GAO and Impressions of the Department," November 17.

Joint Conference on Defense Contracts Accounting sponsored by the New York State Society of CPAs and the New York Chapters of the Federal Government Accountants Association and the National Association of Accountants, New York City, on "Cost Accounting Standards," November 19.

National Institute of Public Affairs Conference on Federal Action and the People in Our Cities in Atlanta, Ga., on "Purposes and Prospects" of the conference, December 8.

Center for the Study of Applied Ethics, Graduate School of Business Administration, University of Virginia, Charlottesville, Va., on "Are Ethical Considerations Relevant in These Times of Changing Values?" December 11.

The Assistant Comptroller General, *Robert F. Keller*:

Spoke before the St. Louis Chapter of the National Contract Management Association, St. Louis, Mo., on "GAO Activities in the '70's," September 10.

Attended the National Institute of Public Affairs Industry-Government Seminars on "Shaping Our National Priorities," October 7, and "Consumer Power—Economic and Political Implications," November 4.

Spoke before the Machinery & Allied Products Institute Government Contracts Council on the Cost Ac-

PROFESSIONAL ACTIVITIES

counting Standards Board, a GAO profit study, "Should Cost" concepts, the Government Procurement Commission, and the Ribicoff Bill, October 26.

Was luncheon speaker at the Conference on Contractor Remedies and Costing of Claims Under State, Local and Federal Government Procurement, sponsored by the American Bar Association, the Federal Bar Association, the Philadelphia Bar Association, and the National Contract Management Association. Philadelphia, Pa., December 8.

Lawrence J. Powers, Assistant to the Comptroller General:

Spoke at the Federal Program Management Seminar at the Executive Seminar Center, Kings Point, N.Y., on October 6 on "Congressional Oversight and the Role of the General Accounting Office."

Spoke before the Third Conference on Urban Affairs for Federal Officials, sponsored by the National Institute of Public Affairs, held in San Francisco on October 25.

Harry C. Kensky, director, Program Planning Staff, spoke before the Civil Service Commission's Legislative Operations Roundtable for Federal Administrators at the Rayburn Building on June 25. On October 6 he spoke to the participants in the Civil Service Commission's Institute in the Legislative Function.

Rodney E. Espe, of the Program Planning Staff, was awarded the degree master of arts—public administration by the General Faculty of the University of Virginia.

William A. Newman, Jr., Special Assistant to the Comptroller General:

Discussed Public Law 91-379, which established the Cost Accounting Standards Board, at the Federal Audit Executives Council meeting at Fort McNair, September 30.

Participated in a presentation, co-sponsored by the Central Florida Chapter of the National Estimating Society and the Orlando Chapter of the National Contract Management Association, on recent developments in the establishment of cost accounting standards for negotiated defense contracts, at Orlando, Fla., October 6.

Participated in a discussion of current subjects of mutual concern to the Government and industry at the Government/Aerospace Industries Association joint sessions at the annual meeting of AIA Procurement and Finance Council at San Francisco, Calif., October 15.

Participated in a discussion of the legislation establishing the Cost Accounting Standards Board at the Joint Conference on Defense Contracts Accounting, sponsored by the New York State Society of Certified Public Accountants, the National Association of Accountants, and the Federal Government Accountants Association, in New York City, November 19.

Office of the General Counsel

Paul G. Dembling, general counsel:

Spoke on the "Effect of the Scanwell Decision on Government Contracting" before the Western Briefing Conference on Government Con-

tracts at San Francisco, Calif., on October 6.

Spoke on "Administrative Techniques for Challenging the Award of Government Contracts" before the National Contract Management Association at Mountain View, Calif., on October 6.

Spoke before the General Services Administration Course on Procurement on "Contracting and Policy" on October 8.

Chaired the President's Forum of the American Institute of Aeronautics and Astronautics on "Future Contributions of Aerospace Technology to the Development of Our Society" on October 22 in Houston, Tex.

Appeared on KHJ-TV "Morning Watch" program to discuss GAO's organization, functions, and activities on November 17 in Los Angeles, Calif.

Spoke on "It's Not the Same GAO" before Town Hall of California on November 17 in Los Angeles, Calif.

J. Edward Welch, deputy general counsel:

Participated as a panelist at the Government Construction Contract Conference sponsored by the Federal Bar Association in cooperation with the Bureau of National Affairs, Inc., held in New York City on November 19.

Stephen P. Haycock, assistant general counsel:

Participated as a panelist in a discussion on "Performance and Payment Bonds" at the Government Construction Contract Conference in New York City on November 19.

