



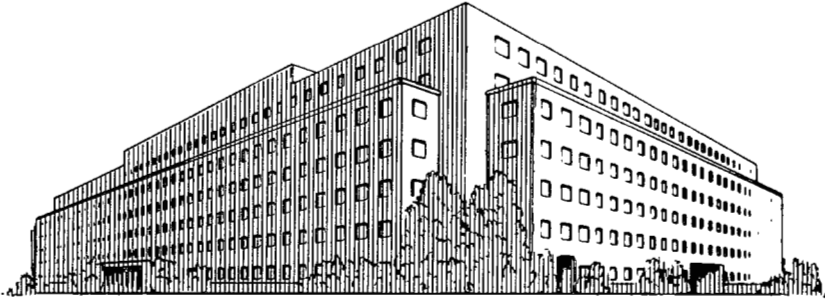
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E. J. Mahoney



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The GAO Review



SUMMER 1968

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THE GAO REVIEW

SUMMER 1968

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721313

Perspective on Planning-Programming-Budgeting

By Elmer B. Staats

Comptroller General of the United States

On March 26, 1968, the Comptroller General testified before the Subcommittee on National Security and International Operations of the Senate Committee on Government Operations on the planning-programming-budgeting system which was prescribed for most Federal departments and agencies by President Johnson in August 1965. The following excerpts from Mr. Staats' prepared statement provide an illuminating resume of the nature, antecedents, congressional implications, and potential of this system.¹

Essential Elements of PPB

When the President initiated PPB with a memorandum in August 1965 to the heads of departments and agencies, he stated that the PPB approach was to be used for three essential purposes: (1) to define national goals and identify those considered most urgent, (2) to determine alternative ways of attaining these goals and the probable attainment costs, and (3) to improve performance by attaining the best possible program returns for each dollar spent.

PPB is thus an ordered way of examining problems of choice—choice among specific objectives intended to serve higher goals and choice among alternative courses of action through which defined objectives can be achieved.

It is a systematic analysis of alternative objectives and of alternative

means which sets out as fully as practicable, for examination by decision-makers, the expected cost and benefit implications of alternative courses of action.

The analysis is designed to project expected costs and benefits into the future. It should examine into all aspects of costs and benefits or detriments, including social, political, and economic as well as financial factors, and including the implications for State and local government and the private sector as well as for the Federal Government.

In other words, to the extent practicable, the analysis should inquire into and lay out for consideration by the decisionmaker, the probable implications of each alternative course of action in all its dimensions.

These requirements create an emphasis upon efficient analytical methods for estimating future costs and benefits. They also increase the need for adequate information to support

¹ The full public record of this hearing has been printed as part 3 of the series of hearings on planning-programming-budgeting by the subcommittee (90th Cong., 2d sess., 1968).

analyses of feasible alternative objectives and programs for their accomplishment. Better information is needed concerning the specific needs of our society; and better information is needed concerning the costs, results, and efficiency of programs which are already in existence.

The nature of PPB also requires certain organizational and procedural definition, since, in order to be effective in the decisionmaking process, the alternatives must be presented to the central decisionmakers and must be relatable to current programs. This entails, in addition to analysis, a multiyear projection into future years which can be related to the categories contained in the budget. The organization of the process in the executive branch must be such that the top decisionmakers are offered an opportunity to participate in the evaluation of the alternatives, rather than only an opportunity to pass judgment on whether a specific course of action formulated at lower levels should be undertaken.

As our Government has responded over the years to the demands of the increasingly complex problems of the Nation, it has become more and more difficult for top decisionmakers to visualize the full implications of alternative courses of action. Over a period of several years, various techniques have been developed in response to the need for improved information that can be used by decisionmakers to make judgments on such alternatives. We can expect, I believe, further experimentation and research to develop

techniques, and, hopefully, more useful information.

* * * * *

In summary, therefore, the planning-programming-budgeting system is an effort to establish on a Governmentwide basis a common approach and procedure for:

1. Establishing longer range planning in terms of Federal objectives and goals as defined by the Congress or the President.
2. Finding a procedure for identifying the most advantageous programs to fulfill these objectives based on an analysis of costs and benefits of available alternatives.
3. Translation of programs into budgetary and legislative proposals and longer term projections.

Inasmuch as the end products have been principally budgetary recommendations, some would prefer the simpler, more easily understood term "program budgeting" as embracing all three elements. I would favor the simpler term.

Antecedents of PPB

* * * * *

Some of the major antecedents to PPB other than those specifically identified with military programs are:

1. *Cost benefit analyses for water resources programs* were called for * * * as early as the Rivers and Harbors Act of 1902. The Flood Control Act of 1936 was quite explicit that flood control projects should be begun only when estimated benefits are in excess of costs. The Bureau of the

Budget (BOB) began in 1943, as required by Executive Order 9384, to review all reports on water resources projects before they were transmitted to the Congress.

From such central reviews, guides for the evaluation of such projects began to take form and were formalized in BOB Circular No. A-47 in 1952. This Circular was replaced in May 1962 when the Ad Hoc Water Resources Council appointed by President Kennedy in 1961 recommended new guidelines, which were approved by the President and were printed as Senate Document 97. These guidelines were supplemented in 1964 to deal with recreation features of projects. Permanent provision was made for the development of policy and guides for the evaluation of water resource projects, with the establishment by law of the Water Resources Council in 1965.

2. *Longer range projections of budget totals* for the purpose of developing policy guides for the preparation of agency budget requests and for the examination of these requests by BOB were begun about 1946. These began as very rough projections made internally by BOB staff on the basis of prior congressional actions and the programs and policies in the latest budget transmittal to the Congress and covered about 5 future years. They later were more closely related to agency longer range program plans and took into account new programs to meet emerging national needs.

In 1961 BOB made public a projection giving alternative dimensions of the Federal budget in the years 1965

and 1970, based on past trends in spending and on three varying assumptions—"high," "low," and "most likely"—as to the future trend in spending.

3. *A budget preview process* was begun by BOB in 1946 as a preliminary step in the preparation of the 1948 budget. Its primary purpose then was to develop and communicate to the major agencies general policy guidance for the preparation of their requests to be submitted in the fall. This purpose was served, beginning in 1947, by "ceiling" or "target" figures which were given to the major agencies to give them meaningful guidance as to the President's general budgetary objectives. As time went on, this preview became more and more a systematic procedure for program planning and evaluation.

The preview was marked in 1961 by the formal adoption of a two-stage process for the preparation of the 1963 budget, comprising a longer range forward look at the budget prospects in the spring and the usual preparation of the budget in the fall. The Budget Director's letters setting forth this plan to the major agencies expressed the intention to make the spring budget preview period a time of useful joint examination of goals and objectives, and of major policy questions, rather than a time of negotiation of detailed budget figures.

The movement in this direction continued steadily. In 1964 agencies were first asked to submit program plans, as such, related to their financial plans, to indicate the relative priorities of programs, and to examine in depth certain program issues that had

been identified as a result of joint discussions. By the spring of 1965, the preview for the 1967 budget had taken on essentially the elements that we now associate with PPB.

4. *Functional budget preparation* first appeared in the President's message transmitting the 1946 budget, and a new comprehensive classification, basically the same as in use today, was adopted in the 1948 budget. This set forth the President's proposals in major functional categories corresponding to the Government's broad missions that cut across agency lines. These categories were broken down into more specific sub-functions and related to the programs of individual agencies. Shortly before that time the same kind of classification had been used by BOB in its internal projections of the budget.

To facilitate the examination of the budget in this functional framework, BOB was reorganized on a broad program basis in 1951. Later this functional approach was furthered by special analyses that appear in the budget documents. There were special analyses first on public-works programs and programs involving grants for the States, and later on such programs as those for research and development, health, and education.

These special analyses had the advantage of being able to deal with programs which furthered overall or general national objectives as a secondary purpose, the programs' primary purpose being to serve some other and more specific Government function. Examples are the educational and health activities of the Department of Defense and the Veterans

Administration, which appear under the veterans benefits and national defense functions in the function classification, but appear under education and under health, respectively, in the special analyses.

5. *Performance and cost-based budgeting.*—Another important antecedent was the development of the concept of performance and cost-based budgets recommended by the first Hoover Commission in February 1949. The Budget Director announced in August 1949 that the budget for the fiscal year 1951 would be presented on a performance basis. The instructions for the 1951 budget were issued in BOB Circular No. A-11 and required budget presentations and justifications to be built on the framework of programs and activities rather than on objects of expenditure (such as personnel, travel, etc.) as in the past. In other words, the budget became, in PPB parlance, oriented to "output" rather than input.

Efforts were begun to measure work done and to relate it to costs. A study by BOB explored the feasibility, value, and cost of systems to measure productivity, and the study concluded that such systems had considerable potential. The results of this study were published in 1964 and were used to stimulate action by agencies to develop such systems.

The Budget and Accounting Procedures Act of 1950 (64 Stat. 832), although not using the two specific words, established the legal framework for the "performance" or "program" budget. It also expressed the intent for the Comptroller General,

the Secretary of the Treasury, and the Director of the Bureau of the Budget to conduct a joint program for the improvement of financial management. Such a program had actually been commenced late in 1947.

This program became known as the Joint Financial Management Improvement Program. As the result of a survey, initiated by the House Appropriations Committee, of accounting systems support for budget requests, the Joint Program had underway as early as 1951 an effort to encourage the development of budget patterns and accounts that would provide a common basis for program planning, budget preparation, accounting, and operational control. This evolved into the present plan for an integration of planning, programming, budgeting, and accounting.

An important related step was the enactment in 1956 of Public Law 863, 84th Congress, which specifically required the accounts of all executive agencies to be put on an accrual basis as soon as practicable and provided for these agencies to develop their appropriation requests from cost-based budgets at such times as the President might determine.

6. *The development of formalized agency program planning* procedures moved slowly in the early part of the development period. However, in 1943 Executive Order 9384 also required the preparation of 5-year programs of all public works by the agencies involved and the summarization of these plans by BOB for the President's consideration. For many years BOB required the departments and agencies

to include cost information in their reports to congressional committees on proposed legislation. This requirement was enacted into law in 1956 (Public Law 84-801).

Longer range program plans were also used quite early in some other agencies, notably the Federal Aviation Agency, and the Forest Service in the Department of Agriculture. Beginning in 1961 BOB placed increasingly greater emphasis on longer range program planning and encouraged and assisted agencies in the development of program planning staffs. Most of the major agencies developed such staffs.

7. *Task forces or special commissions* to identify pressing national needs, to evaluate the effectiveness of present programs in meeting those needs, and to develop new policies and programs to meet any deficiencies were used effectively during the period of development although their use was accelerated under Presidents Kennedy and Johnson.

I have dealt at some length with what I consider to be antecedents of PPB to underscore the important point that it is not an "entirely new" or "revolutionary" system of budgeting as has been frequently stated: nor did it have its entire base in the Department of Defense as has been stated also. Rather, it was an outgrowth of a number of developments that took place over a long period of time, although it was not developed in as highly formalized a fashion as embraced in the President's announcement of 1965.

Implications of PPB for the Congress

Having considered this long history of changing methods for developing budgetary proposals for the consideration of the Congress, we now turn to the question, "In what ways will PPB change the form or substance of executive branch, legislative, and budgetary proposals for the consideration of the Congress?" Congress obviously plays a vital role in the decisionmaking process of our Government. It, therefore, has direct interest in the analyses which lie back of both legislative and budgetary proposals. It is interested in knowing what alternatives were considered and why certain alternatives were rejected. It is interested in what estimates were made with respect to long-term costs and how these estimates were arrived at. It is interested in knowing the basis for projected benefits.

Any procedure that results in better analyses and better information with respect to legislative and budgetary proposals should, of course, be of direct assistance to the Congress. This does not necessarily mean that the Congress needs to have all the "program memorandums," "work papers," "argumentation," etc., that lie behind executive branch proposals. The Congress is entitled, however, to know why alternatives were not accepted and, perhaps equally important, to know whether an adequate analysis was made of available alternatives. Moreover, it needs to have available to it information with respect to long-term costs and benefits, total costs and benefits, the relationship of program

growth in one agency to that of related or identical programs in another agency, and so on.

Beyond this the Congress has increasingly recognized the need for greater information with respect to proposed programs and alternative courses of action by:

- The enactment of Public Law 801 requiring 5-year projections of personnel and expenditure requirements of new legislation.
- Utilization of special analyses developed in the budget for review of programs on a Government-wide basis.
- Grouping of subcommittee responsibility for appropriation hearings on the basis of related programs.
- Requiring long range estimates of cost and performance, economic analysis of alternatives, and ongoing evaluation. Legislation passed in 1956 authorizing the acceleration of the Interstate Highway System is an example. It required that the cost and economic impact of alternatives be considered in the selection of specific route locations, and that the total costs of the system be periodically reestimated throughout the approximately 15-year duration of the program.
- Providing for continuing evaluation of existing programs, such as in the Economic Opportunity Amendments of 1967.

* * * * *

In the past, the Congress, through its committees and Members, has made a great number of its own

studies of problems with a view to formulating solutions. I would expect that this would continue and that, even apart from charging any specific committee or organization with responsibility for adapting some of the more modern techniques to the analysis of problems at hand, such techniques would be used to a greater extent as time passes.

At this point in time it is difficult to say just what the finalized expressed needs of the Congress will be. It is my understanding that the executive branch view on the subject is this: with respect to the extent of congressional discussion of the agency's plans and programs, the program analysis developed by the agencies under the PPB System are incorporated in budget requests and legislative proposal justifications. Program memoranda required under the Budget Bureau's instructions are not available to the Congress.

In its consideration of legislative proposals and its evaluation of ongoing programs, Congress and its committees could inquire of the responsible executive branch officials as to the specific objectives sought, the alternatives which were considered, and the results of the analyses of the alternatives.

The Congress should also be able to inquire into the specific accomplishments of ongoing programs, and the degree of efficiency achieved in their execution, and expect to receive responsive information based on specific evaluations made by the executive branch. In other words, regardless of whether the specific documents used by an executive agency in pro-

gram analysis are available to the Congress, the substantive information should be furnished on request of the Congress.

As an agency of the Congress, we are considering the ways in which we can be more responsive to the needs of Congress in this regard. We have established a small systems analysis staff in our Office of Policy and Special Studies and plan to build more capability in the use of analytical techniques both in that office and for use in our audits and evaluations of the management of ongoing programs.

* * * * *

The interest of the Congress in PPB may involve more than the long-term decision process of the agencies. From the practical standpoint there may be considerable interest by the Congress as to whether the PPB procedure itself can be improved. In other words, the Congress has an interest in the planning and budgeting system used by the agencies since it will always have to depend to a large extent upon agency information as a basis for its actions. Beyond this, the Congress has an interest in the cost of administering the PPB system itself, as it has in the cost of any management technique or device used in planning or administering agency programs.

* * * * *

Limitations, Qualifications, and Possible Future Developments

Most authorities on management sciences would probably agree that the processes of planning, programming, and budgeting are desirable

processes. Such processes cannot, however, solve all the resource allocation problems that face decision-makers.

The goals of our society cannot be simply stated. If our goal was solely economic efficiency with all its ramifications, then *perhaps* some one system such as PPB would guide us toward that one ultimate objective. But we do not seek one goal. Instead, we have numerous goals such as security, progress and prosperity, freedom of choice, strengthening of the free private enterprise system, and many other goals. These goals cannot in all cases be accomplished consistent with the highest degree of economic efficiency. Priorities among our national goals are not easily agreed upon, and in the final analysis must be established largely through the operation of our political process. While PPB can generate information useful to this process, it is quite easy to "oversell" the PPB contribution to the determination of national priorities.

One of the most significant problems in the planning and programming processes is the problem of measuring the contribution which existing programs have made toward achieving stated goals and assessing the potential contribution of alternative programs. The problem of defining measurement criteria is especially complex when we seek to measure effectiveness of social programs. Measurement criteria must directly reflect the goals or aims of a program if they are to allow reliable measurement of effectiveness. However, absolute agreement on goals and aims is often lacking and the relative weight to be given

different specific objectives often defies definition. What criterion will permit us to choose between saving one human life and preventing a large number of cases of blindness? If we are choosing among lives to save, what criterion tells us which lives?

* * * * *

Examples of where actual or potential program results cannot be readily quantified and it is necessary to emphasize the processes that underlie such programs are:

1. The community action programs in the Office of Economic Opportunity which, by involving local groups in the political processes, may bring about the strengthening of local governments followed by institutional changes, a goal sought by the programs;
2. The Peace Corps where it is not possible to describe the benefit of a project in a country in terms of the project's contribution to the gross national product; and
3. The whole area of basic research.

Joint program participation by the Federal Government and other entities also makes difficult definition of all program implications and other factors. I believe the public works and economic development programs of the Department of Commerce serve to illustrate the problems which arise in these circumstances. Under these programs, several types of aid are available, to both governmental and non-governmental entities, to promote the economic development of depressed areas. In determining the way in which

the resources should be allocated, at what level should the agency try to make the decision? There are redevelopment areas, economic development districts which contain two or more redevelopment areas, economic development regions which contain two or more districts and, of course, the whole country. The Government does not finance total investment costs and in general does not participate in operating and maintenance costs. There can be several entities at each level with which the Federal Government can deal. The role of the Government is only to encourage, assist in, and approve the planning at each level—it cannot dictate what is to be done.

* * * * *

Faced with the difficulties I have described, budgeting must in the final analysis remain a function of responsible judgment, not an expression of dollar absolutes, and the allocation of financial resources among vigorously competing claims can never result from the application of any formula. We live in a dynamic society, a plural society, and this very pluralism produces a contest of priorities and values. When the chips are down, and since we must deal with relatively finite resources, we are unlikely to produce the complete harmony of satisfaction that each claimant seems to expect.

It would be extraordinary, in fact, if a dynamic society did not have expectations and aspirations and goals that surpassed its immediate resources. I think we should not be unduly frustrated when these aspira-

tions must be achieved in an orderly way, in a framework of balance, and in a perspective of our total needs and problems. In a directed society, we would probably have less worry about priorities; in an open society, we have a collective responsibility to determine our common and best interest. And the budget is one device—a very important device—for relating values and expectations to resources.

There is no assured way to bring the decisionmakers down to one right answer. If there are many who want vastly greater expenditures for national security programs, there are others, just as dedicated, who want that money for school construction, for medical research, for farm subsidies, for service pensions, for roads, for housing, for urban renewal, for science, for outer space exploration, for pay raises—the list knows no limits—and it is not static. Even a Federal budget which has multiplied more than tenfold in the last 25 years cannot satisfy all these claims.

Also, the decisionmakers in the executive branch and the Congress are to some degree bound by what has happened in the past. In many areas, past decisions have resulted in substantial investments and commitments which limit courses of action which are practically available. In some cases, major changes in resource allocation can be accomplished only gradually over a period of time.

Despite these limitations and complexities, however, we cannot afford to overlook any techniques that are available to put a finer edge to the decision process.

PERSPECTIVE ON PPB

* * * I have attempted in this testimony to briefly highlight my views with respect to PPB, particularly as it affects the work of the Congress and, to some extent, the work of the General Accounting Office. I have also explored some of the problems which must be solved in order to fully realize the potential of PPB. I believe recognition of these problems explains to a large degree why there is a significant body of opinion that PPB has been oversold. Perhaps the proponents of PPB have not been careful enough to delineate what it can do best from the areas of decisionmaking in which it may flounder. The multiyear total program visibility provided by PPB can potentially improve the basis for major program

decisions. To do this, it must be supported by sound analysis based upon reliable measurements of costs and program outputs. There has been a considerable amount of research to solve the difficult analytical problems. There has been much improvement in both the process and available information upon which the budget is prepared and reviewed in the past 20 years. I believe it is reasonable to expect a continuing improvement in the quality of the information and the analysis. But, if past efforts to improve the budget process are at all indicative, it is too early to make a definitive evaluation as to changes which may be needed in the PPB System as presently prescribed.

721314

A Capitol Hill Assignment

By William J. Anderson

The author recounts his experience and impressions during an assignment with the staff of the Joint Committee on Atomic Energy early in 1968.

In January of this year, I was informed that I had been selected for an assignment with the Joint Committee on Atomic Energy to assist in reviewing the fiscal year 1969 budget authorization request of the Atomic Energy Commission (AEC). My initial reaction was one of dismay, because I considered that the advancement of my professional development would be better served by my continuing my activity in our primary business—auditing. I was wrong. My tour of duty with the Joint Committee was a stimulating experience that provided me with an insight into the legislative process that would otherwise have been difficult to obtain. The purpose of this article is to share this new knowledge with my fellow staff members.

At the outset, I should state that the Joint Committee on Atomic Energy is unique in that it is the only joint committee of the Congress that is authorized to receive, and recommend to the Congress, proposed leg-

islation. Other joint committees, such as those on Economics and on Reduction of Nonessential Federal Expenditures, lack this authority. Also, the Joint Committee is one of the few committees of the Congress that was established by statute rather than resolution. Despite these differences, however, the legislative process I describe, as it pertains to the activities of the Joint Committee, is typical of the legislative processes of the Congress generally.

Three different organizations are involved in this discussion: the AEC, the Joint Committee on Atomic Energy, and the Joint Committee staff. A brief description of each follows.

Atomic Energy Commission

AEC was established by the Atomic Energy Act of 1946 to assume the responsibilities for the development, use, and control of atomic energy and for the production of nuclear weapons that was previously assigned to the U.S. Army under the Manhattan proj-

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ect.¹ The Atomic Energy Act of 1954 expanded the functions and responsibilities of AEC to provide for greater emphasis on developing and promoting peaceful uses of atomic energy. As to the broad powers bestowed by both of these acts, it has been observed that:

The Atomic Energy Act of 1946, the Nation's—indeed the world's—first such legislation, was unique. It enveloped atomic energy in an almost air-tight Government monopoly. That act's successor, the Atomic Energy Act of 1954, is also a remarkable statute. While it relaxed many of the rigid controls laid down by its precursor and opened the door to private development of atomic energy, few other statutes confer upon an executive agency the broad powers with which the Atomic Energy Commission is endowed by its terms.²

As recently approved by the Congress, AEC's fiscal year 1969 authorization for operating, construction, and equipment costs is about \$2.62 billion. The comparable figure for fiscal year 1968 was \$2.63 billion. At June 30, 1967, AEC-owned plant and equipment costs amounted to about \$3.8 billion. Most of the work involved in accomplishing AEC's functions is performed by industrial firms or educational and other nonprofit organizations under contract to AEC. Many of these contractors operate Government-owned facilities under cost-type operating contracts. As of June 30,

¹ Several excellent books have been written on the fascinating history of the Manhattan project. I can recommend, in particular, "Day of Trinity" by Lansing Lamont (Atheneum Press, New York, 1965) and "Now It Can Be Told" by General Leslie R. Groves who was in charge of the project (Harper & Brothers, New York, 1962).

² William T. England and Leonard M. Trosten, "Waiving Defenses: A New Approach to Protecting the Public Against Financial Loss from Use of Atomic Energy," 27 Federal Bar Journal 27 (1967).

1967, AEC's operating and construction contractors had about 122,000 employees engaged in contractual activities and AEC had about 7,500 employees.

Within AEC much emphasis continues to be placed on programs primarily concerned with the military applications of atomic energy, accounting for about 67 percent of the fiscal year 1969 authorization. In contrast, programs primarily concerned with the civilian applications of atomic energy and with basic research constitute about 22 percent and 11 percent, respectively, of the 1969 authorization.

*Joint Committee on Atomic Energy*³

The creation of the Joint Committee was also authorized by the Atomic Energy Act of 1946. The Joint Committee was organized August 2, 1946, about 5 months before AEC came into existence. The enacting legislation provided that the Joint Committee consist of nine Members from the Senate and nine Members from the House of Representatives with not more than five Members from either House belonging to the same political party. The Atomic Energy Act of 1954 provided for the rotation of the chairmanship of the Joint Committee between the Senate and the House of Representatives with each Congress. It provided also that the vice chairman be from the House other than that of the chairman. For the 90th Congress, Senator John O. Pastore of

³ A Joint Committee print, "Current Membership of the Joint Committee on Atomic Energy," 90th Cong. 2d sess. (1968), contains much interesting and useful information on the Committee.

Rhode Island is serving as chairman and Congressman Chet Holifield of California is serving as vice chairman.

A reporter for the Washington *Evening Star*, in an article on the Committee, wrote that:

Unlike some of the watchdog groups on Capitol Hill, the Joint Committee takes its duties seriously and cherishes its supervisory prerogatives fiercely. As a result, it is probably the only body in Congress that has successfully resisted, and even reversed, recent trends toward executive erosion of legislative power.⁴

Generally speaking, the Joint Committee's responsibilities include four functional areas. Firstly, there is the legislative function which covers all phases from the initiation of a legislative measure through Joint Committee consideration and debate on the floors of the House and Senate. Secondly, there is the monitoring function wherein the Joint Committee maintains close surveillance over the various aspects of the atomic energy program—whether it is being carried out by the Department of Defense or State, AEC, or some other department or agency—with a view to insuring that adequate progress is being made and that public funds appropriated for the program are being expended wisely and efficiently. As might be expected, this is the functional area where our Office is of the greatest assistance to the Joint Committee.

Thirdly, there is the policymaking and review function by which the Joint Committee, or individual members of the Joint Committee, propose

⁴ William Hines, "Republican Spots Attrition in AEC," Washington *Evening Star*, Feb. 10, 1966.

policy changes or innovations in the atomic energy program. Finally, there is the information function whereby the Joint Committee has specific responsibility for providing information to the Congress and to the public on activities in the atomic energy program.

