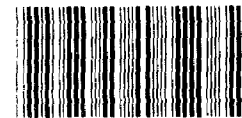


GAO

August 1987

NUCLEAR WASTE

Quarterly Report on DOE's Nuclear Waste Program as of June 30, 1987



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United States
General Accounting Office
Washington, D.C. 20548

Resources, Community, and
Economic Development Division

B-202377

August 11, 1987

The Honorable J. Bennett Johnston
Chairman, Committee on Energy
and Natural Resources
United States Senate

The Honorable James A. McClure
Ranking Minority Member
Committee on Energy and Natural Resources
United States Senate

On March 26, 1984, you requested that we provide quarterly status reports on the Department of Energy's (DOE) implementation of its nuclear waste program. The Nuclear Waste Policy Act of 1982 (Public Law 97-425) established a national program and policy for safely storing, transporting, and disposing of nuclear waste. As part of this program, the act requires DOE to develop, schedule, site, and construct a geologic repository for the permanent disposal of high-level radioactive nuclear waste. In May 1986 as required by the act, DOE recommended three candidate repository sites for detailed testing (site characterization). On May 28, 1986, the President approved the three sites--Yucca Mountain, Nevada; Deaf Smith County, Texas; and Hanford, Washington.

The act also requires DOE to carry out siting and development activities for a second repository; however, DOE must obtain congressional authorization before constructing such a facility. The act also established within DOE the Office of Civilian Radioactive Waste Management to carry out the act's provisions and established the Nuclear Waste Fund to finance the program.

This fact sheet provides the status of DOE's nuclear waste program activities for the quarter ending June 30, 1987. Activities during the quarter include the following:

- On June 9, 1987, DOE submitted to the Congress the first amendment to the mission plan (the program's principal planning document). DOE advised the Congress of an extension of the operational date planned for the first repository from January 31, 1998, to 2003. DOE also

requested that the Congress (1) approve DOE's proposal to construct and operate a monitored retrievable storage facility in Roane County, Tennessee, as an integral part of the nuclear waste management system and (2) explicitly approve the Secretary of Energy's decisions to delay site-specific work for a second repository and begin in 1995 a national survey of potential second repository sites.

- During this quarter DOE was heavily involved in preparing site characterization plans for each candidate first repository site. The key objective of these plans is to detail the steps DOE would take to obtain geologic and environmental data for each candidate site. DOE intends to issue the plans for the Nevada and Washington sites this September or October and for the Texas site early next year.
- Since the program's inception, the Nuclear Regulatory Commission (NRC) has provided DOE with comments on key program documents. In April 1987, NRC testified before your committee on its December 1986 comments on DOE's environmental assessments, which were used to compare each candidate site. To address states' concerns that NRC's comments raised questions about the adequacy of the three candidate sites, NRC stated that there is no reason to disqualify the candidate repository sites or delay site characterization on the basis of available technical information. However, NRC pointed out several technical concerns that it believes can be addressed only during the site characterization phase. NRC also stated in a June 1987 quarterly progress report on the program that it plans to propose that DOE perform significant surface-based testing at each candidate site before drilling exploratory shafts because shafts may render some subsequent testing useless and surface-based testing may reveal important information about site suitability before shaft construction resources are committed.
- On May 11, 1987, the National Academy of Sciences (NAS) submitted a proposal to DOE requesting about \$1.5 million for the first 3 years of a technical review of site characterization. NAS, as an independent entity, would evaluate key technical aspects of the site characterization phase. DOE is now reviewing NAS' proposal.

-- The Nuclear Waste Fund collected over \$170 million in fees and investment income during the quarter and obligated about \$31 million for program activities. The fund balance as of June 30, 1987, was about \$1.5 billion.

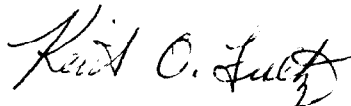
During this quarter, several legislative proposals were introduced in the Congress that would redirect or significantly change the nuclear waste management program. Section 2 of this fact sheet provides a brief summary of each bill or proposal.