Melvin E. Miller, assistant general counsel:

Spoke on the "Role of the GAO in Defense Procurement" before two Defense Procurement Management Courses held on October 13 at Rock Island Arsenal, Ill., and on October 23 at Fort Lee, Va.

Paul Shnitzer, deputy assistant general counsel:

Spoke before the General Services Administration Course on Procurement on "Various Aspects of Government Procurement" in Atlanta, Ga., on October 19.

Lectured before the Advanced Course in Government Contracts co-sponsored by the Small Business Administration and Louisiana State University on October 30 in New Orleans, La.

Spoke on "Handling Claims Before the GAO" at a seminar at The George Washington University on November 14.

Discussed "Problems in Formal Advertising" before the Defense Advanced Procurement Management Course held on December 3 at Fort Lee, Va.

Served as moderator at a panel discussion on "Data" in Huntsville, Ala., on October 14 sponsored by the Huntsville, Ala., Chapter of the Federal Bar Association.

Charles P. Hovis, attorney-adviser (contract):

Spoke before the Baltimore Chapter of the National Contract Management Association at Fort Holabird, Md., on October 29 on "Protests: Scanwell, Schoonmaker and Then What?"

The following attorneys spoke before various Washington, D.C., high school classes in connection with the Federal Bar Association's civil rights program: *Oliver Easterwood, Stanley G. Feinstein, Antoinette Friedman, Stasia V. Hayman, Robert L. Higgins, Thomas H. Kirkpatrick, Barney R. Putnam, Jr., and Ronald Wartow.*

Office of Policy and Special Studies

E. H. Morse, Jr., director, addressed the following groups:

Workshop on Auditing and Related Aspects of Federally Assisted Programs. Joint State/Federal Financial Management Conference. Washington, D.C., October 9 on "Auditing Federal Assistance Programs: The GAO Viewpoint."

The 10th Annual Eastern Regional Conference of the Planning Executives Institute, Washington, D.C., October 16 on "The Report of the President's Commission on Budget Concepts in Retrospect."

Seattle and Portland Chapters, Federal Government Accountants Association, October 20 and 26 on "Poverty, Pollution, People Problems: What Accountants Can Do."

Northwest Graduate Accounting Study Conference, cosponsored by the Oregon and Washington Societies of CPAs, Salishan Lodge, Oreg., October 22 on "Performance and Operational Auditing."

Montgomery-Prince Georges Chapter, Maryland Association of Certified Public Accountants, College Park, Md., November 12 on "Government Operations and the CPA."

Annual Meeting of the National Association of State Auditors, Comptrollers and Treasurers, Louisville, Ky., November 17 on "Improving Financial Management of the Federal Grant-in-Aid Programs."

New York, Long Island, and Northern New Jersey Chapters, Federal Government Accountants Association, New York City, November 18 on "Federal Accountants and the Future."

Mr. Morse's speech on "Recent Developments and Future Trends in Government Contract Accounting" at the 1970 Aerospace Technical Session in Los Angeles on May 21 has been printed in:

The Federal Accountant, September 1970.

The California CPA Quarterly, December 1970.

Frederic H. Smith, deputy director, is currently serving as a member of the AICPA Committee on State Legislation. He has also been appointed to the Accounting Principles Committee of the D.C. Institute of Certified Public Accountants and is a member of the FGAA Federal Financial Management Standards Board.

Edward J. Mahoney, deputy director for ADP:

Addressed the 25th Annual Convention of the Association for Computing Machinery, New York City, September 2. He spoke on the "Program to Develop a Computer Based Support System for the Congress."

Spoke at the annual meeting of the Intergovernmental (International) Computer Association, Washington, D.C., on November 11. His topic was

GAO's activities in the computer field.

Mr. Mahoney has also been appointed to the Planning Council of the American Management Association's Management Systems and Sciences Division.

Carl Kessler briefed the Defense Indicators Advisory Committee on December 16 on the work being done by GAO on weapons systems price indexes. The committee is the vehicle for suggestions for the improvement of the statistics appearing in the Department of Commerce monthly publication, *Defense Indicators*.

Mortimer A. Dittenhofer, assistant director:

Addressed a workshop for State Auditors on November 18 at the Annual Convention of the National Association of State Auditors, Comptrollers and Treasurers. He spoke on the status of the project to develop audit standards for Federal grant programs.

Spoke at a symposium on performance auditing for the staff of the Legislative Auditor of Maryland on December 7. His subject: "The Significance of Performance Auditing to the Federal Government."

During the meeting of the Middle Atlantic Actuaries Club in Annapolis, Md., on October 23, the president of the club announced that *Herbert L. Feay* will endeavor to organize an actuarial club in the District of Columbia.