The activities of the Joint Committee are discussed in depth in a book entitled "Government of the Atom."⁵ The very fact that such a book was written and the fact that a number of newspaper and magazine articles have been written about the Joint Committee attest to its unusual nature. The authors of "Government of the Atom" concluded that:

The Joint Committee on Atomic Energy is, in terms of its sustained influence in Congress, its impact and influence on the Executive, and its accomplishments, probably the most powerful Congressional committee in the history of the Nation.⁶

More recently, another observer has written:

Today's JCAE [Joint Committee on Atomic Energy] member takes his nuclear business seriously, and he is not reluctant to speak on the subject before the most sophisticated of scientific groups. He has acquired broad knowledge of nuclear affairs and policy matters * * *.⁷

On the basis of my experience, I can affirm the accuracy of the foregoing statement. On many occasions the members demonstrated their ability to

⁵ Harold P. Green and Alan Rosenthal, "Government of the Atom" (Atherton Press, New York, 1963). By juxtaposing the activities of the Joint Committee with the practices of the Congress generally, the book provides an insight into the entire legislative process.

⁶ *Ibid.*, p. 266.

⁷ "The Atomic Powered Committee," *Nuclear News*, February 1968, p. 33.

discuss complex scientific concepts with representatives of AEC. Indeed, they had sufficient depth of understanding to question, in not a few instances, technical, as well as policy, decisions.

Joint Committee Staff

One of the dictionary's definition of the word "staff" is "the personnel who assist * * * in carrying out an assigned task." As should be clear by now, the term "assigned task" covers extensive ground in this instance.

John T. Conway, Executive Director of the Joint Committee, accomplishes his formidable responsibilities with the assistance of three full-time professional staff members. In addition, there are two technical consultants continuously on loan to the staff, one each from AEC and the Department of Defense which are reimbursed for the salaries and expenses of these individuals. Including supporting personnel, the staff has a total of about 20 employees. The representative of the General Accounting Office (GAO) on the staff has the title GAO Consultant.

Members of the professional staff were selected on the basis of their expertise in AEC's various program areas, such as naval propulsion, reactors, weapons, or security matters. Thus the Deputy Director of the staff is a retired Navy captain who worked in Vice Admiral H. G. Rickover's naval nuclear propulsion program and the Assistant Director who has primary responsibility for national security and administrative matters

was formerly with the Central Intelligence Agency. The Staff Counsel, a former AEC attorney, has responsibility for the legal aspects of the staff's work as well as for coordinating matters pertaining to the authorization hearings and report.

The staff does not employ a full-time financial expert, although, not unexpectedly, the members of the staff have acquired quite a bit of competence in this area through their participation in the authorization process. The staff, however, does require support in considering AEC's budget authorization request, and the primary function of the GAO Consultant is to provide the necessary support. At the request of the Joint Committee, our Office has provided such help for several years. As with the full-time staff members, the GAO Consultant's work is not confined solely to the areas or types of work for which he is professionally trained. In other words, work assignments are not made strictly along functional lines. The overall activities of the staff will become clearer in my discussion below of the events incident to authorization of the fiscal year 1969 AEC budget.

Legislative Authorization Process

My discussion will bypass the internal development of AEC's budget and the part played by the Bureau of the Budget in this activity, a subject deserving of treatment in itself. The table below shows the magnitude of the budget reductions made during the review process.

A CAPITOL HILL ASSIGNMENT

	Total	Operating expenses	Plant and capital equipment
		(in millions)	
Requested by AEC divisions	\$3, 798. 6	\$2, 732. 4	\$1, 066. 2
Approved by AEC Headquarters and submitted to Bureau of the Budget	3, 332. 1	2, 461. 9	870. 2
Approved by Bureau of the Budget and submitted to the Congress	2, 911. 3	2, 225. 6	685. 7
Authorized by the Congress	2, 618. 3	2, 174. 6	443. 7

From the standpoint of the Joint Committee, the authorization process began in earnest on January 29, 1968, when the President's fiscal year 1969 budget was submitted to the Congress. On that same date, identical bills authorizing the AEC fiscal year 1969 budget were introduced by request in the Senate and House of Representatives by individual members of the Joint Committee and referred immediately by each House to the Joint Committee for consideration. The bills had been drafted by AEC and were introduced in the form received by the members of the Joint Committee.

Information and advice on various aspects of the AEC budget request had been obtained from AEC by the Joint Committee prior to formal submission of the President's budget, and these data were already under intensive review by the Joint Committee staff on January 29, 1968. In fact, the initial hearings on the request were scheduled for, and began on, January 30, 1968, the day following the budget's submission.

In preparation for the hearings, the staff had compiled for the Joint Committee members an analysis of the

AEC budget request and questions concerning various aspects of the budget that the members could consider asking in obtaining testimony from AEC representatives. The Joint Committee staff was present at the hearings and provided assistance to the members as needed. The Staff Director, and from time to time other members of the staff, joined in the interrogation of AEC representatives. During the course of the hearings, testimony was received from AEC's commissioners and numerous subordinate officials including the controller, division directors, and various laboratory and contractor officials. Although the Joint Committee did not invite representatives of the public and of private industry to testify during the 1969 budget hearings, it often had done so in the past.

Transcripts of each hearing were provided to all participants for review and correction of the record as appropriate. Following the hearings, the staff submitted to AEC, in writing, additional questions which were not posed at the hearings and which, with the answers, became a part of the hearing record. Information was also developed in meetings held between

members of the Committee staff and AEC officials on those programs for which hearings were not held. A considerable amount of useful information thus became a part of the hearing record which, this year, ran to about 2,100 pages.

The Executive Director of the Joint Committee had meanwhile obtained from members of the Joint Committee general guidance regarding the overall level of funding to be recommended for the AEC budget. Working within these general parameters, the staff drafted the Joint Committee report, including therein the proposed changes in the various programs from AEC's request. The Joint Committee's report is somewhat different from other authorization reports in that the Joint Committee uses the report as a vehicle for commenting on nuclear matters in general. The report matter is not confined to the AEC budget but is directed, in large part, to the nuclear industry as well. Referring back to the Joint Committee's four functional areas, the Committee performs its policymaking and monitoring functions, as well as its legislative function, during the authorization process.

The next event of significance was the markup session. This was a meeting of the Joint Committee members and staff where the latter, in effect, played the roles of witnesses similar to the roles played by AEC officials at the hearings. The Joint Committee members reviewed the staff's proposed actions and approved or changed them as considered appropriate. These changes resulted in a marked-up bill.

The Joint Committee report was revised on the basis of the markup session and, as a matter of comity, submitted to AEC for comment. An executive meeting (i.e., one not open to the public) of the Joint Committee was then held where top AEC officials were allowed to comment on the proposed Joint Committee recommendations and to make final pleas in cases where AEC wished to appeal any specific Joint Committee action. These final pleas are similar to those made to Senate authorization and appropriation committees by executive agencies on the actions of House committees. Because this was a joint committee, the appeal has to be made to the same body that proposed the actions.

Next, the Joint Committee report was printed in final form. At this point, a special rule authorizing debate on the bill was obtained from the Committee on Rules of the House of Representatives. This year, as in prior years, clean bills were filed in lieu of the original bills in both Houses because of the many changes resulting from the Joint Committee's recommendations. The House Committee on Rules conducted a hearing on the Joint Committee's budget request wherein ranking House members of the Joint Committee testified in support of the recommended AEC authorization bill and the request for a rule.

A rule was granted which, when adopted by the House, placed the bill on the House Calendar of a specified date. On that date, the Joint Committee's majority and minority leaders, as well as other Joint Com-

mittee members, made statements in behalf of the bill and responded to questions raised by Members of the House on various facets of the bill. The staff members and staff consultants, including the writer, assisted the Joint Committee members during this debate. At the conclusion of a 2-hour debate, a record vote was taken, which resulted in overwhelming approval of the Joint Committee's recommendations. In my opinion, this measure of support was attributable not only to the merits of the Joint Committee's recommendations but also to the high regard of most House Members for the nuclear know-how of their colleagues on the Joint Committee.

About a week later, the Senate debated the bill and also voted in favor of it, this time by voice vote rather than record vote. No conference was necessary between representatives of the Senate and House of Representatives since no changes had been made to the identical bills considered and approved in each House. This situation is another example of the uniqueness of the Joint Committee. Bills introduced in the two Houses generally differ, often significantly, because the counterpart committees in each House do not work together. Therefore there is almost always a need for a conference to resolve the differences in the two proposed bills.

Following approval by both Houses, the bill had the status of an enrolled bill. After the bill was examined and signed by the Speaker of the House of Representatives and the President of the Senate, it was submitted to the President and subsequently became Public Law 90-289.

At the time of the submission of the bill, the President had 10 days (Sundays excepted) within which to veto the bill or it would automatically become law (except that a pocket veto was possible if the Congress was not in session at the end of the 10-day period). Upon receipt of enrolled bills, the President frequently asks for comments from the agencies affected by the legislation. The President chose to approve the bill and signed it into positive law on April 19, 1968.

AEC's worries were not yet over. First, appropriations have to be voted by the Congress. The appropriations committees can recommend approval of an amount of funds less than that authorized. In effect, the authorization establishes a ceiling for appropriations which can be further reduced. This year, as in most prior years, there were further cuts in AEC's budget as a result of the appropriations process.

. . . .

I hope I have succeeded in conveying the significant role of the Joint Committee's staff in fulfilling the Joint Committee's business. The staff synthesized a vast amount of detail so that the members of the Joint Committee were able to concentrate on the basic policy issues involved. My experience corroborated a statement regarding the knowledgeability of the Committee members made by the authors of "Government of the Atom," that:

In part, this [knowledge] is due to exceptional staff work within the JCAE. During most of its existence, the JCAE has had a relatively stable and skilled staff. The ability and dedication of the staff in

A CAPITOL HILL ASSIGNMENT

conjunction with the continuity of membership on the JCAE, has been a tremendous source of strength to the Committee * * *.⁸

It gave me great pleasure to have been a part of the Joint Committee's activity and to have been able to share the staff's sigh of relief and feeling of accomplishment on a job well done when the authorization finally became law.

Editor's note:

At the conclusion of the author's service with the Committee staff, the chairman of the Joint Committee wrote the following to the Comptroller General:

On the occasion of Mr. Anderson's recent return to his regular duties I want to take this opportunity to commend the excellent work which he performed during this assignment. Among other things,

he conducted valuable analyses of the Atomic Energy Commission's fiscal year 1969 authorization request and generally provided strong support to the regular Committee staff in carrying out its responsibilities. He amply demonstrated his capability to work effectively with officials of the executive and legislative branches in coping with significant and complex problems. At an early stage he earned the confidence of the Committee in his initiative and abilities, and he retained that confidence throughout his stay here. In a word, Mr. Anderson impressed me and the other Committee members as a credit to the Federal Service in general and the General Accounting Office in particular.

Based on our experience with GAO staff consultants the Committee has come to expect high quality service from them as a matter of course. Mr. Anderson admirably fits this tradition. It is my hope that the Committee can continue to avail itself of the General Accounting Office's assistance in this regard in future years as the need arises.

⁸ Green and Rosenthal, *op. cit.*, p. 79.

GAO Review of Project Mohole

By Philip Charam and Francis X. Fee

An article in the Spring 1968 issue of the *GAO Review* discussed the history of research and development in the Federal Government and the interest of the Congress in its growth. The following article describes one research and development project—Project Mohole—the congressional interest in the project, and an approach suggested by GAO for the conduct of similar research and development projects in the future.

The General Accounting Office is directing an increasing amount of audit effort toward reviewing the expenditure of Federal funds for research and development. As part of this effort, we recently completed a review of the largest and a most unusual project entered into by the National Science Foundation for the support of basic research—Project Mohole.

We reported on our review to the Congress in April 1968 and included in our report a suggested alternative approach for the Foundation to consider in the conduct of future research and development projects that involve totally new or exploratory concepts, as did Project Mohole.

The following paragraphs briefly summarize the content of our report.

Introduction

The National Science Foundation (NSF) is an independent Federal agency, established in 1950, that was created to support basic scientific research and education in the sciences and to foster the interchange of scientific information among the world's scientists. Basic research is distinguished from applied research in that basic research seeks an understanding of the laws of nature without regard for material benefit while applied research is carried out with practical and specific objectives in mind.

NSF supports basic research through grants to and contracts with academic and nonacademic institutions; private, nonprofit, research corporations; industrial companies; and other Federal agencies.

Mr. Charam is an associate director of the Civil Division responsible for GAO work at the National Science Foundation, Department of Health, Education, and Welfare, and certain other agencies. Prior to his assignment in Washington, he served as regional manager in Dayton, Ohio. He is a CPA (Illinois) and has been with GAO since 1942.

Mr. Fee is a supervisory auditor in the Civil Division currently assigned to the GAO work at the National Science Foundation. He holds a B.S. degree from Villanova University and has been with the General Accounting Office since 1963.

Project Mohole

In March 1962, the Foundation entered into a cost-plus-fixed-fee contract with Brown & Root, Inc., a large engineering firm, to manage and coordinate a program for deep crustal studies of the earth. Project Mohole—the name given this program—was designed as a scientific and engineering effort to extend man's knowledge of this planet by deep drilling through the earth's outermost crust and into the unexplored mantle beneath it.

It was expected by the scientists in favor of this undertaking that the drilling of a borehole would aid materially in determining such things as age and origin of the earth and moon, heat sources that help to cause earthquakes and volcanoes, concentration of minerals in the mantle, age and origin of the oceans and ocean basins, and causes of the earth's magnetic field.

Earth scientists believe that the earth is composed of a crust, a mantle, and an inner and outer core, as shown in the illustration on page 23.

Very little is known, however, about the origin, composition, and age of the earth because scientists have been unable to drill deep into the earth and remove samples for analysis. The deepest hole ever drilled on land is 25,340 feet deep, or less than 5 miles into the earth. The earth has a radius of approximately 4,000 miles.

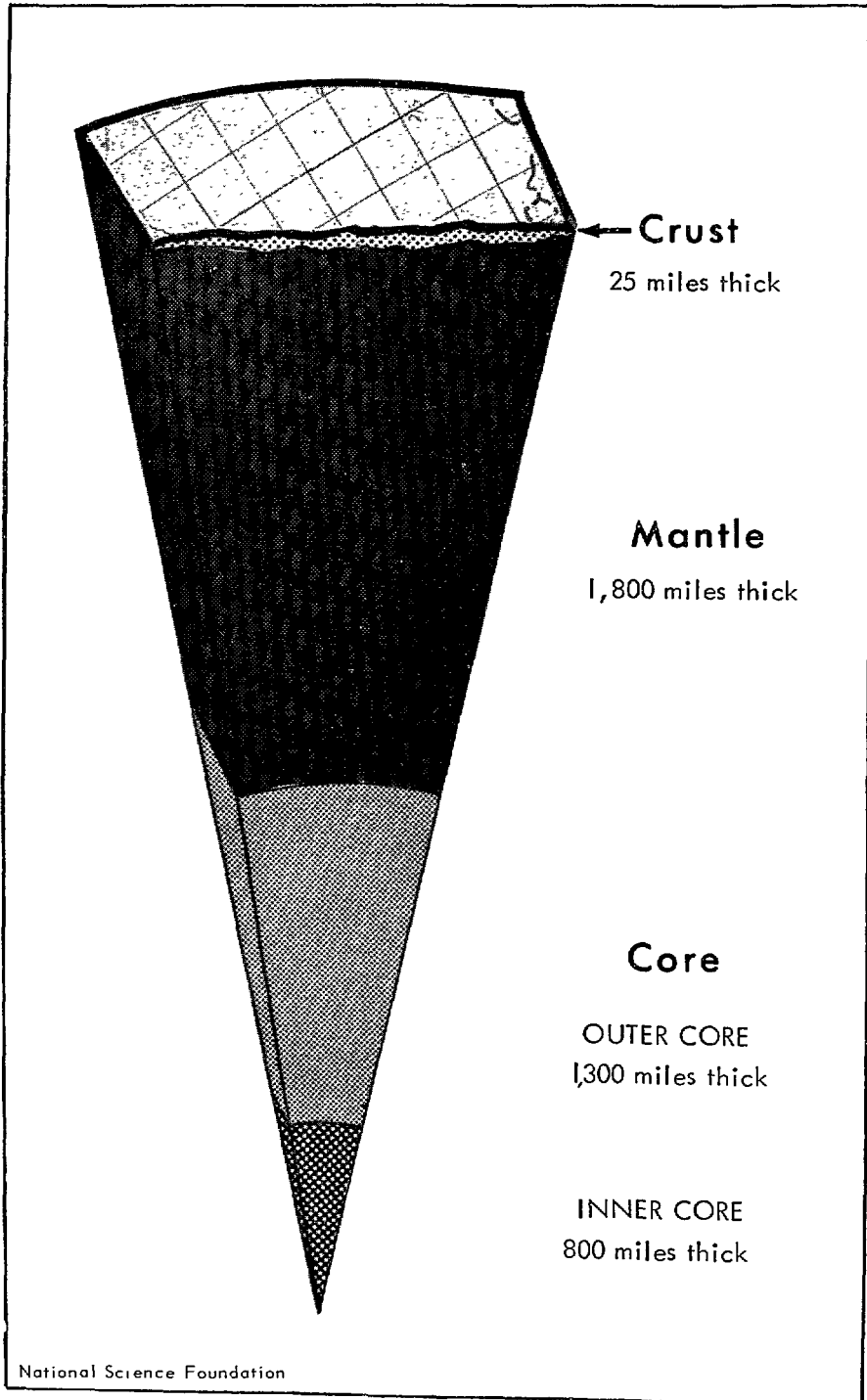
The crust is the earth's outer layer of rock on which man lives and with which he is most familiar. It averages about 25 miles in thickness under the continents and about 4½ miles under the oceans. The mantle is believed to be about 1,800 miles thick, extending

about halfway to the earth's center. It comprises about 80 percent of the earth's volume and comes closest to the surface in deep ocean basins.

The boundary between the crust and the mantle of the earth was discovered by a Yugoslav seismologist (earthquake scientist), Andrija Mohorovicic. He observed that earthquake shock waves travel more rapidly through rock beneath the earth's crust than through rock on the earth's surface, and that a discernible line of demarcation or discontinuity divided the two layers. Later observations confirmed that this discontinuity exists at varying depths throughout the world. The boundary was named the "Mohorovicic discontinuity" in honor of the man who discovered it, and earth scientists refer to it as the "Moho" for short. The project to penetrate the mantle—to drill a hole through the Moho—became known as Project Mohole.

The drilling to penetrate the Moho was to be carried out in deep ocean water from a floating vessel because scientists state that the earth's crust is thinnest and the mantle closest to the surface in deep ocean basins. The feasibility of drilling in the deep ocean, which had never been done before, was established through experimentation and testing under Phase I of the project between 1958 and 1961.

Under the terms of the contract entered into in March 1962 for Phase II of Project Mohole, the prime contractor was to plan, manage, supervise, perform, and/or coordinate all activities and to furnish or produce all services, materials, and facilities necessary for the drilling, sampling, and



Layers of the earth.

logging of a hole through the crust of the earth at a site to be selected in cooperation with the National Science Foundation. The site subsequently selected was about 115 miles north-east of the island of Maui in the Hawaiian group. Since Project Mohole was a first-of-its-kind operation, a great deal of research and design work was necessary to determine and develop the type of equipment to be used. Much of this work was performed under subcontracts awarded by the prime contractor.

During Phase I of the project, NSF estimated, in April 1961, that the total cost to drill to a depth of 15,000 feet—which was approximately comparable to that of the Moho at the site subsequently selected for the actual drilling operations—would be about \$15 to \$20 million. The total estimated cost of the project set forth in the prime contract was \$46.7 million. The estimated time to complete the project—not set forth in the prime contract—was then 5 years. This cost estimate was predicated on the use of a Government-furnished T-2 tanker that was to be converted for use as the drilling vessel and on the utilization of conventional drilling equipment and techniques.

Subsequent to the award of the prime contract in 1962, the prime contractor and its subcontractors were engaged in (1) the research and development work necessary to determine the type of equipment that would be needed to drill to the mantle, (2) the procurement and fabrication of some of the items of equipment, and (3) determining the best location to

conduct the drilling operations which were scheduled to begin around the end of fiscal year 1968.

The estimated cost of Project Mohole continued to increase steadily after the award of the prime contract. By June 1966, the estimated cost of the project had increased to about \$127.1 million, exclusive of estimated NSF administrative costs totaling about \$2.2 million and the estimated time to complete the project increased to about 8½ years. The estimated project cost was based on the design and construction of a unique six-column drilling platform and the development and fabrication of new or improved drilling equipment.

A picture, furnished by the prime contractor, showing a model of the drilling platform which was designed for the project appears on page 27. The estimated cost of this drilling platform was \$30 million.

There was considerable congressional interest in the steady escalation of the cost and time estimates of Phase II of Project Mohole. The Subcommittee on Independent Offices of the House Committee on Appropriations and the Subcommittee on Independent Offices and Department of Housing and Urban Development of the Senate Committee on Appropriations discussed the increases in the cost and time estimates during NSF's annual appropriation hearings. In addition, the Subcommittee on Oceanography of the House Committee on Merchant Marine and Fisheries held extensive hearings on Project Mohole.

While our review was in process, the Congress, in enacting the Inde-

pendent Offices Appropriation Act, 1967, approved September 6, 1966, refused to include further funds for the continuation of Project Mohole. Therefore, the National Science Foundation terminated, in part, its contract with the prime contractor. Those subcontracts and that portion of the prime contractor's in-house work which NSF determined should be completed because of their advanced progress were continued. The remainder of the subcontracts and in-house work was terminated.

NSF spent, or will spend, a total of about \$27 million for the work under the prime contract and in settlement of termination claims for Project Mohole.

Results of GAO Review

Among the underlying factors which led to the action of the Congress in refusing to include further funds for the continuation of Project Mohole was the steady escalation of the total estimated cost of the project subsequent to its inception and the continual extensions of the estimated time to complete. Because of the congressional interest in Project Mohole prior to its termination and in view of the increasing congressional interest and Federal participation in the cost of basic research in the marine sciences and the possibility that, at some future time, a project comparable to that contemplated by Project Mohole may be undertaken with Federal support, we decided to complete our review and prepare a report on the administration of Project Mohole by NSF.

The report was submitted by the Comptroller General to the Congress on April 23, 1968.¹ The report contains an analysis of the reasons for the increases in the cost and time estimates for Project Mohole and our views as to an alternative approach for NSF to consider in conducting future research and development projects that involve totally new or exploratory concepts, as did Project Mohole.

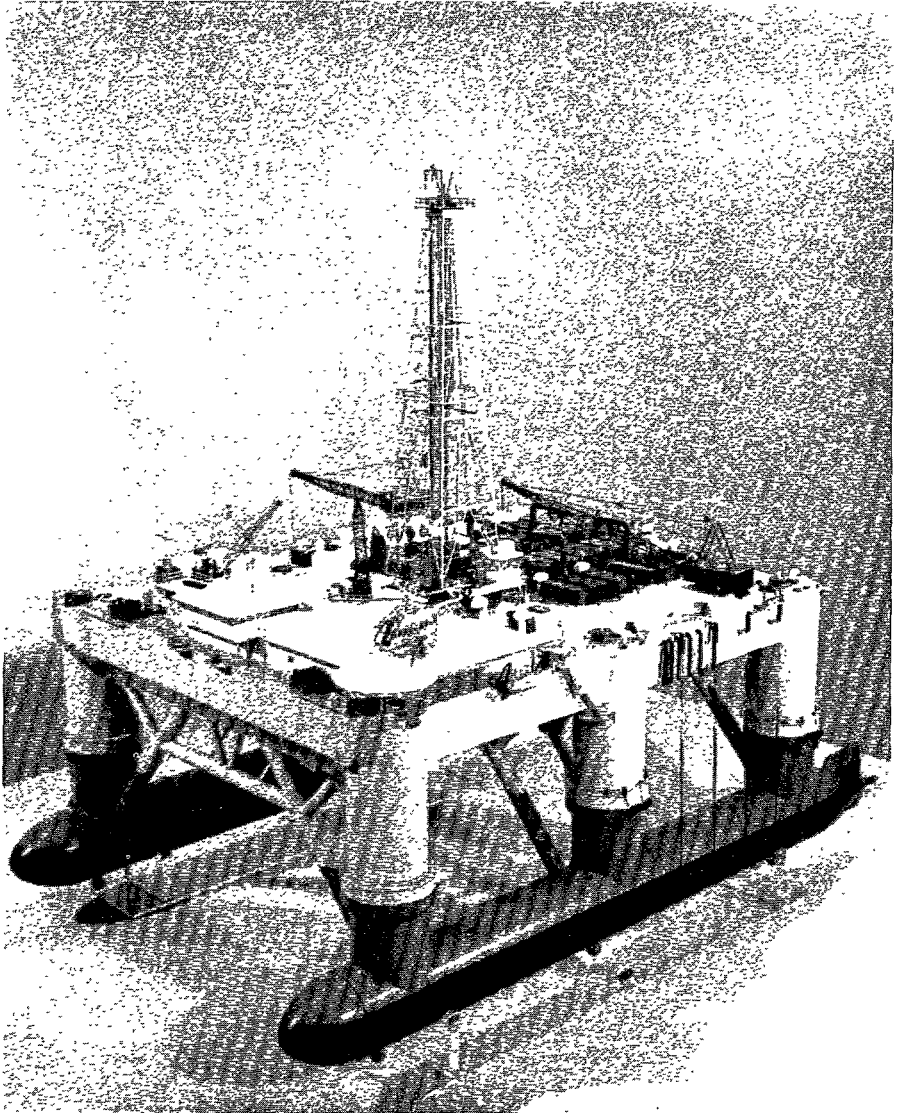
The report noted that the NSF prime contract for Phase II of Project Mohole had included a major element of research and development work in addition to the design, fabrication, and testing of equipment and the actual drilling operations to the mantle. We pointed out that NSF, because it had awarded such a prime contract before solving many basic engineering problems which had not been resolved in the Phase I operation of the project, was not, in our opinion, in a position to know exactly what was necessary to attain the project objectives. Therefore NSF could not present reliable or meaningful cost and time estimates to the Congress for completion of the project at the time of the award of the prime contract or for several years thereafter.