To determine the status of the activities discussed in this fact sheet, we interviewed those DOE officials responsible for planning and managing the waste program, responding to litigation, and managing its financial activities. We also interviewed NRC officials responsible for repository licensing. We reviewed DOE program documents, publications, correspondence and studies, related legal documents, and financial data. We did not verify DOE's financial system data because this verification could not be accomplished within the time frame of this review and because this information is audited annually by a private certified public accounting firm.

We discussed the facts presented with cognizant DOE and NRC officials and incorporated their views where appropriate. DOE officials told us that the fact sheet accurately reflects the program's status for the quarter ending June 30, 1987.

We are sending copies of the fact sheet to the Chairmen of the Senate Committee on Governmental Affairs, the House Committee on Government Operations, and the House Committee on Energy and Commerce; the Secretary of Energy; the Chairman, Nuclear Regulatory Commission; and other interested parties. If you have further questions, please contact me at (202) 275-1441.

Major contributors are listed in appendix I.



Keith O. Fultz
Associate Director

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| | <u>ABBREVIATIONS</u> | |
| DOE | Department of Energy | |
| EPA | Environmental Protection Agency | |

| | |
|-------|---|
| GAO | General Accounting Office |
| MRS | monitored retrievable storage |
| NAS | National Academy of Sciences |
| NRC | Nuclear Regulatory Commission |
| NWPA | Nuclear Waste Policy Act |
| OCRWM | Office of Civilian Radioactive Waste Management |

SECTION 1

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

ACTIVITIES DIRECTED TOWARD LEGISLATIVE

REQUIREMENTS DURING THE APRIL-JUNE 1987 QUARTER

BACKGROUND

The Nuclear Waste Policy Act of 1982 (NWP) established a federal program and policy for high-level radioactive nuclear waste management. NWP's ultimate objective is the safe and permanent disposal of nuclear waste in geologic repositories. NWP required, under a detailed process and schedule, that DOE develop, site, construct, and operate one repository and select a site for a second repository. In addition, NWP stipulates that DOE is to consult and cooperate with states and Indian tribes to promote their confidence in the program's safety. DOE has contracted with the nation's utilities to accept waste for disposal by January 31, 1998. To finance the program, NWP established the Nuclear Waste Fund, which receives fees from waste owners and generators. Under various assumptions, the estimated cost of the program is between \$28 billion and \$38 billion (constant 1986 dollars).

NWP also required DOE to conduct a study of the need for and feasibility of, and to submit a proposal for, a monitored retrievable storage (MRS) facility where nuclear waste could be stored, monitored, and subsequently retrieved for permanent disposal in a repository. On March 31, 1987, DOE submitted its MRS proposal to the Congress, in which it recommended that an MRS facility be built at the former Clinch River Breeder Reactor site in Oak Ridge, Tennessee. DOE believes that the proposed MRS facility should be an integral part of the nuclear waste management system. As of June 30, 1987, the Congress had not approved the proposal.

As part of the nuclear waste management program, NWP also required DOE to develop a comprehensive "mission plan," which is to provide sufficient information to permit informed program decisions. In June 1985 DOE submitted the plan to the Congress. Because the plan contains DOE's overall strategy for implementing NWP, DOE officials view the plan as a living document that is subject to change as program circumstances change.

In May 1986 as required by NWP, DOE recommended to the President three candidate first repository sites for further geologic testing (site characterization). On May 28, 1986, the President approved the three sites--Yucca Mountain, Nevada; Deaf Smith County, Texas; and Hanford, Washington. DOE estimates that the site characterization phase will last about 5 to 7 years. On

select one of the three sites for the nation's first nuclear waste repository.

