

THE GENERAL ACCOUNTING OFFICE AND THE NUCLEAR WASTE ISSUE

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ABSTRACT

People may wonder what the General Accounting Office (GAO) is and what "accountants" have to do with subjects like nuclear waste management and disposal. GAO can be many things to different groups. For federal agencies like the Department of Energy (DOE), GAO can be an oversight agency, an investigative agency, and the source of accounting and financial management standards. For the Congress, the agency can be all of these things plus a policy analysis and research office and a source of information on a multitude of issues and federal programs. For contractors, GAO can be a forum for adjudicating disputes about procurements. And for the public, GAO is a watchdog over the taxpayers' money and an educator on important public policy issues.

This paper discusses the history of GAO, its mission, and how it organizes and carries out its work around various issues, such as energy. It concludes with a discussion of GAO' work on one important energy issue--nuclear waste management and disposal.

THE GENERAL ACCOUNTING OFFICE'S MISSION

GAO was born out of the Budgeting and Accounting Act of 1921, but its antecedents are as old as the Republic. The 1921 act transferred certain functions of the Treasury Department, functions that go back to the creation of that agency in 1789, to GAO--a new, independent agency in the legislative branch of the federal government. The Congress gave GAO broad authority and responsibility to audit federal agencies and to report directly to the Congress on all matters relating to the use of public money.

Originally, GAO largely functioned as an accounting and auditing agency, examining all vouchers for federal expenditures for accuracy and propriety. As the needs of Congress changed, however, the types of audits that GAO performed expanded to include reviews of agency management practices, analyses of the effectiveness of government programs, and analyses of policy issues. These changes in GAO's mission and functions were formally set forth in the Budget and Accounting Act of 1950 which required agencies to do their own voucher auditing and accounting and GAO to prescribe accounting principles, audit agencies' financial management procedures and controls, and review the propriety of certain agency activities, such as contract award practices.

In the wake of the new "War on Poverty" programs of the 1960s, GAO broadened the types of audits it conducted to include program evaluations. These audits were designed to answer the question "Does this government program achieve its intended results?" instead of simply determining if federal agencies were efficiently spending program funds. It was also in this period that GAO began devoting significant resources to energy--primarily nuclear energy--issues.

GAO's basic mission is to support the Congress in its supervision of the operations of the executive branch of government, primarily through reviews of federal programs and activities. Because the Congress is a political body representing a wide spectrum of views on national issues,

GAO cannot hope to satisfactorily carry out this mission unless it is viewed as independent of the Administration and political parties and objective in its approach to evaluating federal programs and activities. The principal mechanisms for ensuring the agency's independence and objectivity are the process used to select its two top officials--the Comptroller General and the Deputy Comptroller General--and the tenure of these officials. They are appointed by the President subject to Senate confirmation, their terms of office run to 15 years, they cannot be reappointed, and they are subject to removal only by joint resolution of the Congress for specified causes or by impeachment.

Because of its fundamental responsibility to support the Congress, GAO emphasizes assignments that will help the Congress in its oversight responsibilities and policy deliberations, address issues of national importance, and improve programs. To do this, GAO tries to focus its resources on assignments having the potential to achieve at least one, and preferably more than one, of the following objectives:

- Contribute to congressional decisionmaking on significant public policy issues;
- Fulfill statutory and legislative requirements and commitments.
- Identify and eliminate serious mismanagement, fraud, or abuse.
- Realize large dollar savings to the government and taxpayers.
- Change policies, procedures, and management structure of major government programs to better achieve desired program results or achieve objectives at lower cost.
- See that major government programs comply with applicable laws and regulations and that funds are spent legally.
- Ensure that funds of major government programs are accounted for accurately.

GAO organizes its work around issues of national importance, such as agriculture, national defense, and energy. For each issue, GAO develops multi-year plans that provide direction to the work and form the basis for allocating staff resources. Inputs to the planning process come from committees and members of the Congress, outside experts, and GAO staff. Some studies are developed in consultation with congressional staff as part of the planning process, while others are included by specific request of congressional committees or members. Still other work is performed because of specific legislative requirements. For example, the Nuclear Waste Policy Act of 1982 requires GAO to annually audit and report on DOE's civilian nuclear waste management program.

