

FOR RELEASE ON
November 6, 1985

STATEMENT OF
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BEFORE THE
SUBCOMMITTEE ON ENERGY RESEARCH AND PRODUCTION
HOUSE COMMITTEE ON SCIENCE AND TECHNOLOGY
ON
PROGRESS AND PROBLEMS IN
IMPLEMENTING THE NUCLEAR WASTE POLICY ACT OF 1982

Madame Chairman and Members of the Subcommittee:

As you requested, we are submitting written testimony on the results of our recent review of the Department of Energy's (DOE's) progress and problems in implementing the Nuclear Waste Policy Act of 1982. The act requires us to report to the Congress the results of our annual audit of DOE's Office of Civilian Radioactive Waste Management. We have issued two such reports since the act was passed.¹ This testimony is based primarily on our September 30, 1985, report on the results of our second annual audit of DOE's nuclear waste program. In addition, at the request



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¹Department of Energy's Initial Efforts to Implement the Nuclear Waste Policy Act of 1982, GAO/RCED-85-27, Jan. 10, 1985; and The Nuclear Waste Policy Act: 1984 Implementation Status, Progress, and Problems, GAO/RCED-85-100, Sept. 30, 1985.

of the Senate Energy and Natural Resources Committee,
we prepare quarterly status reports on DOE's program activities.²

Our reviews of the nuclear waste program indicate that DOE has achieved several important waste program objectives, such as issuance of final repository siting guidelines and completion of a program planning document (Mission Plan) and has made progress in other important areas of the program. However, many actions required by the act have been delayed and are taking longer than envisioned by the Congress or planned by DOE. Completion of the Mission Plan was delayed as DOE attempted to accommodate numerous concerns raised on a draft version of the plan. DOE disagreed with some comments and therefore, did not change the final plan to reflect some concerns. DOE's plans for construction of a monitored retrievable storage facility (MRS) could hinder the repository program's progress because both programs will be competing for limited technical staff and financial resources. Moreover, DOE has been unable to conclude a consultation and cooperation agreement with Washington state because of state concerns about liability associated with a potential nuclear waste accident.

²Status of the Department of Energy's Implementation of the Nuclear Waste Policy Act of 1982 as of September 30, 1984, GAO/RCED-85-42, Oct. 19, 1984; Status of the Department of Energy's Implementation of the Nuclear Waste Policy Act of 1982 as of December 31, 1984, GAO/RCED-85-65, Jan. 31, 1985; Status of the Department of Energy's Implementation of the Nuclear Waste Policy Act of 1982 as of March 31, 1985, GAO/RCED-85-116, Apr. 30, 1985; and Nuclear Waste: Quarterly Report on DOE's Nuclear Waste Program as of September 30, 1985, GAO/RCED-86-42, Oct. 30, 1985.

We have made recommendations to the Congress and to the Secretary of Energy that address several of these problems.

DELAYS IN MEETING THE
ACT'S REQUIREMENTS

The Nuclear Waste Policy Act specifies numerous actions that DOE must take in conducting the nuclear waste program and establishes schedules for completing these requirements. DOE has made considerable progress in implementing the act's requirements and has entered into contractual commitments with utilities to begin accepting waste in 1998. However, from the beginning of the civilian radioactive waste program, DOE has had difficulty meeting many of the schedules established by the act, as well as completing its own expected program accomplishments. In addition to past deviations from the program schedule, DOE's Mission Plan acknowledges the potential for future schedule delays in its repository program.

Our examination of the difficulties DOE has had in implementing the act indicates several reasons that DOE was not able to accomplish its actions in a timely manner. Key among these factors are the following:

--DOE had set unrealistic schedules for completing complex tasks. For example, DOE initially scheduled publication of draft repository environmental assessments (EAs) for August 1984 in hopes of meeting the act's January 1, 1985, deadline for recommending three sites for detailed testing. Headquarters required the field to meet this August target date even though by June 1984 it had identified "critical deficiencies" in the draft EAs such as inconsistent data and omissions of key issues. Headquarters developed a paper detailing options for correcting the deficiencies, and selected the approach which addressed only minor technical deficiencies in the EAs. This, in turn, led to many inconsistencies in the final drafts issued in December 1984. DOE received over 20,000 comments on these EAs and

has postponed their final issuance until February 1986. DOE had originally assumed that the EAs could be issued by November 1985 by handling comments in such a way that would not require major revisions to the EAs. DOE now has agreed that outside review of the final EAs is warranted prior to their public release to ensure the soundness of DOE's siting analyses.