NWPA also required DOE to recommend to the President by July 1, 1989, three sites for second-repository site characterization; however, DOE does not plan to meet the 1989 deadline.¹ On May 28, 1986, DOE postponed its second repository site-specific work because of progress with the first repository program and questions as to when a second repository would be needed. This postponement decision has led to lawsuits and strained relations between DOE and affected states and Indian tribes with the states and tribes contending that DOE has not followed the intent of NWPA.

Although DOE has the lead responsibility for implementing NWPA, the Nuclear Regulatory Commission (NRC) has a crucial regulatory role. NRC is responsible for ensuring that waste facilities and equipment developed under NWPA meet technical regulatory requirements that it will apply in reviewing DOE applications for authorization to build and operate repositories. Additionally, before DOE proceeds to sink shafts at any candidate site, it must submit a detailed plan for site characterization activities to NRC for review and comment. During the site characterization phase of the program, NRC plans to review DOE's site investigation and repository development activities to ensure that they will provide the information DOE needs to prepare a complete and high-quality repository license application.

The National Academy of Sciences (NAS) serves as an advisor to DOE on scientific and technologic concerns. At DOE's request, for example, in April 1986 NAS' Board on Radioactive Waste Management reviewed and commented on DOE's use of a decision-aiding methodology to assist the Secretary of Energy in determining which three sites should be characterized. Currently, DOE is reviewing an NAS proposal to technically assess site characterization.

PROGRAM STATUS

During the third quarter of fiscal year 1987, DOE's primary emphasis was on finalizing a January 1987 draft mission plan amendment and preparing plans to characterize each candidate first repository site. DOE also issued several key program documents and completed other program actions, which are highlighted at the end of this section.

¹In an opinion dated September 12, 1986, we concluded that unless the Congress acts to change this deadline, DOE's failure to meet the deadline will violate the law, although, under the NWPA, no penalty or other legal consequence will flow from this failure.

In June 1987 the House of Representatives passed H.R. 2700 which would appropriate \$500 million for the nuclear waste management program in fiscal year 1988, about \$225 million less than DOE had requested. In its report on H.R. 2700 the Appropriation Committee explained that in arriving at the \$500 million appropriation, the committee included no funds for construction of an MRS facility because the Congress has not yet authorized such a facility and included only \$24 million for basic research on a second repository as requested by DOE. The Senate is deliberating the House-approved version of DOE's fiscal year 1988 budget.

Final Mission Plan Amendment
Submitted to the Congress

On June 9, 1987, DOE submitted to the Congress the first amendment to the mission plan. In January 1987 DOE had released a draft amendment to the Congress, states, affected Indian tribes, and federal agencies for review and comment. We have previously reported on the draft amendment and uncertainties surrounding DOE's implementation of the proposed program changes.²

With the exception of adding a schedule for second repository activities, the final amendment represented very little change from the earlier draft. In the amendment, DOE advised the Congress of an extension of the operational date planned for the first repository from January 31, 1998, to 2003 to allow time to carry out the program. DOE believes that that the extension is needed to complete site characterization, meet NRC licensing requirements, and consult further with affected states and Indian tribes.

The amendment also included a DOE request that the Congress approve its decision to delay site-specific work for a second repository. With congressional approval, DOE intends to begin a national survey of potential second repository sites in 1995. This would allow DOE enough time to develop a second repository before the first repository meets the NWPA-imposed limit of 70,000 metric tons of nuclear waste. If the Congress does not approve the revised milestone, DOE will resume site-specific work for a second repository in fiscal year 1988. DOE also requested that the Congress authorize the construction and operation of an MRS facility as part of the federal waste disposal system. The final amendment also discussed the consultation and cooperation interactions between DOE and states and affected Indian tribes. As of July 31, 1987, the Congress had not taken any action on DOE's requests in the amendment.

²Nuclear Waste: Quarterly Report on DOE's Nuclear Waste Program as of March 31, 1987 (GAO/RCED-87-139FS, May 13, 1987).