GAO reviews are typically of three types:

- Improving financial management. Objectives include review of an agency's stewardship over appropriated funds, such as ensuring that the funds are spent prudently and as intended by the Congress, with appropriate accounting for expenditures.
- Making federal operations more economical and efficient. Objectives include, among others, how wasteful and inefficient uses of federal funds can be eliminated.
- Improving achievement of intended program results. Objectives include making programs more effective in achieving results intended by the Congress, often by changes in policy or management, and advising and assisting the Congress as it considers critically important issues.

In fiscal year 1990, GAO issued over 900 reports to the Congress, its committees, and individual members and about 50 reports to federal agency officials. This body of work contributed to legislative and executive actions resulting in over \$15 billion in measurable financial benefits to the government. GAO accomplished this with a staff of about 5,100 people and a budget of \$365 million.

About half of GAO's staff is located in Washington, D.C., with the remainder in 14 regional offices in the continental United States and in overseas offices in Frankfurt, Germany, and Honolulu, Hawaii. Until about the mid-1960s, GAO's audit staff were almost exclusively accountants by training and experience. At that time, however, GAO began broadening the disciplines represented on its staff. Today, the agency's staff also includes public administration specialists, policy analysts, economists, statisticians, and even scientists and engineers. Also, GAO has always had a significant number of attorneys on its rolls to assist the line auditing staff and perform legal functions assigned to the agency. In 1990, for example, GAO issued over 3,500 legal decisions on matters such as protests on federal agencies' procurement actions.

GAO IS ACTIVE IN ENERGY ISSUES

GAO has had a significant presence in energy issues, especially nuclear energy, for many years. In the 1960s, for example, at the request of the Congress' Joint Committee on Atomic Energy, GAO reported on its analysis of the Atomic Energy Commission's proposed arrangements with private industry and New York State for the development of the West Valley nuclear fuel reprocessing facility. Other issues that GAO has reviewed and reported on include the energy crisis of the 1970s, nuclear power regulation, the Strategic Petroleum Reserve, and programs for management and disposal of both civilian and defense nuclear wastes. GAO's longstanding involvement in energy issues stems both from a high degree of congressional interest over the years and GAO's own recognition of the national importance of this issue.

For each of the last 3 years, GAO has used about 140 staff-years to address, among other subjects, the following energy-related issues:

- Energy Security. GAO reported on the growing amount of petroleum imports from foreign sources and the increasing vulnerability of the United States to oil supply disruptions. Other topics addressed included DOE's management of the Naval and Strategic Petroleum Reserves and DOE's efforts to develop alternative fuels.
- Safety of Defense and Commercial Nuclear Facilities. DOE's Hanford Reservation and Savannah River Site are two of many federal nuclear facilities that are becoming familiar names to the general public. GAO reviews of DOE nuclear facilities and civilian nuclear power plants include analyses of cost estimates for cleaning up DOE's facilities, DOE's readiness to restart facilities that were shut down because of safety problems, and the use of counterfeit parts in civilian nuclear plants.
- Nuclear Waste Management. Although most of GAO's work on this issue has been directed at DOE's civilian nuclear waste program, we have also reviewed DOE's efforts to begin operating its Waste Isolation Pilot Plant (WIPP) in New Mexico. We are also reviewing the efforts of states, and compacts of states, to develop low-level radioactive waste disposal facilities. Our work on DOE's civilian nuclear waste program is discussed in more detail later.
- Energy Research and Development. GAO has conducted numerous reviews to assist the Congress in its oversight of diverse R&D activities, such as clean coal technology and the former Great Plains coal gasification project. For example, in May 1990 GAO reported on utilities' plans to use clean coal

technologies and how such technologies could contribute to reducing acid rain.

