

GAO AND THE NUCLEAR

WASTE POLICY ACT OF 1982

Daniel C. White, Associate Director
Resources, Community and Economic Development Division
U.S. General Accounting Office
Washington, D.C.

ABSTRACT

The Nuclear Waste Policy Act of 1982 (Section 304(d)) requires the General Accounting Office to perform an annual audit of DOE's Office of Civilian Radioactive Waste Management. The first annual audit report (to be issued in spring 1984) will focus on DOE's organization and management structure, progress in siting decisions for a geologic repository, and establishment of a Nuclear Waste Fund to finance the program. As the DOE program progresses, GAO will be addressing a variety of other issues surrounding development of a waste repository, interim spent fuel storage, and DOE research and development.

The U.S. General Accounting Office may not be a "household word" to all of you. With this in mind, I thought I would take a few minutes to discuss who we are and what we do, before discussing our role in evaluating the progress of DOE's efforts to carry out the Nuclear Waste Policy Act of 1982.

GAO was established as an independent, non-partisan legislative agency by the Budget and Accounting Act of 1921 to help the Congress ensure economy and efficiency in the federal government. It is headed by a Comptroller General who is nominated by the President and confirmed by the Senate to a 15-year term. The current Comptroller General is Charles A. Bowsher. Our major responsibility is to assist the Congress by auditing and evaluating federal programs, activities, and financial operations. We also provide legal opinions and frequently comment on proposed legislation. You may have heard GAO referred to as Congress' "watchdog."

We employ 5,000 people. Half of them work in Washington, D.C. The other half are located across the United States and at three locations abroad. In fiscal year 1983 we issued about 750 reports to the Congress and federal agency officials, testified about 180 times before congressional committees, and assisted the Congress in many other ways.

This work comes to us in several ways. Our fundamental mandate is to evaluate Government programs. We also have responsibilities assigned to us by specific legislation, such as our review of DOE's Office of Civilian Radioactive Waste Management required by the Nuclear Waste Policy Act of 1982. In addition, we frequently respond to congressional requests to look into specific problems and to evaluate legislative options. I might mention that currently over 70 percent of our work in energy responds to congressional requests or statutory requirements.

Energy is one of our major areas of activity. Our energy work is organized along certain broad lines reflecting the federal role in energy. These include resources from federal lands, electric power, energy technology and nuclear issues, regulation and management, and energy policy and national security. We are specifically responsible for the audit and evaluation of programs at the Department of Energy, the Federal Energy Regulatory Commission, the Nuclear Regulatory Commission, the Tennessee Valley Authority, the

energy-related portions of the Department of the Interior, and the Synthetic Fuels Corporation. Our reports are made available to the public.

I am responsible for managing GAO's work in the nuclear energy area. We are currently examining issues related to the Nuclear Regulatory Commission's regulation of powerplants, DOE's uranium enrichment program, and safeguards during DOE's manufacture of nuclear weapons as well as the nuclear waste management program. Our work in nuclear power regulation is a major area of emphasis as we evaluate progress in nuclear regulation in the post-Three Mile Island era. We have been examining (1) NRC's inspection program for operating powerplants and (2) the imposition of new regulatory requirements on plants already under construction and operating. In the uranium enrichment area, we see a program faced with economic, technical, international, and defense-related problems. Increased foreign competition and the glut of enriched uranium are resulting in lost sales and revenues for the U.S. program. Currently, we are examining DOE's pricing, contracting and marketing of uranium enrichment services. During the next year we plan to issue a comprehensive report evaluating the many and varied issues affecting DOE's program. Our work with nuclear safeguards deals with the physical security of nuclear weapons and weapons materials both at DOE facilities and during their transportation to other DOE facilities or military bases.

GAO AND NUCLEAR WASTE MANAGEMENT ISSUES

The General Accounting Office has been reviewing the federal government's nuclear waste management programs for many years. As a result of this work, we believe that development of repositories for the permanent disposal of spent nuclear fuel and high-level radioactive waste--the ultimate purpose of the Nuclear Waste Policy Act of 1982--must be one of the Department of Energy's highest priorities, if nuclear fission is to be a major energy source.

As you know, the issues surrounding the management and safe disposal of all types of nuclear waste involve analysis of complex technical and institutional questions. Over the last 10 years, we have issued 19 reports on radioactive waste management issues and have testified on them before several different congressional committees. These reports have addressed all types of radioactive waste: spent nuclear fuel and

high-level wastes, transuranic wastes, low level waste, uranium mill tailings, and decommissioning and decontamination of nuclear facilities.