--DOE has not planned for contingencies and anticipated potential problems. For example, DOE did not anticipate delays in completing the Mission Plan because staff would be diverted for several months to complete the draft EAs.

--DOE has been unable to reconcile the concerns of states about the conduct of the program. For example, as discussed later, DOE has not been able to finalize consultation and cooperation agreements because of states' concerns over waste accident liability.

In commenting on our report, DOE disagreed that its scheduling has been unrealistic; rather, DOE said that it had intentionally set optimistic deadlines to expedite completion of tasks. We found, however, that DOE's aggressive scheduling for drafting the EAs did not result in their expeditious completion. Extensive internal review as well as revisions to respond to critical comments from third parties, such as states and the Nuclear Regulatory Commission, have been required to improve the quality of DOE's final products. As we noted in our report, a more conservative and better planned approach to preparation of the draft EAs might have reduced the need for major revisions. For example, we noted that the EAs could have been prepared in a more timely fashion if DOE had provided better guidance for preparing the EAs to project offices. This could have eliminated some difficulties the project offices experienced in interpreting the guidelines.

We also found that schedule delays occurred because DOE attempted to complete key activities concurrently with limited staff. Considering the waste program's current resources, we concluded that DOE needs to be more conservative in its estimates of what is achievable and when.

Moreover, by repeatedly missing program target dates for finalization of documents, such as the environmental assessments and Mission Plan, DOE weakens the program's credibility with the public. When DOE states that an action is expected within a certain time frame, an expectation is created with affected states, tribes, and the public. Falling short of these expectations does not create confidence in DOE's ability to carry out the nuclear waste program.

Continued program delays also have implications for DOE's ability to have a repository in operation in 1998. For example, the act requires that a site recommendation for the first repository be submitted to the Congress by March 1987; because of delays in completing EAs and initiating detailed site testing, DOE now expects to recommend a site in March 1991. Nevertheless, DOE does not believe that this delay will affect its ability to complete a repository by 1998.

DOE'S MISSION PLAN

The Mission Plan contains DOE's overall strategy and plans for implementing the Nuclear Waste Policy Act. While the act required that the Secretary submit the final Mission Plan to the Congress by June 7, 1984, it was not issued until July 1985. A principal reason for the delay was the time necessary for DOE to

address comments from over 100 organizations and individuals, and to resolve numerous concerns with the content of the April 1984 draft plan.

Those who commented on the draft Mission Plan expressed concerns regarding the strategy of the nuclear waste program and the adequacy of the information presented in the plan. Our report focused on those comments received from reviewers specifically designated in the act: the NRC, other federal agencies, states, and Indian tribes.

Although DOE made numerous changes to the final Mission Plan to accommodate and resolve the concerns raised, there were also areas where DOE disagreed with specific comments and made no modifications to the plan. For example, DOE did not modify the Mission Plan to reflect the following issues:

- NRC stated that DOE should make the preliminary determination of the suitability of a site for a repository after studies of the geologic condition of the sites have been performed. DOE believes, however, that this determination should be made before these studies are performed. DOE believes that its view of the timing of the preliminary determination is more consistent with the act's siting requirements.
- The Environmental Protection Agency suggested that a monitored retrievable storage (MRS) facility should rely on geologic rather than engineered features for safety. DOE believes that an MRS, unlike a repository, should rely on engineered barriers to ensure waste isolation.
- States expressed concerns that the repository schedule is "overly optimistic." DOE affirmed its commitment to the schedule, which it considers aggressive but achievable.
- Indian tribes expressed concerns that the plan did not address the potential effects of a repository on Indian cultures. DOE believes this information is beyond the scope of the Mission Plan, and is addressed in the Hanford Washington draft EA.