As the many basic engineering problems were resolved, thereby providing the prime contractor and NSF with a firmer basis for arriving at the cost and time estimates for the project, these estimates were steadily and significantly increased.

¹ Administration of Project Mohole by the National Science Foundation (B-148565).

Project Mohole Drilling Platform

The drilling platform, which was being constructed at the time of the termination of the project, would have consisted of a platform 279 feet long and 234 feet wide and supported by six vertical columns, each 31 feet in diameter, that were attached to two submarine-like hulls 35 feet in diameter and 390 feet long. The drilling platform was designed to remain relatively stationary during the drilling of a hole up to 35,000 feet from the surface of the ocean, notwithstanding sustained winds of about 38 miles an hour and fully developed seas of 28- to 30-foot waves. The platform was designed so that, during more severe weather conditions when drilling operations would not be conducted, it could withstand steady winds of 160 miles an hour with gusts up to 230 miles an hour and waves up to 100 feet in height.



Model of Project Mohole drilling platform.

In addition, by following such an approach, NSF was not in a position to determine adequately whether the project objectives were worth the money and resources necessary to attain them, yet it was totally committed to the project.

Alternative Approach

During our review we noted that other Federal agencies, engaged in similar-type research and development projects involving design problems for which no precedent existed, were following a different approach from that used by NSF for Project Mohole. These agencies were conducting such research and development projects in a number of sequential phases, with each phase representing a specific limited agency commitment.

We discussed this approach with officials of the National Aeronautics and Space Administration and the Air Force Logistics Command, United States Air Force, to determine whether such an approach could be used by NSF in the event research and development projects involving totally new or exploratory concepts, such as Project Mohole, are undertaken by NSF in the future.

As a result of these discussions, we suggested an alternative approach to the procedures followed in the conduct of Project Mohole for NSF to consider in conducting future research and development projects. Under the alternative approach we suggested in the report, major research and development projects involving totally new or exploratory concepts would be conducted in a number of sequential phases. Each

phase would represent a specific limited agency commitment under which it would be determined whether the project objectives could be met, what means would be necessary to attain these objectives, and whether the objectives would be worth the costs involved, before a contractual commitment was made for the procurement of the necessary equipment and the actual operation of the project.

We cited several advantages to be derived through the use of such an approach which would:

1. Require management, upon completion of the initial phase, to determine adequately, on a cost-value basis, whether to proceed with the efforts to attain the project requirements, after appropriate consideration of alternative methods of fulfilling such requirements.
2. Provide a sound basis for determining the method of contracting to be used to accomplish the subsequent phases of the project, namely, the acquisition or fabrication of the items of equipment and the services necessary for the project operations.
3. Permit maximum competition in selecting the most suitable contractor to perform the various phases of the project.
4. Permit the preparation, at the earliest practical date, of realistic cost and time estimates for the project, to enable the Congress to arrive at informed judgments on major budgetary decisions with regard to new or continuing

research programs financed with appropriated funds.

We expressed the belief that such an approach would considerably enhance the effectiveness of NSF's procedures governing its conduct of future research and development projects involving totally new or exploratory concepts, as did Project Mohole, and merited consideration as an alternative to the procedures followed in Project Mohole.

Although our suggested alternative approach was accepted by NSF in principle, NSF indicated that this approach was not wholly applicable to Project Mohole. We pointed out in the report, however, that significant advantages would have been derived through the use of the suggested alternative approach.

Use of Report by Appropriations Committee

Because of the known interest of the House and Senate Appropriations Committees in the conduct of Project Mohole, we made every effort to have our report released in time for use by the Appropriations Committees when NSF had its annual budget hearings. Our report was released on April 23, 1968. On April 25, 1968, NSF testified on its fiscal year 1969 budget estimates before the Subcommittee on Independent Offices and Department of Housing and Urban Development of the Senate Committee on Appropriations.

During the hearings, Senator Gordon L. Allott of Colorado used our report to reemphasize views he had

previously expressed on the conduct of the project. He read several selected passages from the report and inserted them in the record of the hearings. In particular, he made reference to the section in the report where we discussed the approach used by NSF and the advantages to be derived through the use of our suggested alternative approach to the conduct of future projects of the complexity of Project Mohole. Senator Allcott also found the section of the report dealing with the analysis of the reasons for the escalation of the cost and time estimates for Project Mohole to be particularly informative and inserted two tables from the report in the record.

In commenting on the suggested alternative approach during the hearings, the Director of the Foundation stated that his agency was following this approach when possible. As an example, he stated that such an approach was being used in the planning and construction of a very large array of radio telescopes by the National Radio Astronomy Observatory, Green Bank, W. Va.

Editor's Note:

In commenting on the GAO report after it was issued, the Director of the National Science Foundation stated that "* * * the effort exemplified by GAO in this report reflects the results of thorough and competent review. It is an excellent factual summary of the background, objectives and detailed status of Project Mohole and will be a valuable document in connection with the planning and implementation of other large projects; it will be especially useful if Project Mohole is ever reactivated."

To 1316

New Tools of Management—The Challenge to the Accounting Profession

By Charles H. Moore

This article is based on a speech given by the author at the 1968 Annual Accounting Clinic of the Alpha Tau Gamma Honorary Accounting Fraternity, Youngstown State University, Youngstown, Ohio, April 17, 1968.

These are exciting times for the accountant and auditor. For the young college graduate just entering the profession, there are challenging career opportunities both in Government and in industry and public accounting. His services are eagerly sought by recruiters representing many organizations and fields of interest. For the seasoned professional, he has the stimulating opportunity (or problem) of staying abreast of developments in our extremely active and progressive profession. I should quickly add, however, that there are clouds on the horizon and they are foreboding.

More than ever before in modern times, the accounting profession is faced with problems of unusual significance, the outcome of which either will spell its doom as we know the profession today or will result in the creation of a stronger force to fulfill the increasingly more difficult and complex demands of management. I speak of the entire profession of accountancy, including professionals in

government at the Federal, State, and local levels, as well as those in industry and in public practice. In the not too distant future, either the profession will be fragmented into extreme specialization and thereby be absorbed by other disciplines to the point where it no longer will represent a living, dynamic force, or it will recognize the issues and the challenge—as I believe it already has—and with typical courage, skill, and adaptability, it will emerge as a more solidified group, coping fully with rapidly changing demands and requirements.

The challenge comes from computerization of not only accounting but also entire information systems; it comes from other disciplines, such as mathematics, economics, and systems analysis; and it comes from certain members within the profession itself—those who tend to resist change and believe that the practices of the past have been proved and should be continued.

Mr. Moore is regional manager of the Detroit Regional Office, a position he has held for 11 years. He is a CPA of Georgia.

A Perspective

The most amazing thing about the age in which we live is the speed with which we are living it. Never before in history have so many changes taken place in such a short period of time. Yet, even more changes, at an ever-increasing rate, will take place in the years ahead. In an attempt to draw a perspective on this matter and to indicate something of the scope, depth, and significance of these developments, I will cite several examples.

- The increase in our fundamental knowledge during the first half of this century exceeded the knowledge accumulated since the beginning of recorded history. It is estimated that since 1950, the total fund of knowledge has quadrupled. A great deal of this knowledge is the direct result of Federal Government activity—atomic energy and the space program—Federal Government activity—
- The Federal Government budget in 1950 amounted to a little over \$40 billion. Today it amounts to about \$175 billion, and it is expected to exceed \$185 billion next year. Federal, State, and local government expenditures combined amount to some \$250 billion a year.
- Grants and other payments by the Federal Government to the States and to local governments currently amount to some \$17 billion annually—about four times the rate of only 10 years ago. It is estimated that this fig-

ure will increase to \$60 billion a year by 1975.

- In 1951 there was only one digital computer used by the Federal Government. Today, the Federal agencies have some 3,000 computers in operation, at an annual cost of about \$1.2 billion. More than 90,000 employees are directly involved in automatic data processing activities in the Federal Government. In addition, if we include computers used for classified activities and by Government contractors, the computer cost to the Federal Government is about \$3 billion annually.
- One Government installation, with which I am familiar, has four large-scale computers in operation, three shifts daily, 7 days each week. The total system contains an estimated 8 billion bits of information and thus represents one of the largest computer systems in the country. Even much larger computer complexes, containing up to 1 trillion bits of information, are planned for early installation.

The concern for means of handling the mass of data that has resulted from these advancements is reflected in a recent congressional committee report:

It is by now a commonplace notion that this Nation, and indeed the world, feels the impact of an information and data explosion. Science and technology data, the study results of business and administrative activities—all these spill into the vortex of the society's need to manage and use its knowledge. Research, statistics, data,

facts—documentation or records of all kinds are piling up and must be handled.¹

The Issue

It is thus apparent, with the ever-increasing demands upon the Government—and this is no less true for industry—that new avenues of accounting and financial management had to be identified and explored. New analytical techniques had to be developed to ensure proper gathering and utilization of data by management for decisionmaking purposes. At the same time, a wide vacuum was created for a new discipline to cope with these ever-increasing problems. The issue was drawn: either the accountant, with his broad knowledge of business affairs, would become qualified to deal with these problems, or others—the mathematician, the economist, the systems analyst—would provide this service.

Role of the General Accounting Office

I should now like to explain the role of the General Accounting Office in the total framework of Government, with special emphasis on its activities in the areas of financial management, accounting, and auditing and its efforts to cope with these rapidly changing developments.

The work of the General Accounting Office represents an important page in the financial history of our country. Its genealogy is traceable to 1789 when James Madison ob-

served, in connection with legislation then pending to establish the position of auditor in the Treasury Department, that perhaps this position should be independent of the executive branch of the Government and be answerable to the Congress and the public generally. The suggestion was not then adopted and the responsibility was given to the Treasury Department.

The concept advanced by James Madison was eventually accepted, however, when, under the Budget and Accounting Act of 1921, the General Accounting Office was established as a wholly independent, nonpartisan, and nonpolitical organization within the legislative branch of the Government. The head of the Office is the Comptroller General of the United States, who is appointed for a 15-year term and who cannot succeed himself. I mention these particular details about the General Accounting Office to underscore one essential point: its independence and its ability to achieve a high degree of objectivity in all its work.

Under the 1921 act, the General Accounting Office was given the authority to audit Government agencies and to report directly to the Congress. The law and its legislative history make very clear that we should be concerned with the question of whether public funds are economically and efficiently applied. In other words, it was intended that we should be a real critic of the financial activities of the Government. Subsequent laws confirmed and added to this basic responsibility. From this legislation we have concluded that the primary pur-

¹ *Air Force Project Lite (Legal Information Through Electronics)*, 17th report by the Committee on Government Operations, H Rept 1133, 90th Cong., 2d sess., 1968, p. 1

pose of our audits is to make for the Congress independent examinations of the manner in which Government agencies are discharging their financial responsibilities. We have construed financial responsibilities as including the administration of funds and the utilization of property and personnel only for authorized programs, activities, or purposes, and the conduct of programs or activities in an effective, efficient, and economical manner.

A later law—the Accounting and Auditing Act of 1950—is particularly important because of its impact upon both our auditing and our accounting responsibilities. For our auditing work, it stipulates that our examinations should conform to generally accepted auditing standards. In the field of accounting, the law requires: (1) that the Comptroller General prescribe the principles and standards for accounting systems used by the executive agencies, (2) that we cooperate with and assist the agencies in establishing their accounting systems, (3) that we approve those systems, after they have been put into effect, and after we have determined their adequacy, and (4) that we, from time to time, review the accounting systems of the various agencies to ensure their continued effectiveness.

To carry out our accounting and auditing functions, we have a staff of about 2,400 professional accountants and auditors, of whom about 425 are certified public accountants. Many of our staff members also hold advanced degrees from various colleges and universities throughout the country.

The General Accounting Office—having long recognized the need to stay abreast of developments within the profession and to qualify its staff to cope with the ever-increasing demands upon it—has been a pioneer in promoting the use of more scientific and sophisticated tools of management within the Government. As part of this effort, we are gradually diversifying our own staff to include other disciplines—engineers, mathematicians, economists, and systems analysts. Meanwhile, in the past several years, we have intensified our in-house training capacity, to familiarize our staff members with those management tools with which they are becoming increasingly concerned. A number of our staff members have also attended outside training courses, for periods of 3 to 6 weeks, in various aspects of modern management; and a selected few have returned to school for a period of 9 months to qualify as specialists in certain areas.

In addition, we recently established a systems analysis group within our Office of Policy and Special Studies, at our headquarters office in Washington, to provide specialized capability in planning-programming-budgeting concepts and related systems analysis techniques. The main functions of this group are to make or review special studies of Federal programs, policies, and activities which involve the application of systems analysis techniques, and to provide consulting advice and assistance in this area to congressional committees, Members of the Congress, and Federal agency officials, as required.

The Planning-Programming-Budgeting System

Systems analysis has evolved into the relatively new planning, programming, and budgeting system of the Federal Government, the acronym being PPBS. The PPBS concept was embodied in a book by Dr. Charles J. Hitch, published in 1960, entitled "The Economics of Defense in the Nuclear Age." This publication came to the attention of Secretary of Defense McNamara early in his tenure of office, and he, in turn, brought it to the attention of President Kennedy. The decision was then made, in 1961, to adopt the PPBS concept in the Department of Defense. Because of the success of the program in that department, President Johnson, in 1965, made the system applicable to most other executive agencies of the Federal Government.

What is PPBS? How does it work? What are its limitations? What is its potential for government at all levels?

First, it might be advisable to state what PPBS is not. PPBS is not a revolution in Government management, nor is it old-style budgeting couched in new terms. PPBS is not a computer takeover, nor is it a substitute for common sense.

PPBS is simply a sophisticated tool of management and, like all tools, it must be carefully considered in its implementation and execution. It is a means of helping management officials make decisions for allocating scarce resources. It is founded on the premise that our resources are not unlimited, that priorities must be established, and that, as hard decisions are usually in-

involved, they should be made on the basis of the best information available after proper consideration is given to alternative means of accomplishing the particular objectives sought. Speaking generally, PPBS means that we first should identify our national goals, that we should choose those goals which are the most urgent, that we should determine the cost of the alternative means of achieving those goals, and that we should then decide on the alternatives which offer the greatest potential, considering both benefits and costs, currently and in the future.

At present, 21 of the 36 Federal agencies to which the system will ultimately be applied have adopted and are implementing the system. More than 850 persons, primarily in the Washington area, are working in PPBS and associated areas in the various agencies. In addition, PPBS is not confined to the Federal Government. For example, George Washington University is currently working with several States, counties, and cities to see how PPBS can be used at these levels of government. Participating in this project are the State of Colorado, Michigan, New York, Vermont, and Wisconsin; four counties in several different States; and the cities of Dayton, Denver, Detroit, New Haven, and San Diego.

Having taken a quick look at PPBS, I would like to present some thoughts as to its real meaning and implication and the challenge it presents to the accounting profession. PPBS consists of three principal, closely integrated

elements: forward planning, systems analysis, and program budgeting.

Forward Planning

PPBS lays great stress on forward planning as an essential aid to decisionmaking. In the forward-planning stage, objectives and goals are established with as much precision as possible. Basically, the forward-planning process involves backing away from a program or activity and asking the question, "What are we trying to accomplish?"

On the surface, it appears that establishing goals is the easiest part of PPBS. In practice, however, many difficulties have been encountered and much discussion has taken place about how this should be done. If the goals are stated too broadly, they become truisms and have little value. If the established goals cannot realistically be achieved, they also are of little value.

The need to consider goals as an aid in decisionmaking can be seen in the following situation. A city official is trying to decide whether to install more and better street lights in a certain section of the city. If the primary objective of the street lights is to reduce auto accidents, he may decide, after considering the costs and potential benefits, to install a given number of lights. However, if the primary objective of the street lights is to prevent crime, he may reach a completely different decision based on the same set of facts presented to him.

Under PPBS, each Federal agency has been required to examine itself closely to determine what its objectives and goals really are and whether

it is properly organized to reach those goals. Reappraisal of old programs and consideration of new programs have changed the direction of some agencies and, in some cases, pointed out duplications of effort within the Government. For example, the need for delineation of clear-cut objectives is readily apparent in the area of water supply and control where 15 to 20 Federal agencies currently have some degree of responsibility. PPBS should more clearly identify such overlap and should ultimately result in the best combination of programs to achieve the most effective use of our country's vast water resources.

Systems Analysis

After an agency has identified its objectives and goals, it must examine the various alternatives available to it for reaching its objectives. The first phase in the examination of these alternatives we might call "cost-benefit analysis"; that is, a measurement or analytical approach to show those alternatives that will yield benefits to society, which exceed the cost of producing those benefits.

In making these studies, the agencies must consider all relevant costs—those of both current and future years, and even those costs of non-Federal institutions, public and private—that might be involved in a program or project. The recognition of non-Federal costs and benefits in determining the need for and size of Government programs is not altogether new. For example, early in World War II, it became apparent that a balance between military and civilian needs was necessary and the War Production

Board was formed, in 1942, to allocate resources between the military and civilian sectors. An official who served on that board put it this way:

At some point, roller bearings for the 2,000th B-17 were less important than the roller bearings for a refrigerator in a municipal hospital. At some point, the 1,000th tank of a certain type produced was less important than the stainless steel milk pails essential for milk to be supplied to either soldiers or civilians.²

Having determined the alternatives available, the manager faces the crucial task of selecting the proper alternative. Two approaches in selecting alternatives might be taken at this point:

- Maximizing effectiveness; that is, the greatest benefits to be derived from a given amount of cost, or
- Having determined the desired level of program performance, minimizing the amount of costs needed to reach that level.

This is a very simple economic principle which managers in industry probably use without even thinking about it. But consider the problems involved in applying this principle to the Federal Government:

- In the disease-prevention programs of the Department of Health, Education, and Welfare, what value do we place on human lives saved; that is, what are the benefits from these programs? For example, is it better to use our limited resources to save children from childhood diseases

or to prevent adults from dying in the prime of their lives because of heart disease or cancer?

- Many of the antipoverty programs present special problems. The benefits of Project Headstart may accrue many years in the future. Are we going to measure only immediate costs and progress, or look far into the future for the ultimate costs and benefits?
- What is the cost of destroying historic landmarks within a city or of marring the beauties of our countryside to obtain the benefits of mass transportation?

Program Budgeting

Program budgeting, although certainly not a new concept, is a major step forward by the Federal Government. Under PPBS, a budget for a Federal agency has the following characteristics:

- First, it is organized or classified by programs rather than, as traditional budgets are, by types of expenditures. Stated another way, budgets are organized by the objectives of programs, rather than by the types of expenditures made to accomplish these objectives.
- Second, the resources needed and the financial implications are shown for each program.
- Third, the program is extended several years into the future to show the full resources needed and the complete financial implications involved.

This can be simplified if we look at the budget structure of one Federal agency—the Coast Guard—under

² *Planning-Programming-Budgeting-Selected Comment*, prepared by the Subcommittee on National Security and International Operations of the Senate Committee on Government Operations, 93rd Cong., 1st sess., Committee Print, 1967, p. 30.

former budgeting methods, compared with the new PPBS program structure.

Previously, the Coast Guard's budget included the following categories: operating expenses, construction and improvements, reserve training, and retired pay. Under that structure, we would have no idea what functions were performed by the Coast Guard, nor could we readily identify any significant deviation in the budget with a specific function.

The new PPBS program structure of the Coast Guard is much more descriptive and includes the following categories: search and rescue, aids to navigation, law enforcement, and military readiness. From this, we immediately get an overview of the Coast Guard's major functions and objectives and have a yardstick to use in the future to measure the accomplishment of planned objectives.

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By now, you have probably concluded that PPBS is not so much a new idea as a new emphasis. It makes the Government take a long, hard, analytical look at its programs before attempting to bring experience and judgment into play. A recent congressional subcommittee report included a statement by Dr. Alain C. Enthoven, Assistant Secretary of Defense for Systems Analysis, who said in essence:

PPBS makes each agency clearly spell out its assumptions, objectives, factors, and calculations so that critics of their programs can see what was done and determine whether problems were oversimplified. When agencies are permitted to keep all this information in their heads, so to speak, and

appeal to experience and judgment alone, others have no way of knowing whether or not problems have been oversimplified.³

The Challenge to Accountants

Where does the accountant fit into the picture? What is the challenge?

Accounting data has always been a vital aid to management, both in Government and in private industry. The advent of PPBS has made the need for complete and reliable data even more acute—not limited to cost or accounting information, however, but including all data required by management for decisionmaking purposes. Therefore, a successful PPBS program is founded upon a properly conceived and smoothly functioning total information system. The accountant should occupy a prominent role in this endeavor.

To better equip himself for this opportunity, the accountant should develop special knowledge and skills. These certainly include an understanding of the computer because of its crucial role in the total picture. But, in addition, he must have a knowledge of economics, mathematics, statistics, systems analysis, and social sciences, and he must know how to bring this knowledge to bear on current problems facing the management he serves. Also, the accountant must learn to communicate more effectively with his economist, planning, and budgeting colleagues.

Congressional Interest in PPBS

Congressional interest in PPBS has been apparent and is growing. In Sep-

³ *Ibid.*, pp. 5, 6.

tember 1966, Senator Monroney of Oklahoma introduced the Legislative Reorganization Bill of 1967. A portion of this bill calls for the General Accounting Office to develop and train employees to be expert in analyzing and conducting cost effectiveness studies of Government programs. These employees would be available to the Congress and its committees to analyze cost effectiveness studies furnished by Federal agencies and to conduct independent studies for the committees. This bill has passed the Senate and is being considered by the House.

Two congressional subcommittees in the last year held hearings on PPBS in Federal agencies. As recently as February of this year, two Congressmen sponsored a resolution calling for the establishment within the Congress of a Joint Select Committee on Government Program Analysis and Evaluation. In the words of one of the Congressmen:

The concurrent resolution directs this newly created committee to study the various legislative alternatives presented to the Congress as suggested responses to the urgent need for an objective, scientific review of growing Federal expenditures, and for establishing a system of priorities in national programming and spending.⁴

In December 1967, the Congress, in passing the Economic Opportunity Amendments of 1967, directed the General Accounting Office to review the various antipoverty programs to determine not only the efficiency of administration but also the extent to which the programs are achieving the objectives set forth in the Eco-

nomic Opportunity Act of 1964. We believe that this legislation shows the concern of the Congress for better information on the effectiveness of programs which it has authorized and funded.

Meanwhile, GAO has already involved itself in preparing for an independent evaluation of PPBS in the executive agencies. For example, one of the major considerations in an effective PPB system is the discount rate used to discount benefits and costs expected over the life of a Federal program which in some cases may extend many years into the future. In January of this year, our Office reported to the Joint Economic Committee the results of a survey made of the discount rates used by the various Federal agencies. The report stated that rates in use ranged from about 3 percent to 12 percent, while some agencies used no discount rate at all in their analyses. The significance of the rate of discount was pointed out in an earlier study, made by a Federal agency, which showed that a majority of 53 Bureau of Reclamation and Corps of Engineers projects examined would have been rejected had a 10-percent discount rate been used instead of the lower rates actually used. The report further stated that consistency among agencies in discounting rates, techniques, and underlying concepts was needed and that the Congress might wish to provide guidance to the executive agencies on this important point.

Concluding Remarks

To summarize, the principal benefits of PPBS are these:

⁴ *Congressional Record*, February 28, 1968, E 1305.

- Long-range planning,
- Documented analyses of alternate courses of action,
- More systematic consideration of ways and means of accomplishing the purposes for which Government agencies exist,
- Better decisions on use of resources through improved methods of fact gathering, analysis, and assimilation, and
- Improved control over programs and the potential for maximum efficiency and economy in the conduct of operations.

Throughout history, the accounting profession has attacked so-called insurmountable problems and it has continually been able to subject new areas to measurement. Let us sharpen our tools so that we can measure costs and benefits with accuracy. Let us not be afraid to reconsider the underlying assumptions of our discipline, in light of the findings of psychology, sociology, and economics, concerning the

nature of man and his goals of economic and social well-being. Let us not be paralyzed into believing that the dollar is the only measuring unit whereby we can measure economic and social progress. Let us broaden the horizons of our profession, using specialists where necessary, but never abdicating our position as professional because we can't solve our problems with debits and credits, and profit and loss statements, and balance sheets.

The point is succinctly stated in "Horizons For a Profession"—a 1967 publication of the American Institute of Certified Public Accountants:

Accounting, as the oldest and best established of the quantitative techniques to aid in managerial decisions, is in a singularly strong position with respect to these new methods, provided there is requisite knowledge, creativity and imagination to use them.⁵

⁵ Robert H. Roy and James H. MacNeill, *Horizons For a Profession*, American Institute of Certified Public Accountants, New York, 1967, p. 8.

721317

Adventures in Auditing

By Harold H. Rubin

This article describes some of the unusual audit experiences the author has encountered in GAO.

The Journal of Accountancy has often bemoaned the fact that the accountant or auditor has a very unflattering public image. He frequently is categorized as an unimaginative, cold, and overly technical automaton, concerned with humdrum routine activities. My experiences in GAO have shown that the reverse is often true. We have frequently been faced with unusual situations requiring new concepts and approaches. I would like to describe some of these to demonstrate that auditing can be, and is, interesting and adventuresome.

I wish I could say that I joined GAO in 1936 because of an overwhelming urge to be of service to my country in an important and interesting organization. Actually I had never heard of GAO and my only desire was to stay long enough to complete my education by attending George Washington University in the evenings. Little did I think that I would find GAO so rewarding both mentally and materially that I would still be a part of it some 30 years later!

GAO as it existed in 1936 and GAO

as it is today are entirely different. In fact, the only thing that hasn't changed is the name! Back in 1936 the entire staff was located in Washington. Auditing consisted of a desk review of every item listed on the thousands of vouchers received from the various agencies. A major part of the staff was busy maintaining a duplicate set of accounts for the Government. Today we do not maintain records; instead, we promulgate accounting policy and approve agencies' accounting systems. We no longer make detailed desk audits; instead, our worldwide audit staffs conduct field examinations on a selective basis.