Civil Division

A. T. Samuelson, director, has been nominated to serve as an International Vice President of the National Associa-

tion of Accountants for the year 1971-72. If elected he will be a voting member of the executive committee and a voting member of the International Board of Directors. He will also represent the International President of NAA at various chapter functions as assigned and he will coordinate the efforts of the international directors assigned to him.

Gregory J. Ahart, deputy director, served as a panel member at the Federal Management Improvement Conference conducted by the Office of Management and Budget in Washington, D.C., on September 21-22. Mr. Ahart spoke on GAO's role in evaluating Federal agency management. His paper is included in this issue of the *Review* (page 32).

Max A. Neuwirth, associate director, addressed the Conference of Chief Judges of the U.S. Court of Appeals at Washington, D.C., on October 28, 1970. He spoke on "The Role of GAO in the Judicial Branch." He was accompanied by *Jacob L. Glick*.

Victor L. Lowe, associate director, *Baltas E. Birkle*, *Harold L. Stugart*, assistant directors, *Frank V. Subalusky*, *Joseph W. Kegel*, and *Albert J. DeFazio, Jr.*, supervisory auditors, attended the Urban Affairs Conference for Federal officials conducted by the National Institute of Public Affairs at San Francisco, Calif., during October 25-30.

Arland N. Berry, assistant director, attended the Federal Program Management Seminar conducted in Kings Point, N.Y., by the Federal Executive Institute from November 30 to December 11.



REGIONAL MANAGERS' CONFERENCE OCTOBER 28-30, 1970, SAN FRANCISCO, CALIF.

Seated left to right: A. T. Samuelson, Director, Civil Division; Thomas D. Morris, Special Assistant to the Comptroller General; Paul G. Dembling, General Counsel; A. M. Clavelli, Regional Manager, San Francisco; Elmer B. Staats, Comptroller General; E. H. Morse, Director, Office of Policy and Special Studies; C. M. Bailey, Director, Defense Division; Lawrence J. Powers, Assistant to the Comptroller General.

Standing 1st row left to right: Smith Blair, Office of Legislative Liaison; Joseph Eder, Regional Manager, Boston; R. W. Gutmann, Deputy Director, Defense Division; W. H. Henson, Regional Manager, Norfolk; J. H. Rogers, Regional Manager, Philadelphia; A. J. Strazzullo, Regional Manager, New York; Leo Herbert, Director, Office of Personnel Management; W. N. Conrardy, Regional Manager, Seattle; S. D. McElyea, Regional Manager, Denver; D. L. Scantlebury, Regional Manager, Washington; Roland J. Sawyer, Information Officer; M. R. Wolfson, Regional Manager, Chicago; Forrest R. Browne, Deputy Director, Field Operations Division; C. H. Moore, Regional Manager, Detroit; D. P. Sorando, Regional Manager, Cincinnati.

Standing 2nd row left to right: R. J. Madison, Regional Manager, Atlanta; Gregory J. Ahart, Deputy Director, Civil Division; Thomas E. Sullivan, Director, Transportation Division; H. L. Krieger, Regional Manager, Los Angeles; H. J. Simmons, Director, Office of Administrative Services; W. H. Sheley, Regional Manager, Dallas; John E. Thornton, Director, Field Operations Division; Oye V. Stovall, Director, International Division; K. L. Weary, Regional Manager, Kansas City; Harry C. Kensky, Director, Program Planning Staff; C. H. Roman, Director, Far East Branch.

Jack L. Mertz, special assistant to the director, participated in a workshop for Co-op Employers at the Virginia Polytechnic Institute in Blacksburg, Va., on October 29 and 30.

Allen R. Voss, associate director, participated in the Federal Management Improvement Conference conducted by the Office of Management and Budget in Washington, D.C., on September 21 and 22.

Dean K. Crowther, assistant director, attended a Conference on Business Operations in New York City conducted by the Brookings Institute from October 25 to October 30.

Brian P. Crowley, supervisory auditor, attended a seminar on the Management of America's Resources sponsored by the Federal Executive Institute at Kings Point, N.Y., during October 12-23.

Richard W. Kelley, assistant director, attended the Residential Program in Executive Education conducted by the Federal Executive Institute in Charlottesville, Va., during July 26-September 18.

William D. Martin, Jr., assistant director, participated in the Accounting Forum at Lycoming College, Williamsport, Pa., on November 12. Mr. Martin spoke to students on the opportunities available to them in governmental accounting.

Dean K. Crowther, assistant director, *Benny Quattrociocchi*, *Frank G. Toth*, *Theodore Roman, Jr.*, *Steven L. Keleti*, and *John J. Cronin, Jr.*, supervisory auditors, attended the Urban Affairs Conference for Federal Officials conducted by the National Institute of

Public Affairs at Atlanta, Ga., during December 6-11.