Unlike these past efforts (which were done mostly in response to congressional requests on specific issues), we envision that the Nuclear Waste Policy Act of 1982 will require a continuous long-term presence by GAO in evaluating the implementation and impact of DOE's activities under the act. Section 304(d) of the act requires us to provide a report to the Congress each year for an indefinite period on DOE's Office of Civilian Radioactive Waste Management. We attribute the requirement for an annual report and the indefinite reporting period to the importance the Congress attaches to successful implementation of the act. Congressional oversight committees will be relying on us to provide independent and credible evaluations of DOE's progress and problems so that early corrective actions, if necessary, can be taken. We are currently preparing to issue our first annual report on this office.

The Secretary of Energy has made prompt implementation of the act a top priority of the Department and many important actions have been taken to meet the act's near-term requirements and to restructure the Department's previous programs to meet the act's longer term objectives. Initially, our audit efforts will focus on how well DOE carries out these actions.

As the DOE program progresses, we envision the focus of our annual reports shifting to more of an economy and efficiency orientation. (We make this type of audit to identify improvements needed in control or use of an agency's resources--either funds, property or personnel.) We would be examining major systems acquisition and procurement matters associated with the estimated \$18-\$20 billion cost of the total waste repository program (2 repositories) and DOE's massive contracting effort. (Approximately 90-95 percent of DOE's waste repository work is being done by contractors.)

Because the act authorizes the creation of a special trust fund to pay for the repository program, we will also need to pay close attention to the adequacy of DOE financial controls. DOE plans to have a public accounting firm independently audit the Nuclear Waste Fund to ensure that the fund's financial statements are fairly presented and in full compliance with laws, regulations, and generally accepted accounting principles. We will not reverify or duplicate the firm's audit, but would review the adequacy of the firm's scope and methodology from a quality assurance standpoint. However, we will retain our option to conduct a financial audit of the operation of this fund, if needed in the future. While DOE's use of a public accounting firm may provide some assurance to utilities that their interests are being accounted for, our primary objective would be to evaluate the scope of the firm's audit to ensure that the Government's investment is protected.

GAO's First Annual Audit of the Nuclear Waste Policy Act of 1982

To satisfy the mandate of the Nuclear Waste Policy Act for an annual audit of the Office of Civilian Radioactive Waste Management, we have spent the past year evaluating DOE's efforts to meet several of the near-term requirements of the act. Our work has been focused on three issues which we believe are important to the long-term success of the program:

1. DOE's organization and management structure to implement the act;
2. decisions on siting of a geologic repository; and
3. establishment of a Nuclear Waste Fund to fund DOE's activities and provide financial assistance to affected communities, as required by the act.

We have closely tracked DOE's development or implementation of other important provisions of the act as well.

Our work on DOE's organization and management examined staffing of the Office of Civilian Radioactive Waste Management and field project offices and potential problems with the organization and management of these offices. The Office of Civilian Radioactive Waste Management was formally organized and activated in October 1983. Finalizing the organization and its staffing has been difficult because DOE has had to implement several near-term requirements of the act and get organized at the same time. In addition the program's headquarters-field relationship is not clearly defined. This may make it more difficult for DOE to meet the act's time frames since field project offices are not under the direct authority of the Office of Civilian Radioactive Waste Management and are largely decentralized.

On the issue of repository siting, we compared the act's schedule for completing various site selection activities with DOE's progress in meeting this schedule. Delays in DOE's issuance of final repository siting guidelines--they were due in July 1983 under the act--appear to be consistent with the overall purposes of the act and may improve the credibility of the Department's siting efforts by assuring that the concerns of affected states and other parties are thoroughly considered. Other delays in DOE's efforts to study, analyze and evaluate potential sites have occurred because of the lack of final siting guidelines.

Our review of the Nuclear Waste Fund concentrated on DOE's procedures to establish the fund, especially the contracts with utilities for fees to finance the program. In the past fiscal year, DOE established the trust fund and transferred about \$254 million of its appropriations into it. DOE also entered into contracts with utilities and collected \$74 million in fees during fiscal year 1983. DOE expects to collect about \$300-\$400 million annually. To comply with the act's requirement that fees offset expenditures, DOE has a difficult task in planning revenue collections that will meet the program's costs over a 50-year period, given that these costs are uncertain and sensitive to changes in the economy. Moreover, the Secretary is required to ensure that the costs incurred by the federal government are fully recovered. We have been examining (1) DOE's interpretation of administrative costs, and (2) past expenditures for plant and capital equipment which are now dedicated to the program's activities, to determine whether the federal government is being fairly reimbursed.

We anticipate issuance of our final report later this spring. We also have another review ongoing which is examining progress in disposing of defense-related transuranic wastes. We are evaluating DOE's 1983 plan for the management of these wastes and management of the program at headquarters, the six DOE interim storage sites, and the Waste Isolation Pilot Plant. Our report on the transuranic waste program should be issued this fall.