These changes have evolved over a period of years as a result of the growing recognition that auditing, to be effective, must go beyond records into the conduct of operations. It is against this framework of a changing organization that I would like to describe some of my more significant and unusual experiences in auditing.

Veterans' Educational Benefits

Following World War II there was a sudden growth in the number of

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schools to accommodate the tremendous number of veterans enrolled in education programs under the GI Bill of Rights. Schools were established in unusual fields, such as chicken sexing, horseback riding, etc. Although many of the schools operated on a legitimate basis and many veterans received useful educations, there were many instances of erroneous charges and unsavory practices in the conduct of these programs.

Because of the significance of these programs, we undertook a survey into the practices of selected schools and the effect of these practices on tuition costs and subsistence allowances paid to the veterans by the Government. In some cases we found that attendance records had been falsified in order to extend the period of tuition payments (this also led to excess payments of allowances to the veterans). In other cases tuition rates had been inflated improperly or overcharges had been made for books, supplies, and equipment.

Our review, which initially was concentrated in the Chicago area, covered close to 100 training institutions, ranging from barber colleges to State universities, and resulted in collections of improper charges of over half a million dollars. In addition, numerous overpayments to veterans for incorrect subsistence allowances were recovered. As a result of the disclosure of these practices, legislation was enacted in 1952 to tighten up the GI Bill of Rights.

“Unfit” Wheat

In the early 1950s we were assigned the audit of customs receipts at Duluth,

Minn. Our analysis showed that customs receipts had increased substantially over those of the previous year and had been properly accounted for. Consequently, we had completed our mission. Nevertheless, we were intrigued by the tremendous increase in receipts and we decided to explore this matter.

We found that the increase involved one class of items; namely, duties on wheat classified as “unfit for human consumption.” The rate of duty on such wheat was about half the duty on “fit” wheat. However, importation of “fit” wheat was prohibited inasmuch as the United States already had a surplus of “fit” wheat and was paying subsidies to prevent further accumulation of surpluses.

We decided to look further into this matter. Inasmuch as we had no knowledge of the grain trade, we made visits to grain mills, grain processors, and the wheat pit in Duluth in order to get a better understanding of the problem.

We found that regulations of the Department of Agriculture classified wheat as “unfit for human consumption” if 30 percent or more of the kernels were damaged. Thus, “unfit” wheat did not mean that the wheat was contaminated but rather that it was substandard. Such wheat was considered acceptable for animal feed and could be imported for that purpose.

We found that the grain elevators were constantly blending various grades of wheat to meet the demands of industry. Thus, it was a simple matter to take 10 carloads of 31-percent defective wheat and blend them

with one carload of 15-percent defective wheat, thereby obtaining 11 carloads of wheat meeting the standard for human consumption. Thus, the importation of substandard wheat actually was circumventing the intent of the ban on wheat importations, and furthermore it was reducing the customs revenues by about 50 percent.

We also noted that many of the bills of lading for trainloads crossing the Canadian border were marked for delivery unopened to Galveston, Tex., and other ports. We found that this wheat was being shipped overseas and the shipper was collecting a subsidy from the Government of some 60 cents a bushel under the International Wheat Agreement. This agreement provided in effect that the United States would pay to the shipper the difference between the United States market price and the price negotiated with the foreign country. This subsidy was to be paid only for sales of U.S.-grown wheat and a certification to this effect was required of the shipper.

Our findings were brought promptly to the attention of Treasury officials in Washington, and immediate action was taken to correct the loophole which permitted this situation. Criminal actions were initiated in some cases and substantial sums were recovered.¹

¹ *Editor's note:* The Comptroller General's annual report for 1961 provides the following summary information on this case (page 81):

In previous reports we commented on the status of investigations, begun in 1951 by the General Accounting Office and continued by the CSS, of the improper use of Canadian unfit wheat in exports under the International Wheat Agreement. Twenty-six such cases were referred by the Department of Agriculture to the Department of Justice. Collections of \$56,000 made in the fiscal year 1961 substantially

The Gold Count

When the Truman administration was succeeded by the Eisenhower administration, it was considered advisable that an inventory be made at Fort Knox to ensure that the gold stored there actually existed. Responsibility for the inventory taking was assigned to the Treasury Department, and the General Accounting Office was asked to witness the taking of the inventory.

No irregularities were noted in the inventory taking; however, the circumstances involved were quite unusual. I had visualized gold bricks as smooth and shiny. Instead, they were crude and extremely heavy, weighing over 20 pounds each. To handle this unusual inventory, it was necessary to bring in specially trained personnel from other locations, equipped with heavy gloves and protective shoes. In addition, because of the exertion required in handling these bricks, a double crew was needed so that there could be frequent rest periods while the work continued.

A rigid system for controlling the inventory had been established. Weights corresponding to the reported inventory for a given lot were placed on one scale and the bricks in that lot were placed on the other scale. Not the slightest deviation in weights was permitted. I recall vividly the time when the superintendent, without the knowledge of the crew, added a straight pin to the weights to demonstrate to me the accuracy of the count. The difference in weights caused by

completed the recoveries to be obtained in these cases and brought the total refunds and criminal fines collected from importers to \$2,857,000.

the pin was immediately noticeable resulting in considerable concern and rechecking. Imagine the reaction when the crew learned that the difference in weights had been deliberate!

In addition to weighing the bricks, an elaborate system was being used to ensure that the bricks contained the amount of gold and the quality of gold reported. Holes were drilled in sample bricks and the shavings were assayed. To ensure that all shavings were accounted for, each drilled brick, along with the envelope containing its shavings, was compared with the recorded weight plus an empty envelope.

When this inventory was concluded, we could honestly say that there really was gold buried at Fort Knox.

Power Consumption

In the early 1950s, following the Dixon-Yates controversy, we made a special study into the operations of power plants constructed to meet the needs of AEC gaseous diffusion plants. Our study of the operations of the power plant constructed in Joppa, Ill., to serve the needs of the Paducah, Ky., plant disclosed a serious weakness in the metering system. As a result the Government was charged an undeterminable amount for power provided to other users.

The AEC operations at Paducah were being conducted by a contractor under a cost-plus-a-fixed-fee contract. The operations involved a very large industrial plant which contained a series of pumps and feeder lines operating on a 24-hour basis, 7 days a week. The labor force was relatively

small, being required mainly for maintenance and safety purposes. Consequently, since the nuclear fuel was being furnished by the Government, the contractor's cost consisted primarily of the power charge.

The power charge involved over 90 percent of the contractor's monthly charges. The evidence in support of the power charge was a one-page summary statement showing the power consumed and the rate. This statement in effect showed the amount of power produced at the Joppa, Ill., plant, which had not been distributed to other users.

We decided to analyze the method of arriving at the power charge. We were given an engineering layout of the metering systems being used but we were unable to understand this chart. We then spent about 2 weeks, accompanied by plant engineers, in charting the distribution of power from the generating source to the points of release from Joppa. We found that Joppa was providing backup power to other locations when needed and that no record was being maintained of power released over one line. Inasmuch as the AEC agreement with Joppa provided for payment for power not otherwise charged, the Government was being charged for the power not accounted for.

As a result of our inquiry, the system was changed. However, no recovery was made for the value of the power erroneously charged as no estimate could be made of the amount involved.

Army Reserves

At the time of the Berlin crisis, in late 1961, the President called up a large number of the Reserves. We were then looking into various aspects of the staffing of Reserve organizations and we decided to direct our efforts into the status of readiness of Reserve units to meet their mission. We addressed ourselves specifically to whether the selected units were manned with the proper numbers and types of personnel needed to carry out their assigned missions.

We noted that the units generally had a sufficient number of men assigned to meet reporting requirements and that these units were being rated as excellent. However, our analysis of the records of the individual reservists showed that a large number had not been trained in the skills needed by the unit. For example, a man who was a film distributor in private life was shown as a foot surgeon in his Medical Reserve unit.

In one glaring instance, a helicopter maintenance unit of some 60 persons

included only six men who had any exposure to helicopters. This unit even had two WAC clerk-typists who were carried on the roster as helicopter maintenance men. This unit actually was called to active duty and sent from the west coast to the east coast in preparation for overseas assignment!

Because of the controversy created by the call-up of the Reserves, congressional hearings were held and we testified concerning our findings. Army officials agreed that the procedures for the selection of reservists to meet unit needs and for the rating of units required thorough review and indicated that corrective action would be taken.

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These are but a few of the more interesting cases with which I have been associated in GAO. I am sure that others have had similar experiences involving unusual situations. I think these cases clearly demonstrate that auditing can be more than a routine operation and, in fact, can be adventuresome.

721318

The Challenge of Auditing Humanitarian Programs

By John Simon

The author describes the constructive approach employed by GAO to evaluate United States food donation programs abroad.

Some programs for which the General Accounting Office has review responsibilities can best be evaluated by applying a broad management review approach. This article describes the methods employed in assessing the management of United States food donation programs administered abroad by nonprofit voluntary relief agencies.

Nature and Scope of U.S. Food Donation Programs Abroad

The U.S. Government for some years has provided food for distribution through nonprofit voluntary relief agencies to help feed hungry peoples overseas. In 1966 these agencies reached 64 million people in more than 100 nations. From July 1954 through December 1966, the U.S. Government had shipped more than 2 billion dollars worth of farm products abroad for free distribution. The food was given to help feed schoolchildren, families, orphans, expectant mothers, and other needy people.

The programs, in a very real sense, express the compassion of the American public for the plight of the less fortunate abroad. Much good will is generated on a people-to-people basis because of the favorable publicity given the program through the media of markings on containers, and the use of posters, placards, pamphlets, and ration cards (printed in the local language).

Programs of such scope are difficult to administer. Voluntary relief agencies employ a staff abroad of some 800 U.S. field representatives and 6,700 salaried foreign national personnel. However, the task of feeding more than 60 million persons in more than 100 countries requires a vastly larger number of administrative personnel.

The voluntary relief agencies therefore have entered into agreement with local (recipient country) government or relief agencies to assist them to make food distributions. Under this arrangement, the U.S. representative of the voluntary relief agency super-

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CARE Photo

Some recipients of donated food in Athens, Greece, distributed through CARE (Cooperative for American Relief Everywhere, Inc.), a voluntary relief agency.

vises program activities of the local agencies.

The U.S. Government furnishes most of the food commodities and pays the cost of transporting the food abroad. The voluntary relief agencies make arrangements for financing other program costs. To a great extent, the agencies depend on the good will of many private donors in the United States and Canada for contributions toward their operating costs. Also, in many countries, part of the cost of unloading, storing, and transporting donated food is borne by the foreign country. Still, the voluntary agencies do not have all of the

money they need to do all of the things that need doing.

Voluntary relief agencies often must operate under adverse conditions that affect the efficiency of their programs. They rely worldwide on an estimated one million unpaid voluntary workers, not all of whom are familiar with modern business standards of accountability and reporting. They must also rely on the cooperation and financial support of various foreign country governments. They operate in a number of countries where port, transportation, and storage facilities are well below U.S. standards. Their program operations

are often further complicated by delayed program approvals and intermittent shipment of food commodities to overseas locations.

GAO Audit Approach

It can be seen from the foregoing that auditing these programs poses some special problems. The most obvious is staffing, since the size and geographical scope of these programs, realistically speaking, rules out detailed examinations of food distributions at enough locations to form conclusions across-the-board. Another problem is standards of performance, since the *raison d'être* of the program is humanitarian in nature and since there are so many extenuating factors that must be taken into account.

In approaching the audit we decided that our limited audit resources could be used to best advantage by concentrating our efforts on certain fundamental problems of managing the foreign food donation programs. We adopted a broad management review approach which could be handled in such a manner that the reviews could be done in a short period of time with a small expenditure of manpower.

Let me describe briefly how we came to grips with these matters.

Perhaps the key to successful management in any program is the extent to which management itself has set up control mechanisms to ensure that its objectives are accomplished. Internal review is a recognized ingredient of sound management. With this in mind, we started the review by first directing our efforts to evaluating the management audits performed in recent

years. At the outset, we found that there was considerable controversy as to whether too many or too few audits were being performed.

Phase I Review and Report

During our review we explored the audit activity of all agencies in the 10 largest countries where food donation programs were being conducted. The audit activities we reviewed included those of the U.S. foreign aid mission abroad, the Agency for International Development's Washington operation, the Inspector General of the Department of Agriculture, the Inspector General of Foreign Assistance of the Department of State, and the General Accounting Office—all of which had audit responsibilities, albeit to different degrees. While gathering information on this subject, we met with top officials of three of the principal voluntary relief agencies in New York and had a frank exchange of views on the problems of administering the programs.

In March 1967, we issued a report¹ to the Congress which concluded that the food donation programs were so large in size, so varied in type, and so geographically dispersed that there had been only limited audit coverage, despite a significant amount of audit effort by Government agencies. We pointed out also that there were other important questions, such as the equity of the regulations and the extent of voluntary agency liability for violation of these regulations, which were of concern to the Government

¹ Survey of Extent of Audits of Food Donation Programs Administered by Nonprofit Voluntary Relief Agencies (B-159652 dated March 7, 1967).

and to private agencies. We promised to undertake another review to deal specifically with these questions.

While the dollars and cents results of our review of management audits cannot be calculated, we believe that the review helped to crystallize plans to expand the self-audit activities of voluntary relief agencies. To the extent that this has enabled the agencies to identify and correct program weaknesses at an early stage, positive gains in efficiency and economy should be realized.

Phase II Review and Report

At the conclusion of our review of management audits, we turned our attention to an evaluation of the use made of the audits to hold voluntary relief agencies monetarily liable for infractions of regulations. It was obvious at the outset that problems existed in this area since the Government had met with very little success in collecting monies from distributing agencies over the years for reported loss or misuse of food.

We reported² to the Congress in June 1967 that problems in processing claims were created by a lack of information needed to establish the nature and extent of loss and the liability of parties involved. We pointed out also that difficulties were experienced because claims responsibilities were divided between two Government agencies and the separation had introduced some very difficult administrative problems in obtaining informa-

tion needed to substantiate or otherwise resolve potential claims.

We made several proposals for overcoming these problems. However, it was evident that there were other issues involved which also required consideration. On the basis of our review and discussions with Government and voluntary agency officials, we concluded that attention needed to be given to the question of whether the governing regulations were reasonable, taking into account the humanitarian objectives of the program, limitations in administrative capabilities and financial resources of distributing agencies, and the difficulties inherent in distributing food within the less-developed countries.

We believe this review made a positive contribution to better management. Both Government and voluntary relief agency officials agreed that claims processing policies and procedures needed a comprehensive overhaul and steps were set in motion to develop and apply standards of allowable loss and tolerance more in line with operating conditions that exist in foreign countries.

Appraisal of Review Technique

We believe that our limited audit resources have been used to best advantage by concentrating our efforts on fundamental problems of managing the foreign food donation programs. While the same conclusions could have been reached from intensive reviews on a country-by-country basis, this would have required far more time and expense. Also, it is doubtful that we would have realized the extent to which the problems in

² Problems in Processing Claims Against Voluntary Relief Agencies Arising From Alleged Loss or Misuse of Food Donated for Distribution Abroad (B-159652 dated June 29, 1967).

one country were common to those in many other countries.

We also met with success in applying broad management review techniques to certain financial aspects of food distribution programs. For example, we issued reports to the Congress dealing with savings that could be realized by shipping commodities in larger quantities to take advantage

of better freight rates, and with savings that might be realized by asking recipient countries to relieve the United States of some of the cost of shipping donated food.

From a professional standpoint, this has been a real challenge in devising effective ways of auditing these programs. We feel that the results have justified the effort.

“Every person who pursues a career, as distinct from a jobholder, should expect to continue his education for the rest of his professional life.”

—Harry Levinson, writing on “Is There an Obsolescent Executive in Your Company—Or in Your Chair?”, *Think*, January-February 1968.

721319

Observation—A Useful Audit Tool

By Robert Van Maren

A large part of the value of independent audit and investigative work is the knowledge gained through direct observation or physical inspection. This technique is ingrained in GAO audit and investigative policies and practices. The author discusses the value of this technique and cites a number of past GAO reports to illustrate its importance and usefulness.

The General Accounting Office has classified evidence into four general categories: physical (observed), testimonial, documentary, and analytical. Of these four, the first deserves special consideration because of a reluctance on the part of many of us to utilize this audit tool to the fullest possible extent. One of the several definitions of the word "observation" given in the American College Dictionary is: "(the) act of viewing or noting something, for some scientific or other special purpose." The General Accounting Office defines observation as evidence obtained by direct inspection.

Obtaining acceptance of his observations as evidence is of real concern to an auditor, since the word "observation" often connotes personal opinion or interpretation. Therefore, an auditor spends considerable time obtaining other types of evidence to support his observations. Support can

be a problem, since observations tend to fall into time frames different from those of other types of evidence. Observations involve current situations, and the other types of evidence generally available for past activities in many instances are not available to provide the desired support.

Does this mean that observation is a type of evidence which generally is not and cannot be used to substantiate the existence of a reportable deficiency? Not at all. In acknowledging the acceptability of observation as a type of evidence, the General Accounting Office subscribes to physical inspection, where appropriate in view of the nature of the activity to be examined, as a means of improving the auditor's understanding of the activity in physical terms. Further, the observation of physical aspects at first hand encourages the use of imagination and initiative on the part of the auditor, and can provide the basis for early

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recognition and correction of problem areas. Additionally, observations can enhance reports based on documentary evidence of a historical or less current nature by disclosing status of the deficiency at the time of review or by providing perspective to corrective actions taken or promised by agency officials.

The problem of personal interpretation was mentioned above. To minimize this problem, observed deficiencies must be reported in a manner that will convince the reader that the deficiencies being reported are factual and would appear the same to anyone seeing the same situation. Methods used to create this impression in reports generally can be identified as: statements by such other observers as recognized experts or, in their absence, other disinterested parties or even other staff members; statements by responsible agency officials; and record data supporting the deficiencies. Of the three, the last method is the most frequently used even though it appears to be the least direct and most cumbersome to an auditor.

Reports Based on Observations

The General Accounting Office has issued a number of significant reports which have been generated by observations. One such report, which resulted in about \$3 million in savings to the Government, was issued to the Congress on March 10, 1964.¹

This report was an outgrowth of an observation of disposal practices re-

lated to condemnation due to deterioration of synthetic rubber parts, such as gaskets, seals, washers, and diaphragms, and assemblies containing such parts. The auditors noted large quantities of parts in the scrap heap awaiting disposal although still in their original cartons. Inquiry disclosed that the basis for disposal was a predetermined shelf life for rubber parts included in the assemblies. To satisfy their curiosity, the auditors obtained several of the assemblies, and by examination found that the rubber parts made up very minor parts of the total assemblies.

On the basis of this observation, the auditors selected for examination 21 types of drain cocks and valves, valued at \$299,000, which the agency had processed for disposal. Included in these 21 parts were 12 parts which were sold as scrap and for which requirements were subsequently developed. This test revealed that many of the parts could be restored to serviceability by replacing rubber components, such as O-rings, with simple tools or makeshift implements (wire paper clips) at a small fraction of the cost of the parts.

As a result of these observations and analysis of policy and procedural data related to the agency's disposal practices, a very significant deficiency in utilization of resources was brought to light.

A somewhat similar report was issued to the Congress on January 29, 1965.² In this instance, the audi-

¹ Wasteful Practices In The Management of Age-Controlled Aeronautical Spare Parts, Department of the Air Force (B-146865 dated March 10, 1964).

² Unnecessary Transportation Costs Incurred Because Available Government-owned Containers Were Not Used for Movement of Household Goods, Department of Defense (B-146931 dated January 29, 1965).

tors had observed large quantities of CONEX transporters stored at an Air Force base in Spain. These transporters are reusable metal shipping containers designed for the worldwide movement of supplies and equipment. Base officials informed the auditors that these transporters had been used to transport items from the United States and that most empty transporters were returned to the United States to permit their reuse in subsequent shipments.

Review by the auditors disclosed that transportation costs of about \$250,000 had been incurred in returning 2,192 empty transporters to the United States during a 1-year period. During this same period, the Air Force shipped about 3 million pounds of household goods belonging to military personnel returning to the United States in containers provided by carriers under Government bills of lading. The Government-owned containers were not made available for these shipments even though, under the terms of the military rate tenders governing household goods shipments, use of the transporters would have resulted in a saving of \$1.50 for each hundred pounds of household goods transported, and the return transportation cost of the empty transporters would have been avoided. Department of Defense officials advised us that, as a result of this review, more stringent criteria governing use of transporters were developed and placed in effect. The Department of Defense subsequently estimated that, as a result of these changes, it would save about \$1 million annually.

More recently, on June 7, 1965,³ and June 21, 1966,⁴ the General Accounting Office issued to the Congress reports involving observed deficiencies in Government-owned housing. Observations by General Accounting Office auditors brought to light the fact that single-family properties acquired under mortgage insurance activities of a Federal agency were badly in need of repair. Many of the properties had broken windows; damaged siding and doors; roofs, plumbing, heating and electrical systems in need of repair; and neglected lawns and shrubbery. The auditors subsequently learned that many of these properties had been acquired several years prior to the review but had never been repaired or maintained. On the basis of their observations, the auditors concluded that these properties were a blighting influence in certain areas of the city, and constituted a serious deviation from the stated objectives of the Housing and Home Finance Agency (now the Department of Housing and Urban Development) by one of its constituent agencies.

After reviewing the causes for and effects of the deterioration of properties owned by this Agency, the auditors determined that the Agency's repair program was faulty in that it failed to provide for repairs needed to arrest deterioration immediately after acquisition of a property and

³ Failure to Make Timely Repairs on Acquired Single-family Properties in Wichita, Kans., Adversely Affected Sales Potential and Resulted in Additional Repair Cost, Federal Housing Administration, Housing and Home Finance Agency (B-114860 dated June 7, 1965).

⁴ Review of Repair Practices Related to Single-family Properties Acquired Through Mortgage Insurance Programs, Federal Housing Administration, Department of Housing and Urban Development (B-114860 dated June 21, 1966).

thus ensure that resale of the properties was not adversely affected. They concluded also that delays in accomplishing repairs could have resulted in higher repair costs than would have been incurred if timely repairs had been made.

The Agency acknowledged a need for improving its property management activities and issued revised procedures strengthening its management of these activities. Observations supplemented by analysis of Agency policy and procedural data disclosed a very significant deficiency in utilization of resources.

Supporting Observations

From the foregoing, it could be concluded that reports based on observations are simple to generate and support. This is true in part, since a trained observer can note apparent deficiencies by simply touring the facilities of an agency. Supporting that a deficiency exists in fact, however, requires a thorough analysis of all facets and ramifications of what the deficiency is and means. Generally this requires research of the agency's policies and procedures related to the activity where the apparent deficiency was noted, including reasons for applying the policies and procedures in the manner in which they are being applied. It is only in relation to the policies and procedures that the true nature of the deficiency can be established.

Recording of observations presents the greatest problem to the auditor since it is almost impossible to eliminate personal interpretation when presenting the facts. For example, in the

report citing observations of condition of single-family properties, the auditors stated in the conclusion, in part, that:

The failure * * * to make timely repairs * * * has resulted in Government ownership of deteriorated and dilapidated houses which contributed to neighborhood blight, and has resulted in additional costs when the houses were ultimately repaired.

Obviously, the auditors did not eliminate personal interpretation in this instance. This problem was minimized in the report, however, by inclusion of photographs of houses typical of those described in the report as having broken windows; damaged siding and doors; roofs, plumbing, heating and electrical systems in need of repair; and neglected lawns and shrubbery. Through inclusion of these visual aids, the General Accounting Office was able to portray to the Congress concrete examples of the conditions they had observed.

Conclusion

Observations recorded with a minimum of interpretation may be equal to documentary evidence as support for audit reports. Usually, however, the auditor will need to gather other types of evidence for demonstrating the deficiency. The difference in time frame between an observation and the events that led to it frequently challenge the auditor's ability to obtain sufficient facts to identify the basic management weaknesses involved. Nevertheless auditors can identify and support significant management weaknesses through physical inspections and the use of imagination and initiative.

American Society of Public Administration

National Conference Notes

The 29th Annual National Conference on Public Administration was held in Boston, Massachusetts, March 27 through March 30, 1968. Sponsored by the American Society for Public Administration, the conference brought together about 2,000 practitioners, theorists, and students to discuss common problems relating to the management and organization of Government agencies and institutions. Attending the conference from the General Accounting Office (GAO) were the Comptroller General, *Elmer B. Staats*, who is a past president of the Society, and Messrs. *Joseph Eder*, *Paul M. Foley*, and *Louis Lucas* of the Boston Regional Office.

The American Society for Public Administration is a nationwide educational and professional organization dedicated to improved management in the public service through exchange, development, and dissemination of information about public administration. The Society has about 8,000 members representative of all governmental levels, program responsibilities, and administrative interests.

The theme of the conference was "Intergovernmental Relations in the Changing Society."

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The following notes highlight some of the sessions, particularly those relating to urban and other related problems because they are among the more

challenging problems of interest in our work in GAO.

The OEO and Interagency Coordination at the Federal Level

A panel member from the Advisory Commission on Intergovernmental Relations stated that many of the problems of coordination were recognized and provided for in the Economic Opportunity Act of 1964. These included establishing the new agency in the Office of the President; providing for community action agencies, a unit for coordination at the local level; and the Economic Opportunity Council, composed of the heads of the agencies involved with the program, such as Health, Education, and Welfare (HEW) and Labor. By an act of administration, an Office of Interagency Relations was established.

The Acting Director for Intergovernmental Relations, Office of Economic Opportunity (OEO), also a panelist, advised that we could not overestimate the difficulties involved in coordination but that progress had been made. At first, one department did not know what the others were doing and communications were limited. Some of the steps taken were to develop joint agency regulations and to establish first an Office of Delegated Programs and then an Office for Interagency Coordination. In addition, each of the seven OEO regional

offices has a position for Government relations. Bilateral agreements were also entered between OEO and agencies at the field levels and inter-agency agreements were entered at the Washington level. In addition, the OEO Information Center has tried to increase communication of community and individual programs. The Center also has obtained county-by-county information on the money in programs, unemployment, etc.; has been assisting States in developing their capabilities; and has set up a series of advisory councils and boards representing all segments of society.