Defense Division

Charles M. Bailey, director, was awarded a certificate of appreciation by the National Property Management Association "For personal contribution as a speaker and author at SEMINAR 70." Mr. Bailey addressed the seminar on October 1, in Dallas, Tex., on the GAO interest in improving the management of Government property.

Mr. Bailey also spoke at the annual meeting of the Electronics Industries Association, Government Procurement Relations Department, on November 5, at Key Biscayne, Fla. His subject was the Department of Defense profit policy. In addition, Mr. Bailey addressed the professional military comptroller course, Air University, Maxwell Air Force Base, Ala., on November 9 on DOD/GAO Relationships.

Hassell B. Bell, associate director, addressed a meeting in San Francisco sponsored by the Federal Bar Association in cooperation with the Bureau of National Affairs on October 5 and 6. His subject was on the problems the military departments have with cost overruns in the acquisition of major weapon systems.

The article by *S. S. Podnos*, assistant director, entitled "A Critique on Weapon Systems Management" in the Spring 1970 issue of the *Review* was reprinted in the Fall 1970 issue of the *National Contract Management Journal*, a publication of the National Contract Management Association.

Sam Pines, assistant director, is serving as a member of the National Sym-

posium Committee of the Federal Government Accountants Association for the 1971 fiscal year.

Jerome H. Stolarow, assistant director, spoke on October 21 before the National Contract Management Association at Chicago, Ill. Mr. Stolarow discussed the use of "should cost" review techniques in Government procurement.

International Division

Oye V. Stovall, director, and *H. L. Krieger*, manager, Los Angeles Regional Office, spoke on November 2 to a group of students at the Thunderbird Graduate School of International Management, Phoenix, Ariz. The theme of the discussion was "The Role of the GAO in the International Field." The Thunderbird Graduate School of International Management was chartered as a nonprofit Arizona corporation in April 1946 as a highly specialized school to provide intensive, postgraduate training in foreign languages, world area studies, and international commerce and management. It is affiliated with the American Management Association. The Departments of Defense and State, the Agency for International Development, the United States Information Agency, and other Government agencies recruit at the school.

On September 23, *James A. Duff*, associate director, and *Eugene C. Wohlhorn* and *Frank C. Conahan*, assistant directors, conducted a seminar for participants in American University's Washington Semester Program. Participants in the Program were government and political science students selected from among 200 colleges and

universities throughout the United States. The purposes and functions of GAO were discussed, with international activities being emphasized.

Frank M. Zappacosta, assistant director, was named in October 1970 as one of the Top Ten Members of the Year (Chapter Year 1969-70) of the Washington Chapter, National Association of Accountants. This was the second successive annual citation received by Mr. Zappacosta.

On October 23, Mr. Zappacosta discussed the activities of the International Division with visiting professors of accounting and business subjects and placement directors at the Washington Regional Office, Falls Church, Va.

Joseph P. Normile, director, and *Arthur M. Peterson*, supervisory auditor, European Branch, addressed the participants in the Continuing Legal Education Series course conducted by the Office of the Judge Advocate General, U.S. Army, Europe, Heidelberg, Germany, on November 13. Their topic was the functions of the GAO, with emphasis on legal aspects and management reviews.

Edward Galey and *James R. Darlington*, supervisory auditors, spoke on November 19 at the Budget and Fiscal Officers Course conducted by the Foreign Service Institute for State Department personnel. They described the role and functions of the GAO.

Field Operations Division

Zane Geier, audit manager, Atlanta, and vice president of the Southeastern Region of FGAA, recently addressed the Huntsville, Ala., and Knoxville,

Tenn., FGAA Chapters on "GAO Reviews Acquisition of Weapon Systems."

James E. Ballou, assistant regional manager, and *Anthony L. Komac*, audit manager, Atlanta, participated in seminar portions of accounting lectures given by *William L. Campfield*, associate director, Office of Policy and Special Studies, at the University of Florida and Florida A. & M. University in November.

On October 9 *Myer R. Wolfson*, regional manager, Chicago, participated in a Career Workshop sponsored by the College of Chicago Circle Campus. He spoke on "The Role of GAO in Accounting in the Federal Government."

Orlaf B. Hylle, audit manager, and *Gerald T. Kelly*, supervisory auditor, St. Paul, participated in panel discussions before student groups at Mankato State College on November 12. Mr. Hylle participated in a panel on Government Careers and Mr. Kelly participated in a panel on Accounting and Business Careers.