In fiscal year 1990, GAO issued more than 50 energy-related reports and testified before congressional committees on several occasions.

GAO AND NUCLEAR WASTE

GAO has had a long-term interest in reviewing the federal government's management of nuclear waste. GAO reported on the problems of storing high-level radioactive waste in underground tanks at facilities in Idaho, South Carolina, and Washington as long ago as 1968, and issued followup reports in 1974 and 1977. It is no secret, of course, that finding and implementing a solution to the nuclear waste problem has been intractable, or that successful resolution of the nuclear waste problems is generally recognized to be critical to the survival of the civilian nuclear power industry. Largely for that reason, GAO has long considered management of DOE and civilian nuclear wastes to be among the most important of energy issues.

In recent years, GAO has addressed a wide variety of subjects in its nuclear waste management reviews. With enactment of the Nuclear Waste Policy Act of 1982, GAO focused its first three annual nuclear waste reports and quarterly reports, prepared at the request of the Senate Committee on Energy and Natural Resources, on DOE's progress and problems in implementing the requirements of that act. GAO also addressed problems in institutional relations, management of financial assistance to states, and how DOE was using funds appropriated for the repository program. Subsequently, GAO evaluated DOE's proposal to develop and operate a Monitored Retrievable Storage (MRS) facility and reviewed DOE's cost estimates for characterizing the (then) three candidate sites for the first repository.

In the mid-1980s, GAO began focusing its quarterly reports on emerging issues, such as DOE's readiness to begin site characterization, DOE's plans to hire a contractor to help manage and operate the civilian nuclear waste program, and the Environmental Protection Agency's (EPA) standards for disposal of nuclear waste in repositories. In 1990, GAO reported on, among other things, DOE's procedures for determining the adequacy of the disposal fees that utilities pay into the Nuclear Waste Fund and on Nevada's use of financial assistance provided by DOE under the nuclear waste act.

With this brief introduction to GAO's work on nuclear waste issues, a review of selected reports on DOE's civilian high-level nuclear waste program illustrates how GAO's work contributes to meeting objectives such as contributing to congressional decisionmaking, making federal opera-

tions more efficient and effective, and fulfilling statutory and legislative requirements and commitments.

Growth of Cost Estimates For Site Characterization

In mid-1987, at the request of the Senate Committee on Energy and Natural Resources, GAO reviewed DOE's early and (then) current estimates of the cost of characterizing three candidate sites--Deaf Smith, Texas; Hanford, Washington; and Yucca Mountain, Nevada--for a repository.(1) GAO found that the estimated cost to characterize the three sites had increased from \$180-\$240 million in 1981 to almost \$5.8 billion in 1987, with adjustments for inflation. GAO found that there were two basic reasons for the increased cost estimates. First, the earliest cost estimates did not anticipate the comprehensive program later considered necessary to address and resolve technical, regulatory, and institutional issues. Second, the extended program schedule and additional new work plans pushed the cost estimates even higher.

Members of the House and Senate used this report to call attention to the growing cost of the nuclear waste program during congressional consideration of what became the Nuclear Waste Policy Amendments Act of 1987. A major provision of that act, of course, was to limit site characterization to the Yucca Mountain site.

Evaluation of DOE's Proposal for a Monitored Retrievable Storage Facility

In another 1987 report prepared for the House Interior and Energy Committees, GAO evaluated DOE's plans for monitored retrievable storage of spent nuclear fuel as contained in the Department's proposal to build and operate an MRS facility near Oak Ridge, Tennessee.(2) Among other things, GAO found that:

- DOE's proposal did not fully explore alternatives for improving the waste management system authorized in the act and did not directly compare the costs and benefits of a waste management system with and without an MRS facility.
- The proposal did not include certain costs of an MRS facility, such as site acquisition; federal, state, and local permitting and licensing fees; and aid to affected localities for mitigating the costs of constructing and operating the MRS facility.