Another panelist expressed the view that for coordination to be successful it must be from the bottom up, since the local office is most responsive to the needs of the citizens. He stated that the community action agency is probably the most significant instrument and that any of its failures show the difficulties involved. The community action agency has brought the citizen into participation in public administration and has provided stimulation for social change which will not be possible by the agency required to monitor the program. He cited the Concentrated Employment Program where all programs of manpower are pulled together at the Federal level by the Department of Labor under authority delegated by OEO. Under this program OEO is required to work with the community action agency which does the planning. He also cited the Cooperative Area Manpower System which brings groups at a local level together with the local groups making judgments of the allocations to be made.

Another member of the panel was the Executive Director of Action for Boston Community Development, Inc. He stated that there would be no anti-poverty progress without OEO and that the program was a revolutionary experiment. He complained that there was no place in Washington where an answer could be obtained and that the problems of the ghetto would continue to exist unless the coordination in Washington became responsible to the President. He expressed the belief that so far we have not solved the problems but have gained experience. He stated that not enough had been done to prepare people to operate the program and that we must get the program into the hands of the people in the neighborhood. The program has raised the hopes and aspirations of people.

The Poverty Program and the States—Organization and Role Responses

This panel discussed the OEO programs at the State level. One panelist maintained that the States' inclusion in the War on Poverty was an afterthought. The States' participation was needed to implement title II programs and rural programs where the communities were unable to do it themselves. The advantage of State participation is that the States are midway between the Federal and local governments and are closer to the local governments than the Federal Government. Additionally, the States can take a regional view and have broad policy-making powers. The panelist concluded that the Federal Government

should encourage broadly based agencies at the State level.

Another panelist also noted that originally the attitude toward the States was a negative one. This was attributed to the community action concept at OEO and the feeling that the States should do only what the community could not do itself. There are 49 States which have set up technical assistance agencies, under grants from OEO, to help small towns. The technical assistance agencies were described as an OEO on the State level. The technical assistance agencies serve and assist local communities by giving advice, counsel, and training. They do not have authority, and their role is not as well defined as it could be. OEO is trying to devise the State role and find areas for State participation. In addition, the OEO Information Center is working with the States. Basically, it is still a community-action program, but improvement has been made in the role of the States, especially in achieving better communication between the States and headquarters and the regional offices. One of the problems that was noted is that the States seem more interested in getting a "slice of the pie" than in helping the community-action agencies. It was proposed that the State technical-assistance agencies watch and develop State legislative action and try to obtain State funding for community-action projects and that the agency be placed in a department of urban affairs.

Panel of Governors

The principal speaker on the panel of governors was John A. Volpe, Gov-

ernor of Massachusetts and Chairman, National Governors' Conference. He cited the new role and responsibilities of States in intergovernmental relations. He stated that the challenges to States lie in comprehensive planning and the establishment of new goals. He described how there were 200 boards, agencies, and commissions responsible directly to the Governor in Massachusetts and how the State had obtained a planning grant from the Department of Housing and Urban Development for the reorganization of the State government. As a result, there is proposed establishment of departments and groups of specialists for the Governor dealing in areas such as transportation, health, personnel, and regulatory agencies. The concept of management planning groups is a new one. The Governor also noted that national problems, such as the crisis in the urban areas, were clear but complex. He listed some of the tools available to deal with these problems, such as Planning-Programming-Budgeting Systems (PPBS), Program Evaluation Review Technique, economic analysis, and systems analysis.

Governor Chafee of Rhode Island has agreed that planning is essential to State government but that it usually increases rather than decreases expenditures. He has noted that planning is more difficult in government than in industry in that the implementation of a plan requires the approval of the legislature and that the funds to accomplish the plan are usually tied with strings.

Urban Administration and the Urban Crisis (Panel of Mayors)

Mayor Joseph Barr of Pittsburgh discussed the many crises facing the cities today and categorized his major concerns in (1) housing, (2) transportation, (3) the urban environment including air and water pollution and aesthetics of the city, (4) the management of land and real estate, (5) the financing of programs, and (6) the alleviation of social unrest.

Mayor Walter J. Kelleher of Malden, Mass., spoke about his city which is a suburb of Boston having a population of 60,000 people in 4½ square miles. Although a relatively small city, he pointed out that it has the same problems as major cities, such as Boston, but without the talent and resources to effectively cope with these problems. He stressed the financial burden placed on the cities and discussed some of the programs and inducements offered by the Federal Government which have helped him in the city of Malden.

Professor John F. Collins of M.I.T. emphasized that, without significant increased Federal assistance, 1980 will find cities in an extremely exaggerated crisis condition compared with conditions today. He called for the Federal Government to provide "unallocated block grants" directly to the cities, thereby strengthening the role of the cities in coordinating all of their respective programs and in streamlining the administrative procedures for obtaining Federal funds. Under this concept the excessive controls placed on cities by State governments and the trickling down

of funds from the State governments would also be avoided. He also spoke of bringing technology into the urban environment. As an illustration of how the urban community has been denied access to technology, Professor Collins cited the fact that the incinerators used today are polluting the air the same as they were 100 years ago. The technologies of yesterday, today, and the future should be used in an effort to help solve the urban problems, he said.

Administration and the Concept of Social Services

The speaker for this panel was a member of the Social and Rehabilitation Service of HEW. This Service provides for about 9 million socially, culturally, and economically disadvantaged, aged, and disabled persons, and children in the country. It operates on a budget of about \$5 billion a year. The speaker noted the changes in the social welfare field where the emphasis had changed from one of welfare to one of rehabilitation, or a change in the way of life. The vocational rehabilitation program as carried out at the State and Federal levels involves medical, training, and counseling services. There is a need for clear programs and goals and objectives.

The problem of disadvantaged families is getting larger as families move from rural to urban areas and from the South to the North and West. The aim of the rehabilitation program is to have a State and Federal partnership with the State establishing the needs and the Federal Government providing the money. However, the

State setting the level of need may be harmful to that State or to others.

The speaker observed that people who can work should work and that assistance should be provided only to those who can't work. The recipient should not determine whether he should work or obtain assistance to work. Only when we are sure that all who can work are working will there be any agreement on the level of support.

Only one out of four rehabilitation cases undertaken does not succeed. The program provides to the individual the capability for self-care and self-support. The speaker noted that as there were more programs there were more levels of coordination, and as a result we may need a czar to administer the program in the ghetto.

The focus of the rehabilitation program is on the client. It provides services to people in a manner that makes it acceptable to those who receive them. Providing services is impossible when the client and the agencies are adversaries.

The speaker noted also that communities were confused by the proliferation of programs. Instant assistance to them is needed. He also stated that we should do what we can with existing programs before entering new programs.

Urban Highways: The Impact of State Decisionmaking on Local Government

A panel composed of city, State, and Federal officials discussed the merits of a case study of the development of an interstate highway system through a large city. In this discussion,

it was evident that the desires of highway, housing, and poverty officials, etc., may frequently clash as each official tries to fulfill the objectives of his program. The discussion indicated that what was needed was effective coordination to ensure that planned highways do not drastically reduce a city's tax base, create a large number of displaced families, create joblessness because of the business firms displaced, ruin public parks, etc.

Administration and Innovation: New Management Concepts

This session dealt with the problems of administration in the area of human decision behavior. It was brought out that the design of any information system must begin with an understanding of the human decision process and that the process by which human and organization decisions are made can be analyzed and improved. Problems cited in making decisions include those of missing information and missing or not well worked out criteria.

Scientific Management—1970

This panel revolved around the problems of putting in an effective PPB System in a large city (New York) and a smaller city (New Haven). The problems, as can be imagined, are quite different, yet similar in the need for talent. In the large city, there is some talent and money available including the creation of a distinguished advisory committee of outstanding citizens. In a smaller city, the availability of any money or talent is a real problem. In the case in point, the panelist was borrowed from a commercial firm for a period of time.

In both cases the potential for an effective attack on a number of archaic operations was demonstrable.

***Planning-Programming-
Budgeting Systems***

A panel session on this subject em-

phasized the differences between planning and budgeting. Planning was characterized as being those things that governments would like to do, and budgets were characterized as being those things that governments could realistically accomplish.

National Contract Management Association Conference Notes

The following comments on this conference were prepared by *Ronald A. Bononi*, supervisory auditor, Los Angeles Regional Office.

The 1968 NCMA conference was held in Los Angeles, Calif., on April 5 and 6, 1968, and included five panel sessions dealing with such widespread topics of interest as current developments in the Armed Services Procurement Regulation (ASPR), bidding techniques utilized for prime contracts and subcontracts, proposal evaluation, and data rights.

Of particular interest to GAO staff members in attendance was the featured dinner speech by the Comptroller General.

ASPR: Where From and Where To

Everett Prechel, Manager of Contracts and Pricing, Hughes Aircraft Co., kicked off this session with a presentation on the alleged deterioration of ASPR during the past 20 years. His comments were specifically pointed toward the growth of ASPR from general guidelines to a detailed step-by-step procedural document which has resulted in the circumvention of industry management judgments. He cited several examples in which broad DOD policy statements have been contradicted in current ASPR revisions and the increase in DOD bureaucracy through added surveillance of contractor operations. Mr. Prechel emphasized the problems encountered by industry in the use of high risk firm

fixed-price contracts under a research and development environment and the continuous abuses from this type of contracting.

Brigadier General William Snavely, Director of Procurement Policy, Office of the Secretary of Defense (I. & L.), referred to ASPR as a manifestation of DOD policy decisions—a response to a need. He characterized ASPR as a compromise of various viewpoints through a deliberate process of weighing the views of interested groups. He also stated that competition was the underlying force behind many of the ASPR changes and that competition and incentives are the foundation of our economic system. He referred to the need for closer Government surveillance of contractors' operations relating to developmental contracts because of the contractors' lack of responsibility for subsequent production and support effort. This close surveillance also results from the fact that over 50 percent of DOD contracts are placed on a sole-source basis, and only 5 percent are awarded on the basis of technical competition.

General Snavely countered industry criticism of low profits on high risk firm fixed-priced contracts by citing the overall increase in negotiated profit rates from the base 1959–1963 period of 7.7 percent to a 9.2 percent rate in 1967. He defended the ASPR

weighted guideline concept for profit determination as an opportunity for higher profits rather than a guarantee. He referred to a recent DOD study of 1,500 contracts in which the actual profit rates generally agreed with the negotiated profit rates. General Snavely also commented that DOD has initiated a study of the alleged misapplication of firm fixed-price contracts under research and development environments.

Alex Landesco, Manager of Contracts, Radio Corporation of America, referred to a recent bill introduced by Senator Proxmire to bring Public Law 87-653 in agreement with the implementing regulations contained in ASPR as an example where ASPR provisions formulate policy rather than implement policy. He also took issue with ASPR changes that are generated from so-called "horror" cases and do not necessarily represent DOD policy. Mr. Landesco contended that ASPR changes relating to Public Law 87-653 have caused additional administrative headaches for industry since contract files must be self-explanatory to support the company's pricing position if the contract is later selected for postaward audit.

Mr. Landesco agreed with the Government's right to visibility in the procurement cycle, but questioned the degree of need versus the cost to provide this visibility. In his opinion, the cost effectiveness point had long ago been reached. He also pointed out that Defense contractors with a substantial volume of commercial business are moving away from Defense business because of the adverse effect on their commercial sales that can result from

public disclosure of high profits on Defense business.

Mr. Landesco took issue with General Snavely's statement that the weighted guidelines concept of profit determination had caused an increase in the profit rates. He contended that the increased rates resulted from the shift from cost-type to fixed-price contracts rather than the weighted guidelines concept.

Bidding for Prime Contracts

Harry Van Cleve, General Counsel, GSA, opened this session with a discussion of the fundamentals of formal advertised procurement procedures. He stressed the importance of maintaining adequate competition through effective use of bidders' mailing lists and synopses in the *Commerce Business Daily*. Restriction of adequate price competition generally results from the use of brand names in the IFB, the fair trade laws, and the acceptance of catalog prices. Stress was placed on the preciseness of delivery terms in the IFB, such as the location where the items were to be delivered and f.o.b. shipping point/destination instructions. He also discussed the use of two-step formal advertising procedures under conditions of changing technology. The IFB is issued in two stages, the technical proposal first and the price proposal second.

John O'Hara, Director of Contract Policy and Plans, Boeing Co., cited the large volume of DOD procurements, estimated at 85 percent, awarded on the basis of negotiations, although formal advertisement is considered preferable. He referred to essential

principles of formal advertising procedures as full and free competition; the greatest possible attraction of responsive and responsible bidders; and the prevention of favoritism and fraud. He characterized the bid process as an invitation to contract and stressed the importance of preserving the integrity of the bid process, compliance with IFB specifications, and the protection of bidders' proprietary data. He also touched on the importance of preaward surveys to determine if bidders are responsible and qualified based on past experience.

John Cavanagh, Counsel, Lockheed Missile and Space Co., raised some basic issues as to why formal advertising procedures are not used more extensively in the defense industry. He referred to advertised contracts as the preferred procurement method—by statute and by the expressed intent of the Congress. He suggested that if the construction industry can live with this type of procurement, why not DOD contractors. He felt that since formal advertisement was one of the exceptions to the cost and pricing data requirements of Public Law 87-653, it should be used more frequently.

In discussing bid protests, he accepted the role of GAO in reviewing bid protests, but mentioned that GAO's authority was not covered by statute. Mr. Cavanagh pointed out that during a bid protest, the award can be made to the company that is unsuccessful in the bid protest since the award does not have to be delayed until the bid protest decision is final. He concluded the discussion by stressing the need for the bid protestor to

notify the procuring agency that a protest has been submitted to GAO so that the agency may decide to hold up the award pending the GAO decision.

Stephen Haycock, Assistant General Counsel, GAO, explained some of the fine points of bid protests and the procedures used by GAO in working with the bid protestor and the procuring activity in arriving at a protest decision. He stated that most protests relate to the responsiveness or responsibility of the low bidder and that a bid deviation can be waived if it has a minimal effect on price and no effect on quality and delivery. He also mentioned that formal advertisement was not suited to research and development and various weapons system procurements, but that two-step formal advertising was useful in procurements involving complicated technical problems.

The primary concern expressed during this session was the restrictions that are being imposed upon subcontractors through teaming arrangements and contract provisions. It was felt that teaming arrangements tend to limit subcontractors' bargaining and competitive positions because subcontractors get "locked in" without any real guarantee from the prime contractor.

With regard to contract clauses, the panelists stated that inequity existed in the change clause by restricting price increases to those changes that affect both the prime contract and the Government. They also expressed concern over the warranty clause in that a subcontractor may deliver his items substantially before the prime contrac-

tor delivers the end item; consequently, a 1-year warranty may, in effect, be for a much greater period of time.

From the discussion, it seemed that the biggest problem subcontractors have is bickering with the prime contractor.

Proposal Evaluation

Edward Renner of the Lockheed-Georgia Co. complemented his discussion of Lockheed's subcontract price evaluations under the C-5A transport program with a presentation of colored slides to illustrate Lockheed's proposal evaluation techniques. The discussion centered on four primary areas: request for proposal; preaward survey; proposal evaluation; and preaward activity.

Lockheed's request for subcontract proposal covered the areas of administration, technical performance, management, and cost. Lockheed's proposal evaluations were coordinated with various departments such as engineering, finance, logistics, manufacturing, material, and quality assurance. During the evaluation process, quantitative ratings were given to the following areas of the subcontractors' proposals: engineering, 32 percent; quality assurance, 12 percent; material, 40 percent; and manufacturing-engineering, 16 percent. Following the evaluation process, Lockheed held proposal conferences with the subcontractors, selected the successful subcontractors, conducted negotiations, and awarded the subcontracts.

Mr. Renner stated that the C-5A contract was awarded on the total pack-

age procurement concept. As a result, all major subsystems are contractor-furnished except for the engines which are Government-furnished equipment.

George Vecchietti, Director of Procurement, NASA, primarily discussed the NASA source evaluation and selection procedures. A NASA peculiarity in the evaluation and selection process relates to the nature of its technical products, quality assurance, and the lack of follow-on production programs. Mr. Vecchietti illustrated the evaluation and selection process by referring to NASA's selection of automatic data processing equipment for installation at one of its centers. Proposals from three manufacturers were scored by an evaluation board; visits were made to the manufacturers' plants, at which time the initial scoring was modified; opinions were solicited from NASA centers which had experience in the use of the manufacturers' equipment; and the final award was made.

Mr. Vecchietti emphasized that NASA does not use weighted guidelines for profit determination.

Major General Fred Higgins, Deputy Chief of Procurement and Production, Air Force Systems Command, emphasized the importance of working out proposal problems at the detailed level after a thorough analysis. He stated that data banks are being compiled on contractors to assist in making proposal evaluations. He concluded by discussing the extensive use of letter contracts by the Air Force due to the Southeast Asia conflict and the Air Force concern over this matter.

Data Rights

Vern Owen, Data Manager, Hughes Aircraft Co., discussed the technical data problems caused by limited data rights such as restriction of competitive procurement, hindrance of configuration control, and restriction of Government overhaul and repair activity. The company that stamps its data with limited rights has an advantage of protecting and improving its competitive sales position, and improving its overhaul and repair business. He concluded that data management costs are approximating the hardware costs and data delivery problems continue to exist.

Other panelists discussed limited and unlimited rights data. Limited data rights were distinguished from unlimited rights in that the Government could not use data with limited rights for competitive procurement of Government manufacture; otherwise, the Government's use was unrestricted.

Stephen Haycock, Assistant General Counsel, GAO, took a liberal interpretation of the data topic to discuss the data aspects of the Hewlett-Packard case. He touched on the 1951 legislation in which GAO was given contractual authority for access to contract records. In the analysis of the Hewlett-Packard case based on the appeals court decision, Mr. Haycock pointed out that the key factor in the decision was the court's interpretation of the word "contract" to mean not only documents, but also procurement of the end item. He stated that the court decision still left unanswered the

question of what records are considered pertinent.

Robert Ackerly, Attorney for the firm of Sellers, Conner, and Cuneo, was somewhat critical of the vagueness of the language of the Freedom of Information Act, and especially DOD's restriction of access to information through administrative determinations. He cited a suit brought by his firm against DOD for access to the Defense Contract Audit Agency comprehensive audit manual.

Address by Comptroller General

Mr. Staats was the featured speaker at the award banquet and discussed current efforts being made toward more effective Government contract administration.

Mr. Staats discussed the interest GAO has in the development of strong internal audit activities as an essential ingredient of the management system. In particular, he reviewed the role of the Defense Contract Audit Agency (DCAA) in the administration of procurement systems of the Department of Defense. DCAA's relationship with GAO, the differing missions and tasks, and recommendations of the Military Operations Subcommittee relating to future efforts of the two agencies were briefly described.

The matter of Government property in the hands of contractors was also discussed. Mr. Staats pointed out that Senator Proxmire's bill, introduced after hearings on the GAO report on this subject,¹ would strengthen ad-

¹ *Need for Improvements in Controls Over Government-owned Property in Contractors' Plants* (B-140389, November 24, 1967).

ministration by providing more effective control over the use of Government production equipment by private contractors.

The Comptroller General briefly reviewed the progress made in negotiating contract prices since the enactment of Public Law 87-653 and presented his views on the soundness of the law. He stated that defective pricing offsets should be limited to deter carelessness in proposal preparation

and cited as an example the offsets allowed in averages or composite rates as provided in Defense Procurement Circular No. 57.

In closing, Mr. Staats emphasized the need for close working relationships with DOD, and the need for effective discussion of problems arising between Government and industry. He assured industry of the Government's desire to cooperate and avoid imposition of unworkable or too burdensome requirements.

Charles W. Kirby: 1914–1968

Charles W. Kirby, an associate director of the Defense Division, died April 18, 1968, at the Alexandria Hospital following an illness of several weeks.

Mr. Kirby, who was born May 8, 1914, at Gaffney, S.C., started work for the General Accounting Office as a messenger in 1937. After coming with the Office, he attended Columbus University Law School and the Department of Agriculture School of Accountancy. Mr. Kirby had broad and varied experience in the General Accounting Office, including several years with the former Audit Division both in Washington and in the field. From 1953–1955, Mr. Kirby was a member of the Planning Staff of the Office of the Comptroller General where he participated in internal reviews of GAO divisions and offices and in the preparation of the GAO Policy and Procedures Manual.

During 1956, he served as a member of a three-man committee designated by the Comptroller General which studied the functions of the former Office of Investigations.

He was assigned to the Office of the Director, Defense Division, in 1956. In this position, he served for more than 10 years as a principal member of the director's staff. His duties included primarily matters relating to division policies, planning for audit and accounting work, and review of reports for which the division was responsible.

From March 1967 until his death, Mr. Kirby was an associate director, responsible for the planning and direction of General Accounting Office work in the facilities and construction area in the Department of Defense.

On two occasions Mr. Kirby was the recipient of a special GAO award. In 1960 and again in 1966, he received the meritorious service award in recognition of his high quality performance which was judged as substantially exceeding normal requirements for his position.

Mr. Kirby contributed much to the improvement of the operations of the General Accounting Office in his varied assignments over the years. He possessed the qualities of courage, competence, and commitment which he brought to bear on many challenging and complex tasks; and he combined a quiet excitement and enthusiasm for his work with an urgency of purpose.

His many friends and colleagues will miss his steady association, his sense of humor, and his dedication to the work of the General Accounting Office.

Mr. Kirby is survived by his wife, the former Milla Gene Robbins, and two children, Robin and William, who are West Springfield High School students in Fairfax County, Va. In addition to being devoted to his family and his office responsibilities, Mr. Kirby had a very keen interest in golf and was an active member of the Springfield Golf and Country Club. In recognition of his contributions and leadership in the annual interdivisional golf tournament between the Civil Division and the Defense Division, the trophy which is awarded annually to the winning division will be permanently inscribed "Kirby Memorial Trophy."

*By his associates in the
General Accounting Office.*

NEWS and NOTES

Editorial Recognition

The *Review* reprints with justifiable pride the following editorial recognition which appeared in the April 1968 issue of *The Journal of Accountancy* under the heading "The More the Merrier."

The lead article in the current issue of *The GAO Review* is a speech given by Comptroller General Elmer B. Staats at the last annual meeting of the American Institute of CPAs. This gives us an appropriate occasion to salute a valuable new accounting magazine (founded 1966).

The GAO quarterly has developed rapidly into a significant medium for the further dissemination of information about important developments in what has become a major field for application of up-to-date accounting principles and techniques.

Not many years ago, *The Journal of Accountancy* might have viewed with at least partially mixed feelings the successful advent of another periodical with articles we would have been proud to publish ourselves. Today, happily, there are plenty to go around: new ideas and new developments in accounting are coming so fast that the only problem is to keep up with them. Necessarily, therefore, there are and will be more and more magazines devoted primarily to the interests of accountants engaged either in specialized fields or in work for specific kinds of organizations, whether governmental, industrial, public or advisory.

The interrelationships of the various fields of accounting are in fact well illustrated by another article in the Winter 1968 *GAO Review*, entitled "A Teamwork Venture with Public Accountants in the Audit of Tennessee Valley Authority." And a special feature presents highlights and excerpts from other speeches from the American Institute of CPAs annual meeting.

So we anticipate a happy combination of friendly co-operation and friendly competition in our mutual efforts to augment the

quality and quantity of the literature of accounting.

Service to the Public

The *Review* is privileged to recognize in its columns an unusual service to the public rendered by *Michael J. Ross, Jr.*, one of our young accountants in Detroit, during the early part of April 1968.

A recent letter of commendation from the Commissioner of the Detroit Department of Police commended Mr. Ross, a volunteer police reservist, who was mobilized on April 5 along with other reservists to relieve a number of police officers from their regular assignments, making them available for duty in troubled areas. The Commissioner pointed out that the prompt response of these reservists, who served without compensation, had a great deal to do with the Police Department's ability to successfully handle the emergency. In his concluding remarks, the Commissioner stated that:

We in the Detroit Police Department take our hats off to these men. They have our heartfelt thanks for a job well done; and, we feel you should be made aware of their unselfish dedication and concern for the safety of our city and its citizens.

In adding our compliments to Mr. Ross, we would like to point out that his 48 hours of voluntary duty were served outside of his regular office hours.

Federal Executive Institute

This Civil Service Commission center for advanced study for top civil

service executives is to open in October 1968 at Charlottesville, Va., in collaboration with the University of Virginia. The Institute will provide intensive courses to top career executives, focusing on three primary areas:

- Major problems facing our society and nature of the Government's response to these programs.
- Ways of maximizing Government organizations to increase effectiveness of programs.
- Ways in which administration of Federal programs can be improved.

Joint Financial Management Improvement Program—1967 Annual Report

This report was released on April 29, 1968, by the four top Government officials who provide the leadership for this important Federal program.

The report summarizes key developments and improvements in such Federal management areas as organization, budgeting, accounting, cash management, disbursing, reporting, internal and contract auditing, and staffing and training.

This report is addressed to the heads of Federal departments and establishments and signed by the Secretary of the Treasury, Henry H. Fowler; the Director of the Bureau of the Budget, Charles J. Zwick; the Chairman of the Civil Service Commission, John W. Macy, Jr.; and the Comptroller General, Elmer B. Staats.

In releasing the report, these officials stated:

Accrual data on receipts and expenditures

for the President's budget, accounting support for the planning-programming-budgeting system, and financial information for day-to-day management can only be obtained from a good accounting system. The use of accrual accounting and cost-based budgets are important continuing objectives of the Joint Program. The program's success depends on the active leadership of top agency officials and the cooperation and participation by staff at every level of agency operations. We earnestly seek your support in a combined effort to attain the goals of efficient and economical government.