Paul I. Wilson, supervisory auditor, St. Paul, was elected as a director to the executive committee of the Minneapolis-St. Paul Chapter of FGAA.

David P. Sorando, regional manager, Cincinnati, gave the commencement address to the graduates of the Internal Review Course at Fort Benjamin Harrison on October 2. On November 24 Mr. Sorando addressed the Finance Officers Advanced Course at Fort Benjamin Harrison. The subject of his talk was "GAO and Financial Management in the Army."

Elmer Taylor, Jr., assistant regional manager, Cincinnati, spoke before the Dayton Chapter of FGAA on October

29, on "GAO Efforts in the Major Weapons Area."

Myrton T. Stewart, Jr., supervisory auditor, Cincinnati, addressed the Beta Alpha Psi Chapter at the University of Cincinnati on October 22. His topic concerned "The Mission of GAO."

D. H. Dekker, assistant regional manager, Dallas, spoke before the North Texas Chapter of NAA on November 19. His topic was "Management Concepts in GAO."

Stewart D. McElyea, regional manager, Denver, spoke on the subject "Accounting and the General Accounting Office" to the Denver Chapter of the American Society of Women Accountants in September, and to the Salt Lake City-Ogden Chapter of FGAA in November.

On December 1, *Lowell Mininger*, audit manager, Detroit, spoke before the Student Accounting Society of Central Michigan University on the subject "The Challenging World of GAO."

David W. Rowan, auditor, Detroit, spoke before the Economics Club of Eastern Michigan University on December 2, on the topic "The Relevance of the Study of Economics to Reality."

The following Detroit staff members have been elected to serve as officers for fiscal year 1971 in the Detroit Chapter of FGAA: *Robert J. Piscopink*, president; *Curtiss G. Lovelace*, treasurer; and *Hiawatha H. Barber* and *Donald E. Schmidt*, directors.

H. L. Krieger, regional manager, Los Angeles, spoke before the South Bay Chapter of the National Contract Management Association. His topic, presented December 2, was on the "Should Cost" concept.

PROFESSIONAL ACTIVITIES

On November 4, *Dominic F. Ruggiero*, assistant regional manager, Los Angeles, spoke on the role of GAO in the Federal Government before a convocation of students and faculty at California State College. The convocation was sponsored by the Beta Alpha Psi Chapter.

Milo L. Wietstock, audit manager, Los Angeles, has been elected chairman of the FGAA National Symposium Committee. The symposium is to be held in Los Angeles in 1972.

On December 1, *Ronald A. Bononi*, audit manager, Los Angeles, spoke before the Procurement Executive Refresher Course sponsored by Harbridge House, Inc., in Los Angeles. He spoke on GAO's role in defense procurement.

On September 11, staff members of the Internal Audit Division, Department of Finance, Government of the U.S. Virgin Islands, while attending a statistical sampling seminar at New York City College, met with members of the New York Regional Office including those who participated in the recently completed review of financial management activities in the Virgin Islands. During the visit the operations of the New York Office were explained to the visitors and matters of common professional interest were discussed.

Edward R. Thomas, supervisory auditor, Philadelphia, made a presentation on October 22 to representatives of the Bureau of Health Insurance, Philadelphia region, on the role of GAO in reviewing the results of Federal programs.

Louis W. Mangene, supervisory auditor, Philadelphia, participated in Ca-

reer Conference Seminars at St. Joseph's College and La Salle College on October 27 and 29, respectively.

Joseph N. Milici, supervisory auditor, Philadelphia, participated in a Career Conference Seminar at Bucks County Community College, Newtown, Pa., on November 17.

Charles F. Vincent, assistant regional manager, San Francisco, spoke on the role of GAO in the Federal Government before the following groups:

Combined meeting of Chico State Faculty and City of Chico Civic Leaders on October 23.

Civil Service Executive Center Seminar, Berkeley, Calif., on October 26.

Naval Post Graduate School Conference, Monterey, Calif., on October 30.

Annual State-Federal Meeting of Highway Engineers, Anaheim, Calif., on December 3.

Price Analyst Seminar, Defense Contract Administrative Services Region, Burlingame, Calif., on December 10.

William N. Conrardy, regional manager, *Irwin M. D'Addario*, assistant regional manager, and *L. Neil Rutherford*, supervisory auditor, Seattle, attended the Northwest Graduate Accounting Study Conference held during the period October 21-24 at Salishan Lodge, Oreg. They participated in panel discussions generated from the subject "Performance and Operational Auditing" which was presented to the conference by *E. H. Morse, Jr.*, director, Office of Policy and Special Studies.