Specific Issues to be Addressed
in Future GAO Work

Our first annual report will address only a few of what we see as the key provisions of the Nuclear Waste Policy Act. I would now like to discuss some of the other provisions of the act which we plan to address in our future work.

--Waste Repository Development. The act calls for operation of the Nation's first waste repository in 1998. DOE officials believe that this schedule may be too optimistic and could be missed by 3 years or more. This slippage may impact other commitments and requirements of the act. For example, substantial storage may need to be provided through a monitored retrievable storage facility to meet utilities' needs. Costs of the program and fees required to cover them could increase substantially in the event of a long delay in completion of a repository.

--Interim Storage. The act requires DOE to begin accepting spent fuel in 1998 even if a repository is not in operation. In the interim, utilities are responsible for spent fuel storage, primarily at nuclear reactor sites. The act provides for only limited federal assistance in the event adequate storage capacity is not available at reactor sites. The Nation's utilities must develop interim spent fuel storage capacity quickly enough to prevent reactor shutdowns, which may prove difficult. DOE has estimated that the amount of spent fuel discharged from nuclear powerplants will quadruple from 1982 levels by 1996.

--Research and Development. Title II of the act authorizes but does not require DOE to develop a test and evaluation facility to carry out research and demonstrate the technology for geologic disposal of high-level waste. It also provides for a DOE-private sector cooperative research program for dry storage of spent fuel at nuclear reactor sites. Other provisions require research on alternative technologies and retrievable storage as well as technical assistance to foreign countries on spent fuel storage and disposal. DOE's schedule calls for completion of some demonstration projects by 1987 with other deadlines still to be determined. There may be an issue of whether the most appropriate research and development is being conducted to support repository development and spent fuel storage.

--Defense Waste - The Link to Commercial Waste. The act requires the President to evaluate by 1985 whether one or more of the repositories should be used for the disposal of defense high level wastes either solely or together with commercial wastes. Such a decision would require interdepartmental coordination to ensure that defense waste handling, packaging and disposal will meet the requirements of the commercial repository.

Other Issues Which Decisions Made
Under the Act Could Raise

Overall, our role in evaluating the implementation of the Nuclear Waste Policy Act is to aid congressional oversight as the program unfolds and to review the reasonableness of DOE's decisions. We envision that as decisions are made, issues which may not

specifically be addressed in the act are likely to stimulate congressional interest. For example, Congress has made it clear that the defense and commercial waste management programs are to be run by separate DOE organizational units. Under the act, the President could decide to dispose of defense high-level wastes at one of the commercial repositories. From a programmatic and technical standpoint, much of DOE's experience with its defense waste management program could be applied to the commercial side. Defense waste technology and experience, especially in siting and developing a permanent repository for defense transuranic wastes, could contribute to the commercial programs.

DOE is committed to construction of a second repository, targeted for completion in 2003. The Nuclear Waste Policy Act authorizes the construction of only one repository. Construction of a second repository will require new congressional authorization.

In January we reported that the potential effects of utilities' actions to extend the useful life (burnup) of nuclear fuel have not been factored into DOE's planning for waste disposal facilities. Extended fuel burnup could affect the waste disposal program envisioned in the act in several ways. The generation rate of spent fuel could be reduced, thereby lowering storage and disposal requirements. On the other hand, because extended burnup fuel has greater decay heat characteristics than typical spent fuel, further treatment or special packaging may add to its disposal requirements.

In closing, the Nuclear Waste Policy Act is very comprehensive and provides programs to overcome the obstacles faced by DOE in past efforts to solve the high level nuclear waste problem. Our past reports have discussed technical as well as political and institutional issues that have stymied DOE's efforts. The act should provide the impetus to solve these problems in a safe and timely manner. Our future work is directed towards evaluating whether the policies, purposes and objectives of the act are being realized.

PAST GAO REPORTS

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"The Nation's Nuclear Waste--Proposals for Organization and Siting," EMD-79-77, (June 21, 1979).

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"Federal Facilities for Storing Spent Nuclear Fuel--Are they Needed?" EMD-79-82, (June 27, 1979).

"Is Spent Fuel or Waste from Reprocessed Spent Fuel Simpler to Dispose of?" EMD-81-78, (June 12, 1981).

"DOE Needs to Evaluate Fully the Waste Management Effects of Extending the Useful Life of Nuclear Fuel," RCED-84-111, (January 27, 1984).

Uranium Mill Tailings

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"Need For Greater Regulatory Oversight of Commercial Low-Level Radioactive Wastes," EMD-78-101, (August 16, 1978).

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Decommissioning and Decontamination

"Cleaning Up Nuclear Facilities--An Aggressive and Unified Federal Program Needed," EMD-82-40, (May 25, 1982).