Annual Compilation of GAO Findings and Recommendations for Improving Government Operations

This annual report covering the fiscal year 1967 was issued to the Congress by the Comptroller General in May 1968 (B-138162). This report contains a summary of the principal GAO findings and recommendations during the fiscal year 1967 pertaining to all Federal departments and agencies. The material is classified along functional lines and is the only such overall summary report issued by the Comptroller General each year.

Copies of this report were sent to heads of Federal departments and agencies and the following excerpts from acknowledgment letters received are of interest.

From the Secretary of Transportation

We have reviewed the report and find it contains considerable information that we can utilize in our continued efforts to improve the efficiency and economy of operations in the Department of Transportation.

I wish to commend the GAO for the contribution that it is making to improve government operations, and for preparing such an excellent report.

From the Secretary of Labor

The report provides a good reference on GAO audits of the Department of Labor and I am sure will be helpful to us.

From the Assistant Secretary of Commerce

This is a very useful compilation and we will examine it carefully for improvement ideas that may be applicable in Commerce.

From the Director of National Science Foundation

This report will be useful to the National Science Foundation, and I greatly appreciate your making it available to us.

From the Chairman of Federal Deposit Insurance Corporation

We appreciated receiving a copy of your report and I found it most interesting. I shall see that it is made available to certain of our people with a view to the possible application of some of its findings to our operations.

From the Editor of Defense Management Journal

If you have no objection, we would very much like to reprint pp. 123-126 in the Summer issue of the Journal.

The report is impressive. I am sure the summary of actions will stimulate considerable interest among our readers and, hopefully, some adaptation of these "savings" ideas.

Administration of Research Study Contracts

In March 1968, the Comptroller General sent to the Congress a report (B-133209) on the review of the administration of three research study contracts awarded by the Office of Civil Defense to Hudson Institute, Inc., located at Croton-on-Hudson, N.Y. The contractor is a private, non-profit corporation which engages in research, study, and analysis relating

to national security and international order.

The contracts reviewed had been awarded for the purpose of obtaining—through independent research—well-reasoned and useful information on Civil Defense matters. The audit report notes that seven of the 11 study reports submitted by the contractor under the three contracts were considered by the Office of Civil Defense, an agency in the Department of the Army, either to be less useful than had been expected or to require major revision before they were acceptable.

One report was criticized as adding nothing to the state of the art, i.e., it added no new thoughts and provided no information not previously known.

Another report was returned for major revision because, among other things, it appeared to be "a rehash of old, if not tired, ideas."

A third report was criticized as not having sufficient depth to warrant general distribution.

Improvements in administration suggested in the audit report were:

- Closer monitoring of studies and more specific statements of the scope of work to be performed, to provide the contractor with a better understanding of what the Office of Civil Defense wants.
- More frequent, more timely, and more complete progress reports to provide the Office of Civil Defense with better information on the contractor's progress.
- Written documentation of understandings reached with the contractor to provide a reference for use in determining whether the contractor has complied with requests and to provide a better basis for supporting the disbursement of public funds.

The report noted that the Office of Civil Defense had taken steps to improve its procedures along the above lines.

The report was sent to the Congress because the findings illustrated the need for exercising careful control over contractors engaged in independent research studies so as to provide greater assurance that the reports obtained are really useful. It provides another insight into the need for constant vigilance in the application of public funds. In this case, as the report points out, the cost to the Government of the contractor's professional efforts on the three contracts reviewed ranged from about \$45,000 to \$52,000 per man-year.

The report received a considerable amount of public notice. In addition to newspaper accounts, *Science* magazine for April 1968 reviewed it in some detail, characterizing the report as "an unusual effort to assess the value of work performed by a non-profit 'think tank'"

In the *Nation* for May 13, 1968, there appears a fairly complete review of the report by H. L. Nieburg, who teaches political science at the University of Wisconsin. His article, entitled "The Profit and Loss of Herman Kahn," refers to the Hudson audit as "the first ever made of a think factory."

The review was carried out and the report developed under the general direction of *Harold H. Rubin*, associate director, *William Lincicome*, assistant director, Defense Division; *D. L. Scantlebury*, regional manager, and *Jack Perlman*, supervisory auditor, Washington Regional Office.

Others participating in the review included *Bernard Dall*, *Vincent Gri-maudo*, and *Nicholas Zacchea* of the New York Regional Office and *Victor Cavacini* of the Washington Regional Office.

GAO Audit of Selected Reserve Forces

At the request of Major General Autrey J. Maroun, Deputy Assistant Secretary of Defense (Reserve Affairs), Office of the Assistant Secretary of Defense (Manpower), on December 7, 1967, and May 16, 1968, *Andrew B. McConnell*, assistant director, Manpower Group, Defense Division, gave briefings to the members of the Reserve Affairs Committee on the work and purposes of the General Accounting Office, together with GAO plans for review of the combat readiness of the reserve components. During the first briefing, Mr. McConnell furnished the Reserve Committee members with a statement of the background of the General Accounting Office together with appropriate organization charts.

The Reserve Affairs Committee has a membership consisting of both military and civilian officials in DOD who are in positions of authority and responsibility for reserve matters. Each of the reserve components is represented on the Committee. The Committee's functions include anticipating problem areas, initiating ideas and actions that will strengthen the reserve forces, and enhancing pertinent action on reserve matters. The Committee is chaired by the Deputy Assistant Secretary (Reserve Affairs), DOD.

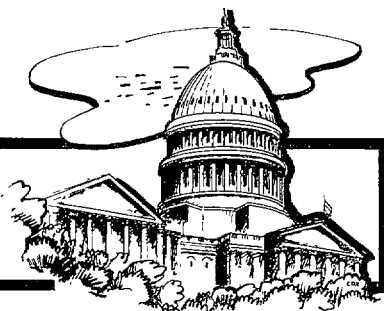
Glossary of PPB Terms

The April 1968 newsletter of the cost effectiveness section of the Operations Research Society of America mentioned the publication of the revised glossary of PPB and systems analysis terms which was prepared

by the systems analysis group of the Office of Policy and Special Studies and released in January 1968. As a result, a large number of requests for copies have been received from research organizations and others interested in the field.

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HEARINGS *and* LEGISLATION



By MARGARET L. MACFARLANE

Chief, Legal Reference Services, Office of the General Counsel

Project PRIME

On May 2, 1968, the Defense Subcommittee of the House Appropriations Committee invited the Comptroller General to present his views on the proposed Defense Department accounting system for operations (Project PRIME). Last year in accordance with a statutory directive included in the Department of Defense Appropriation Act, 1968,¹ the Comptroller General was required to report to the Congress on any new expense-based accounting system prior to its installation. (See *GAO Review*, Winter 1968, p. 90.) Pursuant to this directive, a report on the proposed new accounting system for operations was made to the Congress on April 12, 1968. It was concluded in this report that the system met the requirements enumerated in the appropriation provision and would over a period of time substantially improve the quality of information furnished to Congress.

Subsequently, when the Committee on Appropriations reported the Second Supplemental Appropriation bill for fiscal year 1968, tentative approval was given to the project by

the committee subject to certain specifically suggested changes.²

(Other participants at the May 2 hearings: Messrs. *Weitzel*, *Ramsey*, *Moore*, *Borth*, *Campfield*, and *Kane*.)

Access to Records of Federal Deposit Insurance Corporation

On May 7, 1968, the House Committee on Banking and Currency invited representatives of the Office to testify on issues raised during an earlier hearing on H.R. 16064, a bill which would give GAO unrestricted access to reports and related records pertaining to banks insured by the Federal Deposit Insurance Corporation. *Frank H. Weitzel* presented the statement at these hearings. On March 6, 1968, the Comptroller General had appeared at hearings informing the committee of the need of the GAO for full access to records in connection with the audit of the Corporation. (See *GAO Review*, Spring 1968, p. 71.) After the first hearing Chairman Patman and 12 other Members of the House introduced H.R. 16064, to amend the Federal Deposit Insurance Act with respect to the scope of the audit by the General Accounting

¹ Public Law 90-96, approved September 29, 1967, 81 Stat. 231, 249.

² H. Rept. 1531 (90th Cong.).

Office. In a report on the bill, the Office strongly supported its enactment.

(Other participants at the May 7 hearings: Messrs. *Ahart*, *Newwirth*, *Emery*, *Smith*, *Masterson*, and *Blair*.)

Excess Property Repair and Rehabilitation Program Overseas

The Special Subcommittee on Donable Property of the House Government Operations Committee invited GAO to provide information on the program for advance acquisition of excess property and the possible role of the military in assisting the Agency for International Development in handling the repair and rehabilitation of excess equipment at overseas locations. *Louis W. Hunter*, associate director, International Division, presented the statement and advised the subcommittee of projected pertinent reviews of excess property to be undertaken in Kenya and Pakistan. (Other participants: Messrs. *Kleinbart*, *Berngartt*, and *Thompson*.)

Support Service Contracts

The continued interest of the Congress in support service contracts was reflected when the Special Studies Subcommittee of the House Government Operations Committee requested the Comptroller General to present views concerning the procurement of support services from commercial or Government sources. Hearings were held on April 25, 1968, at which time

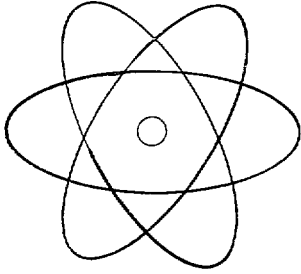
findings resulting from GAO reviews and studies were submitted. (Other participants: Messrs. *Rasor*, *Henig*, *DiGiuseppi*, and *Barclay*.)

Joint Funding Simplification Bill

On June 11, 1968, the Subcommittee on Executive and Legislative Reorganization of the House Committee on Government Operations held a hearing on H.R. 12631, 90th Congress, a bill to simplify and improve the administration of the Federal grant-in-aid programs. GAO in commenting on the bill suggested limiting its application for an experimental and testing period before establishing it on a Government-wide basis. *Gregory J. Ahart*, deputy director, Civil Division, presented the views of the Office on the legislation. (Other participants: Messrs. *Smith*, *Moore*, and *Thompson*.)

Miller Act Amendment

At the request of Subcommittee No. 2 of the House Committee on Judiciary, *J. Edward Welch*, deputy general counsel, appeared at hearings on H.R. 9561, a bill to amend the Miller Act to provide certain uniform coverage for subcontractors. Mr. Welch summarized the written report on the bill and answered questions concerning the application of interest and attorneys' fees to subcontractors' claims under the Miller Act as presently constituted. (Other participants: Messrs. *Schwartz* and *Kane*.)



AUTOMATIC DATA PROCESSING

Controls over Computer Operations

In April 1968 a joint committee, comprised of representatives of the Office of Policy and Special Studies, the Civil Division, and the Defense Division, was formed to explore the question of adequacy of internal controls in Government ADP systems.

In an internal GAO memorandum, the Director of the Office of Policy and Special Studies called attention to the establishment of the committee and to an article in the *Wall Street Journal* for April 5, 1968, on the subject of potential fraud and embezzlement in electronic computer operations. He also pointed out that, since the Federal Government is such a large user of automated systems for processing financial transactions, it is essential that controls over these operations in Federal agencies be as strong as possible.

The committee consists of:

Office of Policy and Special Studies

Edward J. Mahoney

Joseph L. Boyd

Civil Division

Joseph A. Vignali

Defense Division

Bernhard W. Nikel

The study group has held discus-

sions with several organizations, including the American Telephone and Telegraph Co., Chase Manhattan Bank, International Business Machines Corp., Price Waterhouse & Co., and the Social Security Administration.

Further discussions will be held. Eventually a memorandum from the Comptroller General to department and agency heads on this subject will probably be issued.

Future Computer Developments

On April 25 Charles Sippl, President of Computer Research Bureau of Los Angeles, Calif., conducted a seminar in Washington concerning the direction which the computer industry will follow in the future. *Leonard Koczur* of the Office of Policy and Special Studies attended this seminar. Mr. Sippl predicted that large time-sharing systems built around computers capable of accepting data from multiple remote terminals will become commonplace.

He said that one of the biggest problems facing the computer industry has been that businessmen and business managers don't understand the computer nor do they take the time or have the inclination to understand it. On the other hand, tech-

nicians who understand the computer don't understand the problems of the businessman. The result is lack of communication between the two, misunderstanding, and inefficient and underutilization of ADP equipment. One possible solution to the problem is to allow the businessman direct access to large computers through remote terminal devices, thereby precipitating the use of the time-shared systems.

Businessmen will have these remote terminals on their desks, giving them instantaneous access to a large central computer. They will be able to obtain, merely by typing in a few figures at the keyboard, graphs, forecasts, financial statements, and other decision-making information they require. This information will be retrieved immediately and will be up-to-date and accurate. Moreover, it will be either printed out or displayed on a television-like screen, the cathode-ray tube, according to the individual's needs.

Accountants are being directly affected by the increasing use of computers. Up to now most accountants have done little to establish controls over computer-based records or to understand how the computer functions. In the future most accounting records will be maintained on a computer without backup "hard copy" records and, if an accountant is going to perform an audit, he will have to know something about how the computer operates.

Mr. Sippl also predicted that educational institutions will become one of the biggest users of computers. Ex-

periments and studies have shown that computer-assisted instruction is entirely practicable. One study revealed that students taught by such techniques scored higher on tests and did better in follow-on courses than did students taught in the conventional manner by a human teacher.

In conclusion, Mr. Sippl predicted some future computer developments. He projected sales of computers to reach 40,000 in calendar year 1968. Within 3 or 4 years, new 4th generation equipment will be announced, based on the use of lasers. As a result, computers will be physically smaller but much faster with larger capacity. Finally, every business that has 50 to 100 employees will use a computer to some extent.

Maintenance of ADP Equipment

On April 3, 1968, the Comptroller General issued a report to the Congress on "Maintenance of Automatic Data Processing Equipment in the Federal Government" (B-115369). This report was based on a review conducted by the ADP group of the Office of Policy and Special Studies and the San Francisco regional office.

This report emphasizes the monetary and operational advantages that are being realized by the few computer installations which have adopted a policy of in-house maintenance for their equipment. The report also contains a discussion of the major factors to be considered in making maintenance decisions so that the report itself can be used by data processing managers in evaluating their maintenance policies until the Bureau

of the Budget and the General Services Administration promulgate the more specific policies which the report recommends that they do.

The report brings out that, in most cases, maintenance service for Government-owned computers is being obtained from computer equipment manufacturers. Only a relatively small number of computer installations have adopted a policy of in-house maintenance for their equipment. The GAO study shows that significant savings and operating advantages are being realized by the few organizations performing their own maintenance. The potential for realizing savings was illustrated by four installations where actual maintenance costs were \$267,000 compared with \$801,500 that they would have had to pay the manufacturer for maintenance service—annual savings of \$534,500.

In commenting on this report, the Acting Administrator of General Services advised that GSA is negotiating a contract to accelerate its study of Federal agency maintenance practices. In addition, it will issue a Federal Property Management Regulation containing initial interim guidelines to assist agencies in their evaluation of alternative means of maintenance. These guidelines are based on those included in the GAO report.

The Acting Administrator has advised that:

It is our belief that the report has served a very useful purpose in directing attention to an area of fruitful savings and will assist us in our efforts in this segment of Public Law 89-306.

Auditape Applications

Washington Regional Office

On April 18, 1968, the Washington regional office successfully used Auditape during an assignment. In this instance, an 86 percent reduction was experienced in the number of man-hours required to perform certain routine tasks.

Warren Grosch, audit manager, and *William Maddox*, site supervisor, recognized that Auditape could be used in the examination of financial statements of the Federal Savings and Loan Insurance Corporation (FSLIC). *Clarence Smith* of the Washington regional office provided the technical assistance.

For fiscal year 1966, it had been necessary for the audit staff to obtain a list of all insured associations and to manually assign sequential numbers to 4,367 associations. This list did not contain total dollar amounts for total assets and total deposit liabilities for each association nor did it contain accumulated dollar totals for all associations insured by FSLIC.

Using random sample procedures and the manually assigned sequential numbers, a statistical sample of associations was selected for a detailed review. About 100 associations were selected by this procedure and the examination reports and related records for each of these associations were reviewed in detail by the staff to ascertain whether FSLIC had properly classified each association as to "problem" and "nonproblem" associations. These procedures required about 56 man-hours to obtain the

statistical sample, including supervisory and travel time for the site supervisor and audit manager. For the fiscal year 1967 examination, it was decided to use Auditape in an attempt to reduce the time required to perform these routine tasks.

For the 1967 examination, the audit staff desired to obtain the following information from FSLIC records maintained on magnetic tape:

1. A printout of all associations contained in the FSLIC master file. This printout had to contain the following information for each association:
 - A sequential number,
 - A docket number,
 - A state identification code,
 - A type code,
 - A dollar amount for total assets, and
 - A dollar amount for total deposit liabilities.
2. In addition, the following totals printed for the entire FSLIC master file:
 - A total record count to show the total number of records maintained on the master file,
 - A grand total for the assets of all insured associations, and
 - A grand total for deposit liabilities of all insured associations.
3. Finally, and most important, a statistical sample from the FSLIC master file and a printout of the individual associations constituting the sample. The printout was to contain all the information described in items 1 and 2 above but limited to the

associations included in the sample.

It required 8 man-hours to fulfill this request by the use of Auditape. Included in the 8 hours were 20 minutes of computer time which was valued at about \$15. In this instance, a savings of 86 percent was achieved in the number of hours required to perform these tasks. In addition, more information was obtained for audit purposes than was obtained by the manual procedures. There were some preliminary problems—a defective tape—that had to be overcome in the successful application of Auditape. However, since the problems encountered are not expected to occur again, it is estimated that this Auditape application will require less than 4 hours to process during future examinations.

International Division

For the first time in GAO, punched-card input has been used with the Auditape system. The use of this new audit technique with card input was incorporated into the audit of the financial statements of the Export-Import Bank for fiscal year 1968 being performed under the direction of *Samuel Kleinbart*, assistant director, and his audit manager, *Stephen Langley*. *Thomas O'Connor*, supervisory auditor-accountant assigned to the audit site, collaborated with *Joseph Boyd* and *Leonard Koczur*, Office of Policy and Special Studies, to work out the technical details for use of the Auditape.

The two accounts chosen for this audit technique were cash receipts and disbursements under the Bank's huge loan program. From prior audits, it

had been ascertained that these two accounts would probably contain about 5,000 transactions during the 10-month period selected for review. A punched card exists for each transaction. The large volume of transactions involved was a key consideration in deciding to use the Auditape.

The first question to be resolved was whether to use the Bank's original cards or to have them duplicated. Because of the outside possibility of the accidental mutilation or loss of a card, it was the mutual view of Bank officials and the GAO staff that duplication of the cards was the better alternative. The Bank readily agreed to duplicate the cards for GAO use. However, due to the particular account structure and the nature of the card files, it was deemed easier to obtain and duplicate the transactions of five other accounts (with much lesser activity) along with those of the desired accounts, as opposed to obtaining solely the desired transactions. (This merely meant that the GAO staff had a *slightly* larger number of cards, but no real problem was created, as will be noted below.) The Bank's staff duplicated 5,308 cards for GAO use in approximately one hour's machine time.

The objective of the audit step was twofold: (1) to obtain an independent footing of the transactions composing the balance in each of the two selected accounts, and (2) to print out a random sample of transactions from each account to be used for tracing the transactions to underlying records and source documents. For the random sample, the transactions in each account were stratified into two strata.

For cash receipts, all transactions over \$2 million were to be selected and, for cash disbursements, all over \$5 million. From the remaining transactions in each account, a random sample that would insure a 95 percent reliability was decided upon.

In order to utilize the Auditape, 13 machine runs were required, as follows:

1. Create from the input cards a magnetic tape, in Auditape format, containing transactions from the two accounts to be audited (this step, necessary because of the inclusion of the few additional transactions, consumed very nominal machine time).
2. Using the output tape from run (1) as input, create a tape of cash receipts transactions only and print out the total amount of transactions on the tape.
3. Using the output tape from run (2), create a tape of cash receipts over \$2 million.
4. Print out the output tape from run (3).
5. Using the output tape from run (2) as input, create a tape of cash receipts under \$2 million.
6. Using the output tape from run (3) as input, select a random sample of transactions which will insure a numerical reliability of 95 percent.
7. Print out the output tape from run (6).
8. Using the output tape from run (1) as input, create a tape of cash disbursements transactions and print out the total

- amount of transactions on the tape.
9. Using the output tape from run (8) as input, create a tape of cash disbursements over \$5 million.
 10. Print out the output tape from run (9).
 11. Using the output tape from run (8) as input, create a tape of transactions under \$5 million.
 12. Using the output tape from run (11) as input, select a random sample of transactions that will insure a numerical reliability of 95 percent.
 13. Print out the output tape from run (12).

Simple-to-use specification sheets were prepared as instructions for each of the above runs. From these sheets, the instruction data was punched into 50 cards by GAO personnel.

At this point, everything was ready for processing (which, incidentally, occurred at 6:30 a.m.) on the IBM 1401 in the GAO building. The entire processing was completed in less than 30 minutes' machine time. Output was in the form of neat-appearing printouts of cash receipts transactions and cash disbursements transactions with all pertinent data (i.e., date, posting media number, loan number, and amount), conveniently ready for verification to underlying records and source data. In addition, an independent verification of the footing of the balance in each of the two accounts had been provided.

The use of Auditape for this audit step did not alter the basic audit approach that had been used in prior year audits. Just as in previous years,

a schedule of transactions, selected on a random basis, was printed out for further audit work. The advantage of using the Auditape was the elimination of an estimated 7 man-days of (a) working out random sample formulae, (b) flipping through unwieldy daily printouts of all transactions, and (c) manually scheduling the selected transactions. In addition, by using the Auditape, a new step—the independent footing of each account balance—was provided with practically no additional effort.

San Francisco Regional Office

This office recently completed two successful applications of the Auditape system on a transportation review currently being conducted at a local Air Force installation. *Kenneth Pollock*, audit manager, and *Charles Thompson* provided the necessary technical assistance.

In the first of the two applications, the staff performing the review ascertained that the computer system produced, on magnetic tape, the data needed to satisfy its objectives although rearrangement and editing would be necessary for audit purposes. From about 14,000 shipments made during the period selected for audit, a listing of all shipments made after the required delivery date (RDD) was needed.

This matter was complicated by the fact that, while a RDD was shown by the requester in some cases, it was omitted in others. Where no RDD was entered, it had to be computed, based on established Department of Defense criteria, by taking into consideration the date the requisition was prepared

and the priority it carried. The audit staff requested two listings:

1. For shipments with a RDD, those made past that date, and
2. For shipments with a computed RDD, those made 30 or more days late and 60 or more days late.

The purpose was to calculate the timeliness of the transportation system's response and to obtain information for audit review on areas where the system was not producing desired results. After studying the situation, the Auditape staff determined the Auditape routines and sequences required to extract the information in a form readily usable by the staff and it prepared the specification cards which are used in conjunction with the installation records and the Auditape itself. Computer time was arranged for at a Federal agency having an IBM 1401 with the required characteristics.

It was necessary to first program the computer to identify and segregate those shipments showing a RDD and to prepare a magnetic tape with this information in the desired format. The computer was then instructed to subtract the RDD from the date of shipment and place the results in another field on the tape. Since the output of this calculation resulted in a positive number for shipments made after the RDD and a negative number for shipments made prior to the RDD, negative results and zero results (indicating shipment on the RDD) were next eliminated. The tape then contained only shipments made after the RDD. This information was printed

out and the first part of this application was completed.

The original source tape was again run and those shipments where no RDD had been specified were extracted. Then, based on Department of Defense criteria, a RDD was computed, subtracted from the shipment date, and the negative (and zero) results eliminated. Since, in this instance, the audit staff was interested only in shipments made 30 or more and 60 or more days after the computed RDD, it had the computer eliminate all shipments made less than 30 days after the computed RDD and print out the remaining shipments, then eliminate shipments made less than 60 days after the RDD, and finally print out those shipments. The total elapsed computer time for both parts of this application, including printouts, was about 2 hours.

The second application involved the same transportation system but a different mode of shipment. In this application, the audit staff desired a statistical sample of all air parcel post shipments made during a selected period, the sample designed so as to achieve pre-specified precision and reliability levels. Based on these requirements and one random number properly selected by the audit staff, the Auditape staff prepared the necessary specification cards and ran the operation. From a population of 9,000 shipments, the computer selected 461 for audit review and the sample was printed out in such a manner as to facilitate its use as a working paper. Upon completion of the review of the selected transactions by the audit

staff, an evaluation was made and the actual precision and reliability levels were calculated. The total elapsed computer time was about 30 minutes.

Some difficulties were encountered in the course of this work, in part attributable to the fact that the Air Force installation's computer records were not compatible with Auditape and a conversion to IBM coding was required; this created some unexpected complications. The first application was considered by Haskins & Sells personnel with whom it was discussed as quite sophisticated since it required a series of computer passes,

whereas their typical applications involved three or fewer routines.

Not only did significant savings in audit time result from the applications, but it is doubtful whether these phases of the audit would otherwise have been performed for a reasonably representative period in view of the fact that the following would have been necessary: (1) a printout of all 23,000 shipments and manual scrutiny and scheduling, or (2) extensive programming by agency personnel to produce the information which Auditape assembled and summarized with relative ease.



Photo Courtesy of GAO Watchdog

Comptroller General receives award for “Distinguished Management Achievement in Government.” The award was made by the Society for Advancement of Management at its annual Management Conference in Washington. Shown above during ceremonies are, from the left: Hon. Edmund S. Muskie, U.S. Senator from Maine; Dr. Chester L. Guthrie, President, Washington Chapter SAM; and Elmer B. Staats, Comptroller General of the United States.

Society for Advancement of Management Award

The Comptroller General, *Elmer B. Staats*, was honored on June 10, 1968, by the Washington Chapter of the Society for Advancement of Management who presented him with its 1968 management achievement award for especially significant contributions within the Washington area towards the advancement of management in the field of Government.