The Northern Virginia Chapter of FGAA has undertaken a research proj-

ect to identify significant books and articles on management- or performance-type auditing and to determine to what extent this subject is being taught in colleges and universities. The project is headed by *D. L. Scantlebury*, regional manager, Washington. Other GAO members of the project's directing group are *George Egan, Jr.*, assistant regional manager; *Robert McLoughlin*, *Richard Nygaard*, *Jerry Sconce*, *Clarence Smith*, and *Charles Wolfe*, supervisory auditors, Washington; and *John Carroll*, supervisory auditor, Defense Division.

Robert W. Hanlon, assistant regional manager, Washington, participated in a panel discussion concerning employment opportunities before the University of Maryland's American Marketing Association, College Park, Md., on October 28.

Office of Personnel Management

Leo Herbert, director, spoke on "Training for the Auditing of Management Systems." on November 6 at the Annual New Mexico Seminar, a meeting of educators, practitioners, industrialists, and government officials; "Training Management Systems Auditors" at the November 19 meeting of the Montgomery-Prince Georges Chapter of the FGAA; and "Opportunities in Accounting" at the New York State Society of Certified Public Accountants Career Conference in New York City on December 12.

Harley R. Climpson, assistant director, addressed the Seminar for Audit Managers at the Interagency Auditor Training Center at the Commerce

Building on November 23. His topic was "Staff Management."

Transportation Division

T. E. Sullivan, director, and *R. E. West*, assistant director, attended the meeting of the Revenue Committee of the Accounting Division of the Association of American Railroads in Denver, Colo., October 19-21. Mr. Sullivan addressed the committee on the recommendations of the Joint Agency Transportation Study Group for improvement in the Federal Government's transportation practices. They also discussed numerous problems of mutual concern involved in the settlement of rail carriers' accounts with the Government.

Fred J. Shafer, deputy director, and *Paul T. Smith*, assistant director, attended the Household Goods Forwarders Association convention at Palm Springs, Calif., October 8-10. Mr. Shafer addressed the convention on the accomplishments of both industry and the Government in the movement of international household goods shipments and the proposals for future improvements by the Joint Agency Transportation Study Group. Both participated in general discussions of problems related to Government household goods shipments.

Henry W. Connor, associate director, *Charles C. Loomis*, chief, motor audit branch, and *Arthur E. Parry*, supervisory transportation specialist, participated as guest lecturers at the Defense Advanced Traffic Management Course, U.S. Army Transportation School, Ft. Eustis, Va., in October 1970.

Fred J. Shafer attended the Transportation Logistics Management Pro-

PROFESSIONAL ACTIVITIES

gram of the University of Miami, Fla., November 29 through December 4.

Elijah Watt Sells Award

The *Review* takes pride in recording that *Wayne K. Meyers*, of the Facilities and Support Services Group, Defense Division, received an Honorable Mention Award under the Elijah Watt Sells Awards for his grades on the May 1970 CPA examination.

The Elijah Watt Sells Awards were established by Council of the American Institute of CPAs in 1923 and are made to CPA candidates who receive the highest grades in all parts of the uniform examination now used by the 50 States, the District of Columbia, Puerto Rico, Guam, and the Virgin Islands.

A gold medal is awarded for the highest grade and a silver medal is given for the second highest grade. For

the May 1970 CPA examination, 28 Honorable Mention awards were also made.

The award received by Mr. Meyers is particularly significant when consideration is given to the number of candidates taking the examination. In the May 1970 examination, 21,380 candidates wrote a total of 77,101 papers. Selection of the award winners is made without knowledge of the identity of the candidates. The parts of the examination are assigned weights as follows: Auditing, 5; Accounting Practice, 5; Theory of Accounts, 5; and Commercial Law, 1.

Mr. Meyers entered on duty in the General Accounting Office on June 8, 1970. He is a graduate of the University of Iowa with the degree of bachelor of business administration/accounting. He sat for the CPA examination in Iowa.

New Staff Members

The following new professional staff members reported for work during the period September 16 through December 15, 1970.