Site Characterization Plans Are Being Developed

NWPA requires that DOE prepare site characterization plans for any candidate repository site and make them available to the public. DOE also must obtain NRC's comments on the plans before drilling any exploratory shafts at the site. The plan's objectives are to detail the steps DOE will take to obtain geologic and environmental data for each candidate site. The collection of this data should provide the necessary information to (1) evaluate the suitability of a site for development as a repository, (2) develop site-specific designs both for a repository and for the waste package to be emplaced in the repository, (3) prepare an environmental impact statement, and (4) obtain construction authorization for a repository from NRC.

Site characterization consists of surface-based tests (e.g., geologic mapping and seismic surveys) and tests conducted below the surface. Although DOE planned to begin exploratory shaft construction at one or two of the candidate sites in fiscal year 1987, it did not because of a statement in the conference report accompanying the 1987 appropriation act; the conferees recommended that no funds be used for shaft construction this fiscal year. The House Appropriation Committee reporting on H.R. 2700, the 1988 appropriations bill, has recommended that the Congress provide DOE no funds for drilling exploratory shafts during fiscal year 1988.

DOE's current site-specific activities at or related to each of the three candidate sites include the following:

- Land access is being pursued with other federal agencies at Yucca Mountain.
- Plans are proceeding for hydrology tests that will precede exploratory shaft drilling at Hanford.
- Efforts to obtain access to the land are proceeding at Deaf Smith.

According to DOE, the site characterization plans will provide a thorough status of what is known about the candidate sites, describe the conceptual designs for the repository and the waste package, identify necessary additional information requirements, and present plans for obtaining all such information that is needed to support repository siting, licensing, and design. DOE believes that the development of the plans is proceeding well and is leading to extensive and high-quality documents, which detail the logic for the data collection and evaluation procedures that will be needed to ensure careful site characterization. DOE plans to issue site characterization plans for the Yucca Mountain and Hanford sites late this summer or early fall and for the Deaf Smith site early next year.

late this summer or early fall and for the Deaf Smith site early next year.

NRC INVOLVEMENT WITH THE
NUCLEAR WASTE MANAGEMENT PROGRAM

Since the nuclear waste management program's inception, NRC has, among other things, provided comments on key program documents and consulted with DOE on technical concerns. In December 1986, for example, NRC commented on DOE's final environmental assessments for the candidate repository sites. These assessments, required by NWPA, compared each site with others and ranked them according to criteria defined in DOE's siting guidelines. In addition, the assessments discussed the probable impacts of site characterization activities, such as drilling the exploratory shafts necessary to collect geologic data, and ways to avoid negative impacts.

As part of ongoing prelicensing consultation between NRC and DOE, NRC commented on the environmental assessments to (1) ensure early identification and resolution of potential licensing issues and (2) assist DOE in preparing site characterization plans for each site. NRC's review of the assessments was limited to its regulatory responsibilities for public health and safety and waste isolation considerations. For example, NRC did not review other factors, such as cost and schedule, and the overall ranking of sites.

NRC Believes No Technical
Basis Exists to Disqualify
Candidate Sites

In April 1987, NRC testified before the Senate Committee on Energy and Natural Resources that, on the basis of its review of the environmental assessments and other DOE-developed materials, no reason exists to disqualify the candidate repository sites or delay site characterization. NRC presented this testimony to address states' concerns that NRC's evaluation of the assessments raised questions about the adequacy of the sites DOE selected for site characterization.

In commenting on the assessments, NRC had identified numerous technical concerns for each site and stated that DOE had not identified (1) the range of uncertainties associated with the limited existing data base and (2) the range of alternative interpretations and assumptions about the data base that could be reasonably supported by existing data. NRC added that DOE had not incorporated the uncertainties or alternative interpretations into its evaluations and conclusions. As a result, NRC commented that some of DOE's conclusions about sites in the assessments were overly favorable or optimistic. For example, NRC pointed out that in analyzing the waste-package lifetime, DOE was optimistic in its

Although NRC identified technical concerns for each site, its comments were not intended to be a catalog of all concerns, nor were they intended to prohibit NRC from addressing future concerns. According to NRC, it did not mention concerns in the assessments that DOE had adequately recognized as needing resolution.