Other awardees were:

Business: George B. Burrus, Chairman of the Board and President, Peoples Drug Stores, Inc.

Education and Research: Dr. Lloyd W. Hazelton, President, Hazelton Laboratories, Inc.-TRW, Inc.

Management Theory: Prof. David S. Brown, George Washington Univ.

The awards were made at luncheon ceremonies at the Statler Hilton Hotel in Washington, preceded by an address by the Honorable Edmund S. Muskie, U.S. Senator from Maine, on "Creative Federalism and its Relation to the Practice of Management."

In its citation, the Society saluted Mr. Staats for his creative contributions to the national welfare, especially his

- Contributions to Government organization and coordination.
- Participation in improving the Federal career service through better personnel policies and an emphasis on training.
- Promotion of scientific programs.
- Devotion to improving national security.

The Society cited Mr. Staats for his career as a creative Federal manager and as a guardian of the Nation's resources.

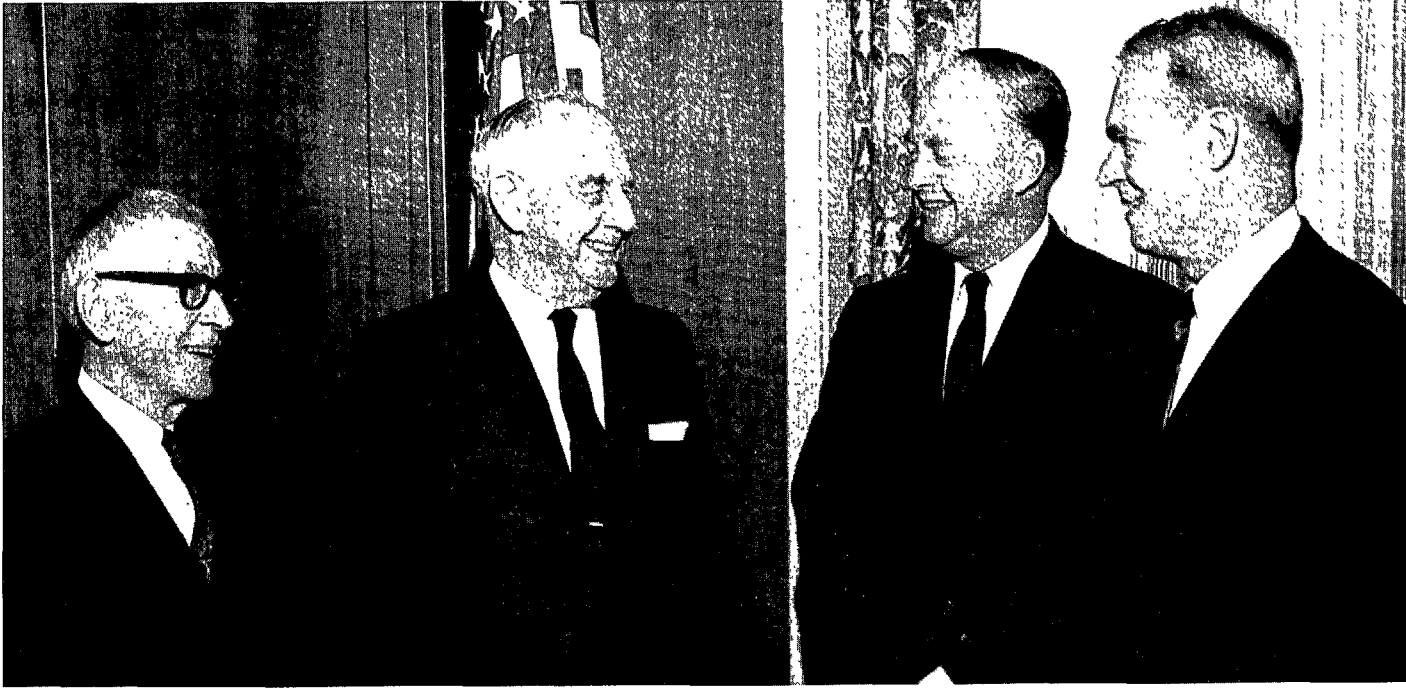


Photo Courtesy of GAO Watchdog

GAO ANNUAL HONOR AWARDS CEREMONY

From the left: T. A. Flynn, Director of Personnel and Chairman of the Incentive Awards Committee; Senator Frank Carlson of Kansas, principal speaker; Elmer B. Staats, Comptroller General; and Frank H. Weitzel, Assistant Comptroller General.

GAO Honor and Service Awards—1968

The second GAO annual honor awards ceremony was held in the GAO auditorium on June 14, 1968. The Comptroller General, *Elmer B. Staats*, and the Assistant Comptroller General, *Frank H. Weitzel*, presented the following awards:

- Comptroller General's Award
- Career Development Award
- Distinguished Service Award
- Financial Management Literature Award
- Meritorious Service Award
- Career Service Awards

The presentations were preceded by remarks delivered by *T. A. Flynn*, director of personnel and chairman of the incentive awards committee; the Comptroller General; and the Honorable Frank Carlson, U.S. Senator from Kansas.

Senator Carlson's address appears in this issue of the *Review* beginning on page 95.

Recipients of awards and related citations follow.

Comptroller General's Award

FRANK H. WEITZEL

ASSISTANT COMPTROLLER GENERAL OF
THE UNITED STATES

For an exemplary career in serving the General Accounting Office, the Congress, and the Nation.

OFFICE OF LEGISLATIVE LIAISON OF THE OFFICE OF THE GENERAL COUNSEL

**ROBERT F. KELLER
SMITH BLAIR, JR.
HAZEN S. DEAN (Posthumous)
OWEN A. KANE
L. FRED THOMPSON**

For their exceptional contributions in maintaining effective liaison with the Congress, its Committees and members and their staffs. Through their superior competence and informed counsel they have been influential in keeping the programs and objectives of the General Accounting Office responsive to Congressional needs.

Career Development Award

**BALTAS E. BIRKLE
ASSISTANT DIRECTOR
*Civil Division***

In recognition of demonstrated superior competence and performance throughout a diversified career with the General Accounting Office marked by creativity, superior initiative and significant contributions to the training and development of professional auditors.

**FRANK BORKOVIC
SUPERVISORY AUDITOR
*Defense Division***

In recognition of sustained personal efforts and dedication in de-



Photo Courtesy of GAO Watchdog

Office of Legislative Liaison of the Office of the General Counsel receives the Comptroller General's Award: From the left are, L. Fred Thompson; Owen A. Kane; Smith Blair, Jr.; Robert F. Keller, General Counsel, recipients. Making the presentation is Frank H. Weitzel, Assistant Comptroller General, while T. A. Flynn, Director of Personnel (seated), and Elmer B. Staats, Comptroller General, look on.

veloping a career in the public service that has contributed significantly to the audit effort of the Defense Division particularly in relation to Automatic Data Processing installations.

CHARLES R. COMFORT
SUPERVISORY AUDITOR—KANSAS CITY
Field Operations Division

In recognition of superior public service marked by continued personal efforts in the development of a career that has contributed significantly to the formulation and execution of audit programs and the supervision, guidance, and training of others.

FRANK C. CONAHAN
SUPERVISORY AUDITOR
International Division

In recognition of superior competence and motivation in establishing a career dedicated to achieving the goals and objectives of the General Accounting Office as demonstrated in the review of Foreign Aid Programs and other international activities.

WILLIAM N. CONRARDY
REGIONAL MANAGER—SEATTLE
Field Operations Division

In recognition of sustained personal efforts in furthering a career marked by superior public service that has contributed significantly to the development of innovative ideas, techniques, and programs in the General Accounting Office.

WILLIAM D. MARTIN, JR.
SUPERVISORY AUDITOR
Civil Division

In recognition of notable contributions to the General Accounting Office and the public service in a wide range of audit activities and in the recruitment of professional accountants during career day programs on college campuses.

WALTON H. SHELEY, JR.
REGIONAL MANAGER—DALLAS
Field Operations Division

In recognition of a career demonstrating superior public service and outstanding leadership in management, training, and staff development.

HAROLD L. STUGART
SUPERVISORY AUDITOR
Civil Division

In recognition of his outstanding dedication to a career in the Federal Service that has demonstrated superior competence in a variety of diverse assignments and in the recruitment, training, and development of a professional staff.

R. PETER TALIANCICH
SUPERVISORY AUDITOR—NEW ORLEANS
Field Operations Division

In recognition of his dedication to and enthusiasm for accomplishing the objectives of the General Accounting Office which, together with his excellent technical abilities, have resulted in a career marked by outstanding achievements.

GAO AWARDS

CHARLES F. VINCENT
ASSISTANT REGIONAL MANAGER—
SAN FRANCISCO
Field Operations Division

In recognition of outstanding contributions to the General Accounting Office in the course of a career marked by superior organizational, administrative, and supervisory ability in the development and execution of audit programs.

Distinguished Service Award

In recognition of distinguished service with the General Accounting Office, marked by sustained high quality performance and exceptional efficiency.

CHARLES M. BAILEY
DEPUTY DIRECTOR
Defense Division

PHILIP CHARAM
ASSOCIATE DIRECTOR
Civil Division

HENRY ESCHWEGE
ASSOCIATE DIRECTOR
Civil Division

J. KENNETH FASICK
ASSOCIATE DIRECTOR
Defense Division

RALPH E. RAMSEY
ASSOCIATE GENERAL COUNSEL
Office of the General Counsel

JAMES H. ROGERS, JR.
REGIONAL MANAGER, PHILADELPHIA
Field Operations Division

CHARLES H. ROMAN
DIRECTOR, FAR EAST BRANCH
International Division

FREDERIC H. SMITH
DEPUTY DIRECTOR
Office of Policy and Special Studies

GEORGE M. SULLIVAN
MANAGER
Report Department

JOHN E. THORNTON
DIRECTOR
Field Operations Division

GAO Award For Significant Contribution To Financial Management Literature

Cash awards for the best articles written by staff members and published in the *GAO Review* during the calendar year 1967, which have contributed to the knowledge and professional development of the staff:

Best article by author 31 years of age or under: "Challenges of Auditing International Defense Activities" (*GAO Review*, Summer 1967.)

ROY F. HUTCHENS
International Division

Best article by author over 31 years of age: "How Can We Audit the Computer?" (*GAO Review*, Spring 1967).

EARL M. WYSONG, JR.
Defense Division



Photo Courtesy of CAO Watchdog

Award for Significant Contribution to Financial Management Literature: Earl M. Wysong, Jr., Defense Division, second from left, and Roy F. Hutchens, International Division, second from right, receive cash awards for best article published in the *GAO Review* during 1967. Shown before the ceremony are: Frank H. Weitzel, Assistant Comptroller General; Mr. Wysong; Elmer B. Staats, Comptroller General; Mr. Hutchens; and Lawrence J. Powers, Chairman of the Selection Committee.

GAO AWARDS

Meritorious Service Award

In recognition of meritorious service with the General Accounting Office, marked by superior performance.

Office of Policy and Special Studies

Ernest C. Andersen
N. B. Cheatham
Donald J. Horan
Allen R. Voss

Office of the General Counsel

Judith Hatter
Martha J. Reynolds

Civil Division

Jacob P. Glick
Max Hirschhorn
Francis R. Matters
Frank Medico
Donald M. Mutzabaugh

Defense Division

Jerry W. Dorris
William H. MacNevin
Robert G. Rothwell

International Division

Melvin F. Bergartt
John J. McGarry
John E. Milgate

Transportation Division

J. Kenneth Brubaker
Margaret J. Johnson

Claims Division

Edith S. Mayfield

Office of Personnel

Robert L. Rissler

Office of Administrative Services

Marie T. Foley

Field Operations Division

Walter A. Choruby—Seattle
H. R. Davia—Chicago
James J. Jodon—Dallas
D. E. Johnson—Chicago
John T. Lacy—Denver
Andrew Macyko—New York
Powel P. Marshall—Falls Church
Cornelius Seago—Atlanta

*Career Service Award***50 YEARS**

WILLIAM F. SMITH
FISCAL AUDITOR
Civil Division

Entered the Federal service on September 1, 1917 in the Department of Agriculture. After service with the War Department, he transferred to the General Accounting Office on September 28, 1926. His Federal service spans fifty consecutive years, forty-one of which were spent with the General Accounting Office.

JOHN F. SWEENEY
CHIEF, WASHINGTON DEBT SECTION
Claims Division

Entered the service of the Office of the Auditor for the War Department under the Comptroller of the Treasury on October 16, 1917. He was transferred with that agency when it was merged with the newly created

General Accounting Office on July 1, 1921. In August 1931, he transferred to the Claims Division where he progressed to the position of Chief, Washington Debt Section. He is the last remaining charter member of the General Accounting Office.

GLENN W. WOLFE
TARIFF CLERK
Transportation Division

Entered the Federal service on March 1, 1918 with the Post Office in Columbus, Ohio. After service with the War, Commerce, Treasury, and Interior Departments, he was appointed to the General Accounting Office on December 14, 1928. On February 4, 1951 he was transferred to the Transportation Division where he served until his retirement on April 30, 1968. Over thirty-nine years of his Federal service was spent with the General Accounting Office.

Career Service Award—Continued

40 YEARS

Office of Administrative Services

GLEN E. GORDON

Claims Division

ARTHUR J. SCHOFER

ARTHUR R. WISE

Civil Division

JOHN A. J. JOHNSON

Office of the General Counsel

JOHN H. COFFEY

RALPH E. RAMSEY

Transportation Division

LAWRENCE D. DAY

WILBUR P. O'CONNOR

Career Service Award—Continued**30 YEARS***Employees Located in the Metropolitan Area of Washington, D.C.*

Irma E. Abrams.....	Claims Division.
John O. Asher.....	Transportation Division.
Leonard J. Boehlert.....	Defense Division.
Marion G. Brown.....	Transportation Division.
Warren A. Brown.....	Civil Division.
Lester H. Conway.....	Transportation Division.
Mary Jo Daniel.....	Claims Division.
Alexander B. Dickinson.....	Transportation Division.
Ella S. Eamich.....	Claims Division.
Jerome K. Engelberg.....	Administrative Services.
Ethel P. Entriken.....	Civil Division.
Bernice Ferrand.....	Claims Division.
Marie T. Foley.....	Administrative Services.
Borghild J. Fond.....	Transportation Division.
Lois A. Gammage.....	Transportation Division.
S. Wade Gindlesperger.....	Defense Division.
Milton Goldstein.....	Transportation Division.
James H. Hammond.....	Defense Division.
Alta J. Helman.....	Transportation Division.
S. Gordon Holderman.....	Field Operations Division.
Dionisio G. Javonillo.....	Transportation Division.
Kenneth E. Keen.....	Transportation Division.
John R. Kerr, Jr.....	Transportation Division.
Jack Lasover.....	Transportation Division.
James M. Latham.....	Defense Division.
Elaine P. MacDonald.....	Transportation Division.
Edith S. Mayfield.....	Claims Division.
Francis E. Plater.....	Transportation Division.
Charles H. Randolph.....	Transportation Division.
Edward Ring.....	Transportation Division.
Carol B. Rowzie.....	Transportation Division.
Lawrence J. Sabatino.....	International Division.
Richard J. Sample.....	Transportation Division.
Willis K. Schuler.....	General Counsel.
Gerald E. Sibley.....	Claims Division.
Paul T. Smith.....	Transportation Division.
Earl F. Weathers.....	Transportation Division.
Blanche B. Withorn.....	General Counsel.

GAO AWARDS

Career Service Award, 30 Years—Continued
Employees Located in Field Offices

FIELD OPERATIONS DIVISION

Jorge Alvarez.....	Atlanta.
Herbert C. Boerner.....	Atlanta.
James E. Caldwell.....	Philadelphia.
Harold D. Cramer.....	Seattle.
Harry L. DeLung.....	Atlanta.
Kenneth B. Hamlett.....	Norfolk.
Andrew L. Kascsak.....	New York.
Anthony L. Komac.....	Atlanta.
Eleanor M. Leamy.....	Denver.
Iona F. McCarthy.....	Denver.
Joel E. McEntire.....	Atlanta.
William L. Norton, Jr.....	Atlanta.
Luverne C. O'Brien.....	Chicago.
Ester Powell.....	Cincinnati.
Annabelle F. Renick.....	San Francisco.
Donald D. Sloane.....	San Francisco.
Ruby E. Waller.....	Cincinnati.

**Address of the Honorable Frank Carlson,
United States Senator, at the Second Honor Awards
Ceremony of the General Accounting Office
June 14, 1968**

I would like to thank my good friend Elmer Staats for the invitation to participate in your Second Annual Honor Awards Ceremony.

I almost feel a sense of pride of parenthood for this ceremony. I had the privilege of serving as Chairman of the Senate Post Office and Civil Service Committee of the 83d Congress when the Government Employees Incentive Awards Act was enacted.

I am most pleased to see well deserved recognition being granted to this distinguished group of civil servants under the provisions of that act.

The Incentive Awards Act over the years has served as the major vehicle by which employees of the Federal Government are recognized and encouraged in their continuing efforts to advance the common good by improving the efficiency and economy of our Government's operations.

In addition to congratulating the awardees for their accomplishments, I feel that I must also extend similar congratulations to Mr. Staats. As Comptroller General his leadership and encouragement have, in part, made these awards possible. Behind every achievement there must be great personal motivation and I know Mr. Staats' leadership has provided this all-important attribute.

I think that one of the greatest advances that we have made in personnel operations in the Federal Government over the past several years has been the development of an understanding that people do not perform daily labors only for the purpose of earning a living.

It may be an old and trite statement, but nevertheless, it is still true that people do not live by bread alone. We now realize that people should be given personal and public recognition for the contribution that they make through their daily work.

This ceremony serves that purpose extremely well. Your Comptroller General is to be congratulated for his efforts in revising your awards program to assure that proper recognition is given to employees for their loyalty and dedication to the Federal Career Service.

These ceremonies today should give stimulation to the entire staff of the GAO to achieve even greater individual and group accomplishment—to "stretch your capabilities" as mentioned by my fellow Jayhawk—Tom Flynn, your Director of Personnel.

This program is of special significance because it emphasizes not only your accomplishments, but also the character and dedication that you have

demonstrated through the quality of sustained personal effort. It is further evidence of the high caliber of the Federal Career Service in general, and more particularly of the General Accounting Office.

The contributions which are being recognized today are representative of the high standards of service which we in the Congress have come to expect of the staff of the GAO.

Over the years, we in the Congress have come to depend heavily on the Comptroller General and his fine staff for the help provided by:

Your audit and investigation reports;

Your legislative reports;

Your Comptroller General decisions;

The settlement work of your Claims Division;

The audits performed by your Transportation Division; and

The staff assistance provided the various Committees of the Congress.

This assistance is essential to the Congress, its members and committees, and will continue to be essential for as far ahead as I can see.

That the General Accounting Office has demonstrated an awareness and objective concern for the efficient, effective and economic operations of our Federal Government is well known. But only a member of Congress can fully understand how pleasant it is to obtain advice from

a source concerned and working only for a principle, rather than for a personal interest.

Those we are honoring today reflect accomplishments in meeting and dealing with problems handled in the past. In spite of the significant contributions and progress made by the GAO in its brief history of nearly fifty years, perhaps its important work still lies ahead.

Our society—our government—your organization—is a living force which must change with changing times. Leadership is essential to resolving the many problems of these complex and troublesome days. We must all be prepared to provide the leadership for the changes needed. Keeping pace with change is essential to survival. Leadership is essential to creating change.

Eternal vigilance has been the watchword for the GAO throughout its nearly fifty years. I cannot foresee the time when that vigilance can safely be abandoned. It is a testimony to the vigilance of the staff of the GAO that the Comptroller General's Incentive Awards Program is being held here today.

We honor those employees who because of their superior accomplishments have been selected to receive special recognition. We honor all employees of the General Accounting Office for their superior dedication to effective and efficient government.

Professional Activities

Office of the Comptroller General

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

McPherson College Politics Class, April 2.

Civil Service Commission Executive Seminar Center, Berkeley, Calif., April 5, on "The Federal Manager of the Future."

National Contract Management Association 1968 National Symposium and Educational Conference, Los Angeles, Calif., April 5, on "Toward More Effective Government Contract Administration."

The "Government in Action Series" sponsored by the George Washington University and International Business Machines Corp., April 24.

District of Columbia Institute of Certified Public Accountants, April 25, on "Improved Financial Management in the Federal Government: A Progress Report."

Fifteenth Annual Institute on Government Contracts, co-sponsored by the George Washington University and the Federal Bar Association, May 2, on "The Role of GAO in Government Procurement."

Foreign Service Senior Seminar, May 3.

Defense Industry Advisory Council, June 15.

National Association of Accountants' 49th Annual International Conference in New Orleans, June

17, on "Management Information Needs in an Era of Change."

Dallas Federal Business Association's annual Civil Servant of the Year award luncheon, Dallas, June 18, on "The Growing Importance of the Federal Career Service."

Institute of Internal Auditors' 27th Annual International Conference, Pittsburgh, June 19, on "The Growing Importance of Internal Audit in Government."

An article by Mr. Staats entitled "Auditing Logistics Management" appears in the Spring 1968 issue of *Defense Management Journal*.

Another article by Mr. Staats entitled "Improving Federal Financial Procedures" will be found in the April 1968 issue of *Tax Review*, published by Tax Foundation, Inc.

The Assistant Comptroller General, *Frank H. Weitzel*, addressed the following groups:

Fifth Financial Management Institute on March 7 sponsored by the Bureau of Employment Security and jointly conducted by the Bureau and George Washington University, Washington, D.C.

Four groups from Brookings Institution Conferences for Business Executives on Federal Government Operations on "The Role of the General Accounting Office," during April and May.

Civil Service Commission Institute in the Legislative Function, held in the Rayburn Office Build-

PROFESSIONAL ACTIVITIES

ing, March 29, on "Congress and the Executive: The General Accounting Office."

Second Institute on Executive Management for Senior Military Officers at the University of Pittsburgh, April 24, on "The Role of the Comptroller General in Defense Management."

26th Annual Meeting of the National Aerospace Services Association, Washington, D.C., on May 6 on "The Role of the Comptroller General With Respect to Government Management."

Civil Service Commission Legislative Operations Roundtable for Executives held at the Rayburn Office Building on May 23 on "Congressional Operations: The Role of the General Accounting Office."

Eleventh Annual Symposium, Philadelphia Chapter, Federal Government Accountants Association, on "Responsibilities Under Public Law 87-653," May 24.

Annual Conference of the Municipal Finance Officers Association of the United States and Canada on "State and Local Accounting for Federally Sponsored Programs," New Orleans, La., on June 3.

Mr. Weitzel attended, as Chairman of the 1968 Awards Committee of the William A. Jump Memorial Foundation, the annual awards ceremony held at the Department of Agriculture on May 14.

Office of the General Counsel

Robert F. Keller, general counsel:

Participated in the program of the American Bar Association National Institute on the Law of Pub-

lic Contracts, at the Mayflower Hotel, Washington, D.C., April 6. A mock trial before the Armed Services Board of Contract Appeals was held on the Appeal of Per-Plexed Electronics, Inc., ASBCA No. 15198.

Addressed Navy Attorneys Seminar, April 25, on "GAO Jurisdiction to Review Disputes Clause Decisions."

Participated in 15th Annual Institute on Government Contracts, May 3, sponsored by George Washington University and Federal Bar Association on "Contracts for Services."

J. Edward Welch, deputy general counsel:

Addressed a GSA class in Government procurement. Atlanta, Ga., April 22, on "Role of GAO in the Procurement Field. Mistakes in Bids, Protests—Before and After Award," and on April 23 on "Administrative Handling of Contract Appeals." Similar sessions were conducted in Washington, D.C., on May 13 and 14.

Spoke before procurement law course, Charlottesville, Va., June 3, on "GAO's Role in Government Contracting."

Owen A. Kane, legislative attorney, spoke before Armed Forces Industrial College, on April 23, on "GAO Relationship with the Congress as it Affects DOD."

Stephen P. Haycock, assistant general counsel:

Spoke before 1968 National Symposium and Educational Conference of the National Contract Management Association, Los Angeles.

Calif., April 5, on "Bidding for Prime Contracts" and April 6, on "Hewlett-Packard."

Spoke before Contract Management Institute in Washington, D.C., April 10, on "Highlights of New ASPR, New ASBCA Decisions on Public Law 87-653, Current Problems and Hewlett-Packard."

Spoke before Defense Advanced Procurement Management Course, Fort Lee, Va., on "Problems in Formal Advertising," on May 9 and June 6.

Melvin E. Miller, assistant general counsel, spoke on April 30, before the Defense Procurement Management Course, Fort Lee, Va., on "The Role of GAO in Defense Procurement."

Paul Shnitzer, deputy assistant general counsel:

Spoke April 11 before Defense Advanced Procurement Management Course, Fort Lee, Va., on "Problems in Formal Advertising."

Lectured at Department of Agriculture School, May 15, on "Functions of the General Accounting Office."

Spoke on May 21 at conference sponsored by FBA-BNA at Washington Hilton Hotel, Washington, D.C., on "Proprietary Data."

Office of Policy and Special Studies

E. H. Morse, Jr., director, discussed GAO aids to improved Federal management at the meeting of the Hartford Chapter of the Federal Government Accountants Association in Hartford, Conn., on May 14.

Mr. Morse also addressed the 17th annual national symposium of the

Federal Government Accountants Association in Denver, Colo., June 20, on the subject of "A New Look at Accountants' Contributions to Management."

Frederic H. Smith, deputy director, was honored on June 25 by the Missouri Society of CPAs who presented him with its distinguished service award at its annual meeting held in St. Louis, Mo.

Robert L. Rasor, associate director, attended the Conference for Federal Executives on Business Operations, held by the Brookings Institution in Milwaukee and Minneapolis-St. Paul, May 19-24.

Keith E. Marvin, associate director for systems analysis, participated in the following events:

A panel discussion on systems analysis, sponsored by the Washington Chapter of the Federal Government Accountants Association, April 18.