Civil Division	Balach, William J. Carbone, Gary W. Fisher, David R. Fowler, Clifton W. Noto, John T. Tice, Barry D. Williams, Robert A.	Youngstown State University New Hampshire College of Accounting and Commerce Gannon College Pennsylvania State University University of Scranton University of Baltimore St. Francis College
Defense Division	Floyd, Donald S. Pennington, Philip W. Roberts, Bentley M., Jr. Scheid, Sharon L. (Miss)	U.S. Air Force U.S. Air Force Old Dominion University College of New Rochelle
International Division— Washington	DeMarco, George L. Kolm, Shirley I. (Mrs.)	Department of the Army University of Nebraska
REGIONAL OFFICES		
Office of Policy and Special Studies	Dooley, Thomas E. Gorski, William	Management Consultant National Science Foundation
Boston	Goulart, Edmond, Jr. Graffam, Kendall C.	Southeastern Massachusetts University University of Maine
Chicago	Twining, David R.	Iowa State University
Cincinnati	Hauser, Daniel J. Varner, Richard E.	Xavier University University of Tennessee
Dallas	Ratliff, Jo Ann (Miss)	Appalachian State University
Kansas City	Cornwell, Leroy E.	Vought Aeronautics Corporation
Los Angeles	Geiger, Gary D.	California State College—Fullerton
New York	Krebs, Eric H.	Union College

New Staff Members—Continued

REGIONAL OFFICES

<i>San Francisco</i>	Findlen, Edward L.	Babson Institute of Business Administration
	Swanson, Richard L.	Santa Clara University
	Wong, Kane A.	Department of the Navy
<i>Seattle</i>	Stuck, Dean E.	Oregon State University

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.

Defense Acquisition Study

National Security Industrial Association, Washington, D.C., July 1, 1970

The National Security Industrial Association (NSIA), founded in 1944, is a nonprofit, nonpolitical association of over three hundred American industrial and research organizations representing all segments of the defense industry in the United States. Its function is the promotion of and provision for effective communications between industry and the Government in matters relating to national security.

This published study is the most recent in a series of special studies and reports by NSIA designed to improve the effectiveness of Defense materiel support. Its stated purpose is to "suggest improvements in the conduct of the defense acquisition process which will enable the Nation to receive more value from the defense dollar."

The NSIA reports that it gave much thought to the issue of the "Military-Industrial Complex" during the formulation stages of this study. It was decided not to address the issue directly for two reasons: (1) the issue has become primarily emotional rather than factual and (2) it is tied so directly to the matter of national priorities which is not addressed by the study. The study does point out practical changes

that can be made in the acquisition process that it is hoped will lead to improvements of such a nature that the "Military-Industrial Complex" will be viewed in a proper perspective.

This study must be evaluated in light of the action already taken, and the studies in process or already completed, by other groups interested in this problem area. On November 26, 1969, the Congress enacted Public Law 91-129, which created the Commission on Government Procurement. A 2-year study will be conducted by the Commission of all Government procurement and recommendations will be made to Congress designed "to promote economy, efficiency, and effectiveness in the procurement of goods, services, and facilities by and for the executive branch of the Federal Government." A Blue Ribbon Defense Panel has recently concluded a study that includes the defense acquisition process. The Industry Advisory Council, in its reports to the Department of Defense, often addresses this problem directly. GAO has conducted studies and issued reports recently in areas related to this problem. (See, for example, "Action Required to Improve Department of Defense Career Program for Procurement Personnel," B-164682, Aug. 13, 1970.) The studies and reports by these various groups and agencies, including

this study by the NSIA, can be expected to result in improvements in the entire defense acquisition process.

In an attempt to satisfy the purpose of the study as stated above, the NSIA surveyed the defense acquisition process, identified significant problems and issues, assessed what had been done in these problem areas previously, and tried to summarize the current views of industry on these issues. It is not suggested that the issues covered necessarily are new or novel, or that they completely cover the entire spectrum of defense acquisition problems.

The study does not attempt to define levels of spending for defense, purposes for which the money should be spent, or how to resolve basic questions of Government policy on military requirements or national priorities. Very appropriately this has been recognized as outside of the realm of the study and of concern instead to the Congress, the executive branch, and the electorate.

The study is reported in five major sections, expanded upon in the following paragraphs, with the specific points made presented in summary form.

**The Defense Acquisition Process—
An Overview**

The study is based on the premise that our Nation's requirements for weapon systems will be fulfilled best through the operation of the profit motivated free enterprise system. However, the NSIA reports that there are aspects of defense acquisition so unique that the operation of the free enterprise system must be adapted to give them

proper recognition. Included among these considerations are: (1) the public interest, (2) the nature of competition, (3) the duality of the Government's role as buyer and as monitor in the process, (4) emphasis on technical innovation, (5) increased Government control of the systems and reports of defense contractors, and (6) the susceptibility to abnormal fluctuations of the demand for defense products and services.

Each of these aspects or considerations causes some move away from the pure economic concept of the free enterprise system and toward a system not yet defined in economics. The NSIA recognizes, and trusts that it is also recognized within the Government, that the more that can be accomplished by industry and Government working together to smooth over the problems caused by these considerations, the better the system will function.