GAO recommended that DOE identify the best configuration of a nuclear waste management system without an MRS facility and then present the Congress with the benefits and costs of that system to assist the Congress in judging the merits of adding an MRS facility to the waste system. DOE largely addressed GAO's recommendations in a supplement to its MRS proposal. Subsequently, the Congress, in enacting the 1987 amendments act, authorized DOE to

develop an MRS facility but (1) voided DOE's earlier proposal, (2) created the Monitored Retrievable Storage Review Commission to review the need for such a facility, and (3) tied development of an MRS facility to progress on a repository.

DOE's Assessments of Nuclear Waste Program Costs and the Adequacy of Disposal Fees

In August 1987, GAO reported on its review of DOE's use of nuclear waste program funds and future program cost estimates.(3) Among other things, GAO found that DOE's estimates of long-range program costs and revenues were based on unrealistically optimistic projections for nuclear-generated electricity. In GAO's view, this created the danger that current disposal fees paid into the Nuclear Waste Fund by utilities might be too low to produce, over the long run, the revenues needed to recover all program costs. Therefore, GAO recommended that DOE estimate program costs and revenues on the more conservative basis of the nuclear power plants in operation and under active construction.

DOE has implemented our recommendation. As a result, its waste program cost and revenue estimates are more realistic, and the chances that DOE might underestimate the revenues required to pay all program costs has been significantly reduced.

In its June 1990 annual report on the program, GAO addressed the reasonableness of the methods and assumptions used by DOE to estimate program costs and make annual assessments of the adequacy of disposal fees.(4) GAO found that DOE had improved its cost estimates, but the estimates still did not adequately recognize program uncertainties. In this regard, indexing disposal fees to the rate of inflation would address one major cost uncertainty. Overall, GAO concluded that, unless careful attention is given to the financial condition of the nuclear waste program, it is susceptible to future budget shortfalls.

GAO made several recommendations to DOE aimed at further improving its methods for estimating program costs and determining the adequacy of disposal fees. GAO also recommended that the Congress amend the nuclear waste act to authorize DOE to automatically adjust these fees on the basis of an inflation index. Although DOE agreed with all but one of our recommendations, its planned corrective actions may not be sufficient. For this reason, GAO expects to revisit this subject in the near future.

LOOKING TO THE FUTURE

In view of DOE's current timetable for developing a nuclear waste repository and its policy favoring early development of an MRS facility, GAO is reviewing issues related to interim storage of spent fuel at such a facility and in dry storage at nuclear power plant sites. In addition, we are reviewing DOE's program for developing shipping casks for civilian spent fuel on a schedule that would support early development of an MRS facility. The course of future events will largely determine the specific topics of future GAO reviews on the nuclear waste management and disposal issue. For example, if and when DOE obtains access to Yucca Mountain for new site characterization work will, to some extent, shape the specifics of GAO's future work on that aspect of DOE's civilian nuclear waste program. Nevertheless, the following topics provide perspective of the potential direction of this work:

- EPA's progress in developing revised environmental standards for nuclear waste disposal,
- issues related to bringing a systems engineering contractor on board to provide day-to-day technical integration of civilian waste program activities, and
- transuranic waste characterization, certification, and engineered modifications related to potential disposal of these wastes in WIPP.

Which of these or other topics become the subject of GAO reviews will only be determined with time. However, one thing is certain: because of the critical importance of the nuclear waste issue, GAO will continue to address that issue in the coming years.

REFERENCES

1. Nuclear Waste: Information on Cost Growth in Site Characterization Cost Estimates (GAO/RCED-87-200FS, Sept. 10, 1987).
2. Nuclear Waste: DOE Should Provide More Information on Monitored Retrievable Storage (GAO/RCED-87-92, June 1, 1987).
3. Nuclear Waste: A Look at Current Use of Funds and Cost Estimates For the Future (GAO/RCED-87-21, Aug. 31, 1987).
4. Nuclear Waste: Changes Needed in DOE User-Fee Assessments to Avoid Funding Shortfall (GAO/RCED-90-65, June 7, 1990).