Our report also identified specific information, which the act requires to be included in the final Mission Plan, but which DOE did not provide in some instances because the information is not yet available. (See attachment.)

We believe the Mission Plan's issuance would provide an appropriate starting point for DOE to begin accounting for program implementation. In order for the Congress to effectively conduct its oversight activities, we also believe DOE must provide a full accounting of schedule delays. However, since the establishment of the nuclear waste management program, DOE has not consistently provided the Congress with what we consider to be a full and detailed accounting of actual or expected delays in meeting statutory requirements by means of formal, written statements. While DOE has provided some formal notification of program delays in most cases, this was usually done only after the statutory deadline was missed or a considerable time after DOE had acknowledged in its program planning process that the milestone would be missed.

Given that the Mission Plan established a schedule for conducting the nuclear waste program, Congress' expressed desire to be kept informed of program delays, DOE's past performance in missing program milestones, and the acknowledged potential for further delays, we believe DOE should promptly notify the Congress of deviations from its program schedules. This would allow the Congress to effectively oversee the program. Consequently, our report recommended that the Secretary of Energy submit written reports to the Congress, giving a full accounting of the reasons

for and implications of each program delay. Although the act requires federal agencies to report on these type schedule delays, DOE does not now plan to provide such reports. We further recommended that the Secretary address any changes to the program's overall policies or strategies, which may deviate from the Mission Plan, in each nuclear waste program annual report.

Because DOE has not yet established a process for updating the Mission Plan and no requirement exists in the act for such updates, we looked to existing reporting requirements for an opportunity for DOE to outline program changes without introducing new reporting burdens. The annual reports of the Office of Civilian Radioactive Waste Management seem to be the best existing reporting requirement for this purpose.

ROLE OF THE MRS IN THE REPOSITORY PROGRAM

The act requires DOE to submit to the Congress by June 1985 a proposal for the construction of one or more MRS facilities. DOE expects to submit its MRS proposal to the Congress in January 1986.

DOE's view of the appropriate role for an MRS has changed since the program was initiated. DOE originally defined the MRS' role as a backup facility if the opening of the first repository were delayed. By late 1984, however, DOE had decided that the MRS should be a more integral part of the total waste management system. More specifically, DOE has stated in its final Mission Plan that the MRS would perform several essential functions which it believes will enhance the safe, timely and reliable operation

of the system: receive spent fuel from all or most reactors, consolidate and package it for disposal, and temporarily store the waste until it could be shipped to a repository. DOE has identified three sites in Tennessee as preferred MRS locations.

Our report presents several issues arising from the revised MRS role that may present problems for the program and that DOE will need to address in its final MRS proposal.

--If an MRS is located in the eastern United States, DOE must decide whether spent fuel from western reactors will be shipped to an MRS in the East and then back to a repository in the West, or directly to a repository. Shipment to the East would increase the costs and risks associated with waste transportation.

--DOE will need to demonstrate that an MRS integrated with a repository can realize cost savings over a system without an MRS. Final costs of the MRS will not be defined until designs have been completed.

--Since payment for an MRS is to be provided by those whose waste is stored in such facilities, DOE must determine how to equitably allocate MRS costs if neither defense waste³ nor spent fuel from western reactors is to be shipped to the facility.

Our report identifies another potential problem area with acceptance of DOE's MRS proposal. According to the act, Tennessee, the state proposed as the site of an MRS, may disapprove of the site, but only after the proposal is authorized by the Congress. The Congress can override this disapproval. This means that Tennessee would be disapproving a site that the Congress, through its authorization of the MRS, as well as DOE,

³In April 1985, the President determined that high-level wastes from defense activities will be placed in repositories with civilian wastes. DOE has not yet determined whether defense wastes will be sent to an MRS.

had already selected. Thus, any political confrontation on the siting of an MRS will occur during initial congressional consideration of DOE's January 1986 proposal.