**Planning: Determining Requirements
and System Feasibility**

The NSIA states there are no factors that have a greater impact on the *ultimate* cost of a deployed weapon system than schedule and performance requirements set forth in the concept formulation package, and there is no factor that has a greater impact on *apparent* cost growth than the cost estimates used by the Department of Defense in obtaining initial congressional approval of a program.

After describing the situation as it is seen from the standpoint of the study group, the following recommendations

are made in the area of cost, schedule and performance realism:

- Defense and industry should consult . . . beyond that currently being accomplished, during the formulation of weapon system concepts and requirements . . . in order to bring greater realism to assessment of state-of-the-art, schedules, costs, and attendant risks.
- The Office of the Secretary of Defense, the Military Services, and Defense Agencies should collaborate . . . in the implementation of . . . plans to perform explicit mission analysis and assess underlying technology requirements prior to proceeding on any specific development concept paper.
- Defense should collect and integrate . . . data . . . to establish and maintain a common baseline for projection of realistic ranges of cost, schedule and performance of major programs. Industry should have access to this information.
- Hardware demonstrations . . ., rather than paper studies, should be used to insure technological feasibility of a proposed weapon system prior to proceeding with full-scale development.

A supporting discussion follows the recommendations made in this area.

Buying: The Contractor Process

Recommendations and discussion are divided into the three following areas:

1. *Contracting techniques:*

. . . cost-reimbursement contracts, with exact form tailored to the individual project, should be the only

type used and fixed-price type contracts should be specifically prohibited.

Firm cost or price commitments for any contract should be limited to that period of time which can be assessed with accuracy.

Total Package Procurement should be discontinued.

Detailed risk analyses should be routinely required on competitive responses to requests for proposals covering new weapon systems. . . .

Life-cycle time schedules . . . should not be permitted to dictate movement of the weapon system into engineering and production prior to resolution of technical development difficulties which could . . . modify cost estimates or degrade performance.

The Department should provide for post-award adjustment of fixed-price contracts to cover technical uncertainties . . . encountered beyond those reasonably foreseeable at the time the contract was definitized.

2. Technical Specifications for Development and Production:

The Department should (1) make cost-effectiveness a principal design parameter . . ., (2) simplify and limit specification requirements . . ., and (3) use applicable existing industrial standards, specifications, and hardware. . . .

The Department and industry together should review work statements and specifications prior to soliciting bids for development and production of hardware. . . .

The Department and industry

should work together to a far greater degree than at present to assist in establishing realistic reliability and maintainability engineering and production standards.

3. *Liability:*

In order to avoid the burden of pyramiding insurance and contingency costs on its contracts, the Government in its own interest should self-insure risks in such areas as consequential damages, protection of Government property, and product warranties on specially designed military equipment.

Administration: Organization, Management and Control

The NSIA makes a total of sixteen recommendations, supported with discussion, in the areas of (1) organization, responsibility, authority; (2) documentation and managerial involvement; (3) subcontracting; (4) independent research and development; and (5) truth in negotiation. The recommendations are in the nature of reductions of layers of management in the Department and industry where not needed to accomplish the acquisition activities, implementation of the March 1968 report of the DOD—CODSIA Advisory Committee for Management Systems Control, and other such management related items.

Recommendations are made for dealing with subcontractors at the Department of Defense level and at the contractor level. These involve technical competence and managerial abilities of subcontractors and their rights to appeal in case of disputes.

Independent research and develop-

ment and bid and proposal costs should be handled by the Government in its dealing with the contractors in the same fashion as is done in all business relationships, and these costs should not be the subject of legislative controls.

Concerning Public Law 87-653, the Truth in Negotiations Act, the NSIA believes that experience under the act should be evaluated by a DOD/industry task group and recommendations made for more cost-effective administration.

Public Policy: The Role of Congress

The NSIA recommends that the Armed Services Procurement Act of 1947 be revised to reflect the unique characteristics of today's defense procurement. Specifically, the revisions should provide for (1) formal advertising where appropriate, (2) negotiated competition where appropriate, (3) sole source where most economical, and (4) removal of detailed procurement procedures and methods from the law.

In discussing the availability and evaluation of defense information, the NSIA recommends that Congress more clearly define its informational requirements and that the Department of Defense attempt to improve its communications with Congress to help restore congressional confidence in the accuracy and completeness of submitted information.

In total, 35 separate recommendations are reported in this published study. It appears that the National Security Industrial Association has done a commendable job of research and has certainly presented the results

in a fashion that is easily understood and not subject to gross misinterpretation.

If one is interested in learning how he or his organization might contribute to the improvement of the defense acquisition process, then this publication, while at times making recommendations

that will be a long time in implementation, should be placed on the list of required reading.

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