NRC believes the technical concerns that it and others raised are of the nature anticipated at any site for which the existing data base is limited. Such concerns can be addressed only through the site characterization process. However, NRC believes that in developing the site characterization plans, DOE needs to be conservative in the way it collects and analyzes data so as to avoid optimistic conclusions. This will allow DOE to better prepare for technical uncertainties and alternative data interpretations.

Over the past few years, through meetings with DOE and comments on program documents, NRC has suggested that DOE adopt a more conservative approach in its nuclear waste management program as a way to treat uncertainties regarding candidate repository sites' licensability and performance. In its comments on DOE's January 1987 draft mission plan amendment, NRC also pointed out that it was unclear how DOE would address conservatism in treating uncertainty. According to NRC, the site characterization plans will provide a vehicle for judging DOE's adherence to conservative analytical principles.

NRC Suggests That DOE Perform Surface-based Testing Before Drilling Shafts

In its June 1987 quarterly progress report on the program's prelicensing phase, NRC stated that future technical interactions with DOE, states, and tribes should focus on near-term information needs because of uncertainties in DOE's schedules, particularly regarding when the exploratory shafts will be sunk. NRC plans to propose to DOE that near-term technical meetings address specific concerns related to surface-based testing strategies. NRC believes that certain surface-based testing may be needed prior to the construction of shafts because (1) shaft construction may render some subsequent testing impossible or useless and (2) surface-based testing may reveal important information about site suitability before major resources are committed for shaft construction.

NRC also believes that surface-based testing should be recognized as a major part of site characterization and that DOE can make significant progress toward resolving some technical concerns through surface-based testing of each site before drilling exploratory shafts.

DOE Has Conducted and Is
Planning Technical Meetings
With NRC and Affected Parties

According to DOE, as a means to ensure that critical technical issues are being addressed, a number of technical meetings with NRC on selected topics have been held or are planned. For example, during the week of April 5, 1987, DOE held a meeting at Hanford, Washington, with NRC, state, and Indian tribe officials to discuss hydrologic testing that should be performed at that site before the sinking of an exploratory shaft. Similar technical meetings were also held in Houston, Texas, for the Deaf Smith site and Las Vegas, Nevada, for the Yucca Mountain site. DOE expects to resolve specific technical issues raised by NRC through a range of frequent interactions with NRC, states, and Indian tribes.

NAS PROPOSES A REVIEW OF SITE
CHARACTERIZATION ACTIVITIES

In response to DOE's request for scientific and technical advice, on May 11, 1987, NAS submitted a proposal to DOE requesting about \$1.5 million for the first 3 years of a technical review of site characterization. NAS believes that the nuclear waste management program's complex and adversarial institutional framework hinders the extent to which technical questions can be answered in a sound manner. To facilitate the program's overall progress, NAS, as an independent entity, believes it can objectively evaluate key aspects of site characterization for completeness and accuracy and provide a mechanism for ensuring that valid technical concerns are given appropriate and timely consideration. DOE is currently reviewing NAS' proposal.

In its proposal, NAS plans a renewable 3-year program that would utilize 3 panels of approximately 12 members with varying technical backgrounds in geological, environmental, and socioeconomical sciences; radiobiology and health physics; public policy; systems analysis; and repository engineering.

Panel meetings would, to the extent feasible, be held at the sites being characterized and, depending upon the rate at which technical material is generated, would take place each year. Invitations to attend each meeting would be sent to the designated technical representative of each affected state and Indian tribe. It is intended that the first meeting of each panel and subsequent meetings would be held in conjunction with a meeting of NAS' Board on Radioactive Waste Management, and that public attendance and participation would be encouraged during the open portion of the meetings. Subsequent panel meetings would usually include both open and executive sessions. The open sessions would consist of technical presentations by DOE, DOE contractors, panel consultants, or other parties having technical information to present. The

executive sessions would be restricted to panel members and NAS members, consultants, and staff.