Congress stated in the act that the repository program should proceed whether or not an MRS is constructed. However, because MRS is now planned as an integral part of the nuclear waste system, construction of an MRS facility might divert financial, program staff, and technical resources from the completion of the repository, and thereby result in its delay. Potential exists for such diversion from the repository program to MRS activities because of past reassignments of staff (for example, from the preparation of the Mission Plan to the environmental assessments) and similarities in the technical backgrounds needed to successfully site and license both types of facilities. We believe that DOE should specify how an MRS program would operate within the overall waste program so as not to distract from or delay the repository program before the Congress authorizes construction of an MRS facility. This can be done if DOE specifically addresses the management and administrative considerations of carrying out these projects in its January proposal.

We are currently evaluating DOE's MRS plans for the House Committee on Interior and Insular Affairs and the Subcommittee on Energy Conservation and Power, House Committee on Energy and Commerce. This ongoing work is examining the role, cost, impacts of, and alternatives to, the MRS proposed by DOE. We will make copies of this report available to the Committee when it is released.

COOPERATION AND CONSULTATION AGREEMENTS

DOE is required by the act to seek to enter into consultation and cooperation agreements with affected states and Indian tribes to establish procedures to resolve their concerns with the planning and development of any nuclear waste repository. Currently, there are six states--Louisiana, Mississippi, Nevada, Texas, Utah, and Washington--and three Indian tribes--Confederated Tribes of the Umatilla Indian Reservation, Nez Perce Tribe, and the Yakima Indian Nation--eligible for the negotiation process. Formal negotiations for consultation and cooperation agreements are underway with the Umatilla Indians and a draft agreement has been negotiated with the state of Washington.

Unresolved issues have delayed acceptance of a consultation and cooperation agreement by Washington State. To date, DOE and Washington representatives have reached agreement on all but two issues

--What role may Washington State have in the decision-making process if a decision is made to commingle defense and civilian wastes at a Hanford repository?

--What is the federal government's liability for accidents at the repository or while transporting waste to or from a repository?

The latter issue is likely to affect negotiations with not only Washington but other states and Indian tribes as well. Washington has requested DOE commitment to strict liability and full indemnification (reimbursement) for such accidents. DOE maintains that it cannot accept liability beyond the \$500 million-per-accident limit imposed by the Price-Anderson Act.

Officials from the five states that have yet to begin negotiating agreements have stated that they agree with Washington's position on this issue. Consequently, the issue must be resolved before these states will finalize consultation and cooperation agreements with DOE.

To help resolve this issue, we recommended in our recent report that, if the Price-Anderson Act is extended, the Congress increase the act's limits on liability and indemnification for nuclear accidents involving high-level radioactive waste activities.

We will continue to monitor and evaluate selected activities of DOE's Office of Civilian Radioactive Waste Management through future annual audits and our quarterly status reports.

INFORMATION REQUIRED BY THE NUCLEAR WASTEPOLICY ACT BUT OMITTED FROMDOE'S MISSION PLANRequirements of Nuclear
Waste Policy Act for the
Mission Plan

--Identify primary scientific, engineering, and technical information needed for siting and construction of a test and evaluation facility and repositories.

--Discuss the significant results of research and development programs conducted and the implications for each of the different geologic media under consideration for repositories, and compare the advantages and disadvantages of use of such media for repository sites.

--Describe known sites at which characterization activities should be undertaken, and the nature of these activities.

Information Omitted from
the Mission Plan

--The test and evaluation facility information needs are not separately addressed because DOE has not yet determined the need for and role of such a facility. However, DOE believes the information needed to site and construct a test and evaluation facility will essentially be the same for a repository.

--Does not address the results of study of crystalline rocks for the second repository because, according to DOE, significant results obtained through field studies are not yet available.

--Provides a description of known sites for characterization but specific plans are not included because the program has not advanced to this stage.

--Analyze the requirements for the number of facilities needed for solidifying liquid high-level waste for disposal.

--Estimate, on an annual basis, the costs to carry out various activities under the act.

--States that the number of facilities needed cannot be determined yet.

--Does not include costs for an integral MRS or research funded by appropriations.

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