A lecture session of the course in systematic analysis at the Massachusetts Institute of Technology on May 7. Mr. Marvin spoke on the activities of GAO and the interest of the Congress in PPB and systems analysis.

A management seminar at the Small Business Administration on May 27, speaking on GAO analytical activities relating to PPB.

Susumu Uyeda, assistant director, participated in a panel discussion on internal auditing at the May 16 meeting of the Washington Chapter of the FGAA.

Mr. Uyeda received his Masters degree in Public Administration from

PROFESSIONAL ACTIVITIES

American University in Washington, D.C., on June 9.

William L. Campfield, assistant director, has been nominated to be one of the nine members of the Professional Advisory Board to the Department of Accounting, College of Commerce and Business Administration, of the University of Illinois.

An article by Mr. Campfield entitled "Planning the Indoctrination and Development of the Neophyte—Anodyne for Honeyfugling" appears in the June 1968 issue of *The Journal of Accountancy*.

Mr. Campfield's article on "Trends in Auditing Management Plans and Operations" which was originally published in the July 1967 issue of *The Journal of Accountancy* was selected by the Journal for reprinting in its 1968 edition of "Selected Studies in Modern Accounting."

Leo Herbert, deputy director for staff development, addressed the following groups in recent months:

Fiftieth anniversary of the School of Business Administration of the University of Washington on "Future Directions of the Accounting Profession," November 10, 1967.

Management Services Conference, Florida State University, on "Training for Reviews of Management Performance," December 1, 1967.

The faculty of the University of Illinois—Chicago Circle, February 20, 1968.

University of Iowa's 23rd Annual Careers Conference, Collegiate Chamber of Commerce, College of Business Administration, February 21.

The Beta Alpha Psi, Brigham Young University, March 12.

Annual Accounting Banquet, Ferris State College, Big Rapids, Mich., on April 25.

Joint Meeting of the Northern Virginia and Silver Spring Chapter of FGAA, Silver Spring, Md., on "Professional Development," June 11.

Mr. Herbert also attended the Advanced Study Program, Conferences for Federal Management and Program Executives—Brookings Institution, Williamsburg, Va., January 21–February 2.

Civil Division

The following attended the Annual International Conference of the National Association of Accountants June 16–19 in New Orleans, La.:

Adolph T. Samuelson, director

Max A. Neuwirth, assistant director

Jack L. Mertz, special assistant to the director

Donald M. Mutzabaugh, assistant to the director

William D. Martin, Jr., supervisory auditor

Max Neuwirth was appointed Director of Manuscripts for the Washington, D.C., Chapter, National Association of Accountants, effective June 1, 1968.

Donald Pullen, assistant director, spoke before the Student Accounting Association at Duquesne University on May 15.

Donald Mutzabaugh, assistant to the director, was appointed as the Director of Membership Attendance for the Washington, D.C., Chapter of the

National Association of Accountants for 1968 and 1969.

Richard W. Kelley, assistant director, attended the National Institute of Urban Affairs seminar entitled "A Conversation with the Urban Negro Community," given on May 15 and 16.

Thomas R. Colan, supervisory auditor, attended the National Conference on the Effective Utilization by Industry of the Hard Core Unemployed given by the New York State Bureau of Psychology on May 2.

Richard T. Sampson, management analyst, attended the annual meeting of the Society for Personnel Administration in Washington, D.C., on June 6 and 7.

Defense Division

William A. Newman, Jr., director, addressed the Cleveland Chapter of the Federal Government Accountants Association on "Current Trends in GAO Auditing," on March 20.

Daniel Borth, associate director, conducted his annual classes on commercial accounting principles and standards and business finance at the Banking School of the South, Baton Rouge, La., during the period of June 3 through June 6.

James H. Hammond, associate director, addressed the St. Paul Chapter of the National Contract Management Association on the "Dynamic Changes in GAO Review of Defense Procurement Contracting," May 7.

Jerome H. Stolarow, assistant director, on March 21, spoke at a luncheon meeting of members of the staff of the Assistant Secretary of Defense (Installations and Logistics), on a

recent review by GAO of Army Supply Management in Vietnam.

On June 14 Mr. Stolarow addressed the Army supply management class at the Army Logistics Management Center, Fort Lee, Va. His talk covered recent reviews performed by the General Accounting Office in the area of Army logistics.

William F. Coogan, assistant director, completed a 10-months resident school course at the Industrial College of the Armed Forces, Fort McNair, Washington, D.C., on June 11. The course dealt with management generally and the problems of managing national security in particular.

S. S. Podnos, assistant director, Research and Development Staff, was appointed Chairman, Budget and Fiscal Committee, District of Columbia Society of Professional Engineers, effective July 1, 1968.

Marvin Sacks, supervisory auditor, Support Services Staff, was awarded a Master of Business Administration degree by Temple University on June 14, 1968.

International Division

Oye V. Stovall, director, met on June 10 with a group of senior business executives attending an Advanced Study Program sponsored by The Brookings Institution. Mr. Stovall discussed the role of the General Accounting Office.

James A. Duff, assistant director, lectures each month on GAO audit activities at the Military Assistance Institute.

Clifford I. Gould, assistant director, Far East Branch, has been reelected to the board of directors of the Hono-

PROFESSIONAL ACTIVITIES

lulu Chapter of FGAA for fiscal year 1969.

Field Operations Division

Zane Geier, supervisory auditor, Atlanta, has been elected to serve as president of the Atlanta Chapter of FGAA for fiscal year 1969.

Howard G. Cohen and *Gustave A. Johanson*, supervisory auditors. Boston, have been elected first vice president and director, respectively, of the Hartford Chapter of FGAA for fiscal year 1969. In April 1968, Mr. Cohen discussed "The Role of the General Accounting Office" with a six-member group of Pakistani government officials studying under an Agency for International Development program conducted by the Institute of Public Service, University of Connecticut.

Edward C. Messinger, supervisory auditor, Chicago, participated in an accounting program seminar sponsored by Wisconsin State University, Whitewater, Wis., on May 9.

D. J. Heller, supervisory auditor, Cincinnati, has been appointed as the FGAA-Dayton Chapter representative to the Area Response Council of the Dayton Area Chamber of Commerce. The purpose of the Council is to develop a bridge of understanding between the public and the Government.

Walton H. Sheley, Jr., regional manager, Dallas, and *Ernest R. Frosch* and *Ronald D. Kelso*, supervisory auditors, have been elected to serve as vice president, director, and treasurer, respectively, of the Dallas Chapter of FGAA for fiscal 1969.

W. Leighton Waters, supervisory auditor of the San Antonio office, has

been elected treasurer of the San Antonio Chapter of FGAA for fiscal year 1969.

Stewart D. McElyea, regional manager, Denver, spoke at an Alpha Kappa Psi meeting on March 5 at Idaho State University, and at a Beta Alpha Psi meeting on March 14 at the University of Omaha. His subject was "Management Audits of the General Accounting Office."

The Colorado Society of CPAs has recently appointed several of the Denver staff to serve on committees—*Stewart McElyea* as chairman of the general meetings committee, *Herman Velasquez*, supervisory auditor, as a member of the committee on members in industry and government, *Duane Lounsberry*, supervisory auditor, as a member of the technical meetings committee, *James Neely*, supervisory auditor, as a member of the staff accountants committee, and *Walter Moon*, supervisory auditor, as a member of the membership committee. Mr. McElyea has been elected first vice president of the Denver Chapter, FGAA, for fiscal year 1969.

Charles H. Moore, regional manager, Detroit, addressed the 1968 Annual Accounting Clinic of the Alpha Tau Gamma Honorary Accounting Fraternity, Youngstown State University, on April 17. The subject of his address was "New Tools of Management—The Challenge to the Accounting Profession." Mr. Moore's address appears in this issue of the *Review* beginning on page 30.

Curtiss G. Lovelace, supervisory auditor, Detroit, was reelected treasurer and *Robert J. Piscopink*, *Russell*

H. Pauling, and *Richard H. Murray*, supervisory auditors, Detroit, were elected directors of the Detroit Chapter, FGAA, for fiscal year 1969.

John H. Gellner, supervisory auditor, Cleveland, was elected director of the Cleveland Chapter, FGAA, for fiscal year 1969.

Robert O. Gray, supervisory auditor, Detroit, spoke on career opportunities in Government during the Accounting Careers Council Seminar held in Detroit on May 11. The seminar was sponsored by various professional accounting groups.

Kenneth L. Weary, Jr., regional manager, Kansas City, participated in the annual Professor-for-a-Day program on April 23, 1968, at the University of Missouri where he spoke to the government accounting class. Mr. Weary also recently addressed accounting clubs at the University of Kansas and Southwest Missouri State College and the government accounting class at Central Missouri State College.

Robert Van Maren, supervisory auditor, has been elected director of the Kansas City Chapter of FGAA for fiscal year 1969.

Richard J. Gannon and *Ronald A. Bononi*, supervisory auditors, Los Angeles, attended the National Contract Management Association's Symposium and Educational Conference in April 1968. See notes of this conference beginning on page 60.

Garry W. Martin, auditor, Los Angeles, spoke on "Differences in Government and CPA Auditing" before the California State College accounting society at Fullerton in

March 1968. Mr. Martin and *Richard Herrera*, auditor, participated in "Career Days" activities at California State College at Los Angeles in April 1968.

Harlan Hively, auditor, Los Angeles, participated in a career opportunities panel discussion sponsored by the Orange County Chapter of NAA. This activity was attended by about 30 students from various local colleges.

Victor Ell, supervisory auditor, Los Angeles, addressed the Accounting Club of California State Polytechnic College in April 1968. His topic was "Management versus Financial Audits."

Sidney F. Hecker, supervisory auditor, New Orleans, spoke at the May 23 meeting of the New Orleans Chapter, FGAA. His topic was "Need for the Continuing Educational Development of the Experienced Accountant."

Walter H. Henson, regional manager, and *Homer D. Eaton*, supervisory auditor, were recently elected directors and *R. Peter Taliancich*, supervisory auditor, was elected secretary of the New Orleans Chapter, FGAA, for fiscal year 1969.

Robert Drakert, regional manager, New York, addressed a dinner meeting of the Syracuse Chapter of FGAA on May 9. Mr. Drakert spoke on the need for cooperation among contractors, agencies, and GAO before representatives of defense and space contractors and of agencies.

George J. Anthony and *James Windschitl*, supervisory auditors, Norfolk, were elected director of pro-

PROFESSIONAL ACTIVITIES

grams and associate director of meetings, respectively, of the Hampton Roads Chapter of NAA for fiscal year 1969.

James H. Rogers, regional manager, Philadelphia, recently addressed at Rider College the incoming freshmen who were considering majoring in accounting and their parents on the subject "Future Opportunities for Accounting Majors in Finance, Business, and Government."

Louis W. Mangene, supervisory auditor, Philadelphia, on March 27, addressed students at the La Salle College Evening Division Accounting Forum on the subject "Opportunities in Accounting in the Federal Government."

Charles Vincent, assistant regional manager, and *Ken Pollock*, supervisory auditor, San Francisco, have been elected director and president, respectively, of the San Francisco Chapter of FGAA for fiscal year 1969.

Mr. Vincent addressed a May session of the Civil Service Commission Executive Seminar Center in Berkeley on the role of GAO as a central control agency.

Mr. Pollock spoke on continuing developments in accounting and auditing at the 1968 Symposium at the California State College, Hayward. He also addressed a June meeting organized by the Federal Executive Board on the President's Program of Improved Services to the Public.

Jack Merritt and *Don Cluff*, supervisory auditors, have been elected directors of the Sacramento Chapter of FGAA for fiscal year 1969.

Mary Noble, auditor, has been

elected director of the San Francisco Chapter of the American Society of Women Accountants for fiscal year 1969.

Felix Brunner, supervisory auditor, attended the National Contract Management Association annual meeting held in Los Angeles, April 5 and 6.

Harold J. D'Ambrogia, supervisory auditor, is attending the 1968 Stanford University Executive Program.

Kenneth W. Edmonson, supervisory auditor, Seattle, has been elected director of the Seattle Chapter of FGAA for fiscal year 1969.

Leo H. Kenyon, supervisory auditor, has been elected president and *Robert A. Higgins* and *John R. Dial*, supervisory auditors, have been elected directors of the Portland Chapter of FGAA for fiscal year 1969.

D. L. Scantlebury, regional manager, Washington, participated in a panel discussion at the Accounting Club, Georgetown University, on April 30 on accounting opportunities in government, public accounting, and private accounting.

Transportation Division

T. E. Sullivan, director, and *T. C. McNeill*, assistant to the director, spoke at the 73rd annual meeting of the Accounting Division, Association of American Railroads on June 10-12 in Chicago, Ill. They discussed significant problems of mutual concern, including several controversial rate issues, simplification of Government small shipment procedures, and the interagency study of the feasibility of central payment for civil agency transportation bills.

J. P. Normile, deputy director, and

PROFESSIONAL ACTIVITIES

J. M. Loxton, assistant to the director, attended the Fifth National Conference on Systems of the Ohio Chapter of the Transportation Research Forum at Dearborn, Mich., May 7, 1968.

Mr. Loxton presented a paper to the conference on GAO's computerized system for determining rates and charges on household goods shipments.

New Staff Members

The following professional staff members joined the accounting and auditing divisions and reported for work during the period March 16, 1968, through June 15, 1968.

Civil Division

Betts, Michael C.	Bridgewater College
Chuday, Eugene J., Jr.	Moravian College
Donaghy, James F.	Manhattan College
Dugan, John A.	St. Francis College
Dutt, Robert L.	Moravian College
Frulla, William E.	Christian Brothers College
Gehley, Dennis M.	University of Virginia
Kern, John H.	Moravian College
Klosterman, Daniel E., Jr.	Baltimore College of Commerce
Korinchak, Robert A.	Indiana University of Pennsylvania
Kreer, David W.	Belmont Abbey College
Lane, Carl E.	Virginia Polytechnic Institute
McCoy, Larry R.	St. Vincent College
McCreery, Charles R.	St. Vincent College
Matsek, Clare M. (Miss)	St. Francis College
Mezger, Charles S.	University of Maryland
Murray, Paul A.	St. Francis College
Myers, Donald L.	Shepherd College
Myslewicz, Carl J.	University of Scranton
Outerbridge, Robert D.	American University
Parizzi, Ernest P., Jr.	Salem College
Phillips, Harold J.	Belmont Abbey College
Pittman, Ronald A.	Shippensburg State College
Psaros, Perry	West Virginia University
Ragan, Rodney E.	Wheeling College
Royster, Carroll L.	Belmont Abbey College
Steininger, Henry J.	Gannon College
Sullivan, Mark W.	King's College
Thorpe, Norman T.	Southeastern University
Ungar, Bernard L.	Ohio University
Upchurch, Tony C.	Peat, Marwick, Mitchell & Co.
Wesolosky, John D.	St. Francis College
Yakaitis, John D.	King's College

NEW STAFF MEMBERS

***Defense
Division***

Bowling, William J.
Gush, William V.
Habib, Joseph A., Jr.
Jones, Robert M.
Siemering, Edward A.

Wasson, Gary R.

Christian Brothers College
King's College
Transport Associates Limited
University of Missouri
Department of Health, Educa-
tion, and Welfare
Peat, Marwick, Mitchell &
Co.

***International
Division***

Kleman, Richard D.

Department of State

***Office of Policy
and Special
Studies***

Shimkus, Charles R.

Department of the Treasury

***REGIONAL
OFFICES***

Atlanta

Anderson, Donald G.
Franklin, David L.
Nichols, Joseph A.
Phillips, Don W.
Turner, William D.
Webster, Gary V.
White, Joyce L.
Wilcoxson, Marvin W.

Stetson University
Belmont College
Xerox Corporation
Troy State College
University of South Carolina
Carson-Newman College
Carson-Newman College
Florence State College

Boston

Brown, Gary N.

Cavallero, Gene R.
Lobo, Martin F.

Perry, Thomas R.

Varney, Philip R.
Wales, Steven J.

Yazmer, Robert I.

Babson Institute of Business
Administration
Bentley College
New Hampshire College of Ac-
counting and Commerce
Southeastern Massachusetts
Technological Institute
University of Maine
Babson Institute of Business
Administration
New Hampshire College of Ac-
counting and Commerce

Chicago

Venezia, Thomas D.

University of Illinois

Cincinnati

Henry, Linda K. (Miss)
Knust, Robert L.
Michael, Ronald P.
Naas, Frederick J.
Trapp, Norbert E.
Woodson, Ronald P.

Murray State College
Bellarmine College
Villa Madonna College
Murray State College
Xavier University
Berea College

NEW STAFF MEMBERS

Dallas

Allums, Preston W.	Stephen F. Austin State College
Anderson, Paul M.	Stephen F. Austin State College
Hamilton, James R.	Texas A & M University
Hargrove, James R.	University of Oklahoma
Jones, Bob J.	Western New Mexico University
Jones, Reid H.	West Texas State University
Kucholtz, Jon E.	Texas Technological College
Palmer, Jimmy, Jr.	Northeastern State College
Patterson, Robert M.	West Texas State University
Raple, Joseph M.	Kansas State College

Detroit

Anderson, Robert E.	Lawrence Institute of Technology
Ellis, Donald R., Jr.	Central Michigan University
Sell, David R.	Youngstown State University

Kansas City

Angel, Donna S. (Resigned)	Northeastern State College
Brader, Donald D.	Northwest Missouri State College
Halford, Larry M.	Oklahoma City University
Halliburton, Margaret A. (Miss)	Central Missouri State College
Johnson, Ronald R.	Phillips University
Priest, Jerry K.	Oklahoma College of Liberal Arts
Schmidt, Sharon F. (Miss)	Kansas State Teachers College
Schultz, John R.	University of Kansas
Simon, Michael J.	Northwest Missouri State College
Tillotson, Terry G.	Northwest Missouri State College
Traynor, Edward J.	Phillips University

Los Angeles

Dinwiddie, James F.	California State College at Fullerton
Grubel, Anna L. (Miss)	University of Redlands

New Orleans

Autry, Robert K., Jr.	Delta State College
Borel, Harold H.	University of Southwestern Louisiana
Gannuch, Donald F.	Loyola University

New York

Fusco, Claude E., Jr.	St. Francis College
March, Mary R. (Mrs.)	Western Reserve University
Perry, Oscar	Bloomfield College
Roemer, Garry	City College of New York
Taylor, Robert C.	University of Kentucky

NEW STAFF MEMBERS

Norfolk	Sterling, James E.	Frederick College
Philadelphia	Boccelli, John M. Knoepfle, Martin G. Mancini, Albert P., Jr. Sakelaridos, Joseph G.	La Salle College Penn Morton College Villanova University University of Scranton
San Francisco	Bonde, Wayne C. Cosman, Jack Moffatt, Michael D. Morical, Joseph S. Sibley, Gary B. Squires, Peter D.	University of California at Los Angeles Stanislaus State College Portland State College Golden Gate College Sacramento State College University of California at Berkeley
Seattle	Austen, Norman G. Gardner, Clifford L. Rausch, Frank E.	University of Portland University of Washington University of Portland
Washington (Falls Church)	Franklin, Howard W. Heatwole, Mark E. Huston, Willie C. Sonnino, Daniel F.	Benjamin Franklin University Madison College Morris Harvey College George Washington 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.

The Analytical Engine: Computers—Past, Present, and Future

By Jeremy Bernstein: Random House. 1964, 113 pp., \$2.95.

Although published several years ago, this slight volume should be of interest to the computer buff who wants to add to his library and to his store of knowledge.

When was the earliest application of Operations Research? How new, or old, is this management tool? Proponents and opponents of this method and its probable offspring, cost-benefit analyses and planning, programming, budgeting systems, have difficulty saying. But would you believe the early 1800's? The author of the "Analytical Engine" tells how Charles Babbage, an English mathematician born in 1792, devised a method of analysis, later to be known as Operational Research, and applied it to an analysis of the pinmaking industry. Babbage also did operational research on the economics of the British Post Office. He showed that the cost of collecting, "stamping" and delivering a letter was far greater than transporting it. His research and his recommendations for a flat rate of charges independent of the distance the letter had to be carried, sup-

ported the introduction of the penny post.

Bernstein also tells how in developing his engine Babbage adapted a punch card method that the French inventor Jacquard used for weaving patterns in rugs. The pattern of punches was used to determine which threads would be woven into the rug pattern at each pass of the shuttle, and the whole process was based on whether certain rods in the loom did or did not encounter punches in the cards. Bernstein tells us that one of Babbage's most prized possessions was a woven portrait of Jacquard which had required the use of 24,000 cards.

Babbage conceived his new device, the analytical engine, in 1833 and while it occupied him for the rest of his life he never succeeded in building it. However, it is recognized that he had anticipated many of the principles of the modern computer. Female members of our staff probably won't be surprised to learn that a woman, the poet Byron's daughter, Lady Lovelace, who had a great aptitude for mathematics, wrote the best account of the technical aspects of the engine. It was observed that when, as a child, she was taken with a group of friends to see one of Babbage's en-

gines, "while the rest of the party gazed at this beautiful instrument with the same sort of expression and feeling that some savages are said to have shown on first seeing a looking glass or hearing a gun, Lady Lovelace, young as she was, understood its working and saw the great beauty of the engine." Today, on our city streets, people (mostly males) may be observed, noses pressed against the plate glass windows of computer-sharing centers, and exhibiting equal awe and disbelief.

This little book gives a fascinating early history of the computer and of the development of machine language. Also, it makes interesting comparisons between computer characteristics and some characteristics of the human brain. It contains a bibliography of books and articles related to computers and to their developers interested in the subject. The "Analytical Engine" is a concise account of the past, present and future of the computer. It was written by an associate professor of physics who was the first physicist on the staff of the *New Yorker* magazine, where much of the book was originally published. It was a delight to discover and to read and now to call to others' attention.

Robert Drakert,
REGIONAL MANAGER,
NEW YORK.

Defense Management

Edited by Stephen Enke; Prentice-Hall, Inc., 1967, 385 pp., \$12.95.

An important accounting innovation has accompanied the advent of present instruments of defense man-

agement. That is the ability to "cost" a weapon system. By collecting the many types of costs incurred in developing, acquiring, and operating rival weapon systems, the cost part of cost-benefit analysis becomes more feasible.

This book is an assemblage of distillations from experience of eminent analysts, aptly expressed on several aspects of cost-benefit analysis and of all that entails in the current philosophy and procedures of defense management. The first five chapters describe the basic concepts and main instruments of management as introduced in 1961 and since.

With the frame of reference established, Parts II and III present a variety of chapters by acknowledged experts in their fields. A broad sweep of subjects are treated in a variety of manners ranging from ordinary prose to thorough mathematical treatment.

The applications of cost-effectiveness to manpower, land, maintenance, airlift and sealift, spares and incentive contracts are so diversified as to give the reader several views of a concept which has inspired great controversy.

There are many conflicting views among the initiated as well as between the fraternity and its detractors. For example, there are those who believe that the array and character of future contingencies can be specified in advance, and that *detailed advance* planning can be done to deal with whichever one does occur. At the opposite pole stand those who believe that future developments will have a large element of the unforeseen, that contingencies cannot be specified pre-

READINGS OF INTEREST

cisely in advance and that *whatever planning one does must be done so that it may be adapted to the contingent and the unforeseen.*

Problems unique to the defense establishment are treated with clarity and candor. The rationale for industrial funds and revolving funds is impartially reviewed in the light of their actual contribution to efficiency in resource use.

To place an overall evaluation on

the book, it is highly significant to our work in both defense and civil affairs, and GAO staff members will find it useful to go back to it time and again for perspective on knotty problems.

Guy A. Best,
ASSISTANT DIRECTOR,
DEFENSE DIVISION.

NOTE.—Copies of this book are available in regional office libraries as well as in the GAO library in Washington.

ANNUAL AWARDS FOR ARTICLES PUBLISHED IN THE GAO REVIEW

The Comptroller General has approved the making of two \$250 cash awards for each calendar year for the best articles written by GAO staff members and published in the *GAO Review*. These awards will be presented during the awards program of the General Accounting Office held annually in June.

One award will be available to contributing staff members who are 31 years of age or under at the date of publication. The other award will be available to staff members who are over 31 years of age at that date.

Members of the staff in grade GS-16 or above are ineligible for these awards.

The awards will be made based on recommendations of a panel of judges

selected by the Comptroller General. The judges will evaluate the articles published from the standpoint of the excellence of their overall contribution to the knowledge and professional development of the GAO staff, with particular concern with such factors as:

Originality of concepts.

Quality of expression and organization of thoughts.

Evidence of individual research performed.

Pertinence to GAO operations and performance.

This award will be known as the GAO Award for Significant Contribution to Financial Management Literature.

STATEMENT OF EDITORIAL POLICIES

1. This publication is prepared for use by the professional staff members of the General Accounting Office.
2. Except where otherwise indicated, the articles and other submissions generally express the views of the authors, and they do not necessarily reflect an official position of the General Accounting Office.
3. Articles, technical memoranda, and other information may be submitted for publication by any professional staff member. Submissions may be made directly to liaison staff members who are responsible for representing their offices in obtaining and screening contributions to this publication.
4. Articles submitted for publication should be typed (doubled-spaced) and range in length between 5 and 14 pages. The subject matter of articles appropriate for publication is not restricted but should be determined on the basis of presumed interest to GAO professional staff members. Articles may be submitted on subjects that are highly technical in nature or on subjects of a more general nature.

THE GAO REVIEW

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Office of Policy and Special Studies.....	<i>E. H. Morse, Jr.,</i> Coordinator
Civil Division.....	<i>Jack L. Mertz</i>
Defense Division.....	<i>Ralph M. Kee</i>
International Division.....	<i>Clarence E. Seigler</i>
European Branch.....	<i>Richard W. Gutmann</i>
Far East Branch.....	<i>Clifford I. Gould</i>
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Los Angeles.....	<i>Eugene T. Cooper, Jr.</i>
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New York.....	<i>Kenneth Driscoll</i>
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