According to NAS, the panels are not intended to provide a political forum or means to redress program decisions. Presentations to the panels and the work of the panel members would be limited to technical matters. At the same time, panels would seek written comment on technical matters and maintain active contact with and participation of, each first-round repository state, Indian tribe, or technical review organization set up by the states or Indian tribes.

The substantive output of each panel would be written reports. However, in open sessions NAS would allow panel members to question representatives of DOE, its contractors, and other agencies, organizations, or interested parties on technical matters. Panel reports would be prepared from time to time at the panel's initiative and as the panel deems appropriate. The reports would be based upon technical material provided by DOE or otherwise obtained by the panel. The reports would also be available to the public without restriction. In addition, any document submitted as input to a panel would be accepted and considered only if the supplier of the document was willing to make it available without restriction to other interested parties.

The results of NAS' planned review would be reports that assess the technical basis for portions of site characterization and, when necessary, indicate a need and rationale to consider additional factors. NAS anticipates that the reports would review and clarify selected technical aspects underlying the site characterization process, illuminate uncertainties, and facilitate the subsequent DOE recommendation of a repository site by helping to separate the technical and nontechnical aspects of site evaluation. The results would not, however, provide independent verification of the accuracy of raw data, assess overall program adequacy, or evaluate site adequacy for repository use.

OTHER ACTIVITIES

- In April 1987 DOE issued its fourth annual report to the Congress on the nuclear waste management program. The report covered the activities and expenditures of the Office of Civilian Radioactive Waste Management (OCRWM) during fiscal year 1986 and discussed DOE's program accomplishments. The report also contained a brief summary of the program's progress since the end of fiscal year 1986.
- On May 26, 1987, DOE submitted reports to the Congress on the status of consultation and cooperation agreements with the states and Indian tribes. The reports point out that consultation and cooperation agreements have not been

reached and discuss several program events and interactions DOE has had with the affected states.

- In May 1987, as part of a planned series of meetings, DOE met with representatives of affected states and Indian tribes in Las Vegas to discuss the draft mission plan amendment, financial assistance programs, site characterization plans, planned second repository activities, and the MRS proposal.
- In June 1987, DOE issued its fifth annual fee adequacy report on financing the costs of nuclear waste disposal. The report evaluates whether the fees charged to owners and generators of spent nuclear fuel are adequate to cover all program costs associated with the disposal of spent nuclear fuel. The report recommends retaining the disposal fee at 1.0 mill per (net) kilowatt-hour for 1987.
- In June 1987, OCRWM issued its first annual capacity report, which is required by DOE's nuclear waste disposal contracts with utilities. The report provides, for planning purposes, DOE's projection of how much spent fuel it will receive and how it will rank utilities and other nuclear waste generators in terms of when DOE will begin accepting their spent fuel during the first 10 years of waste management system operations.

SECTION 2

LEGISLATIVE PROPOSALS RELATING TO THE NUCLEAR WASTE MANAGEMENT PROGRAM

During the past 4 months, several bills proposing major changes to NWPA and the nuclear waste management program were introduced in the Congress. Any of these proposals, if enacted, would substantially alter the waste program. Sponsors of these bills have expressed dissatisfaction with the program and have stated that changes embodied in their bills are needed. Reasons given for the level of dissatisfaction range from questions about the program's integrity to concerns regarding the suitability of first repository sites and the postponement of site-specific work on the second repository.

RECENT LEGISLATIVE INITIATIVES

The following sections summarize the key segments of several recently introduced bills.

- S. 1141 was introduced on May 6, 1987. The bill would amend NWPA to require storage of spent fuel for 50 years before it would be buried in a repository. The purpose of this bill is to implement long-term storage of spent fuel in case it can be eventually reprocessed. The sponsors contend that implementation of NWPA has not proceeded as anticipated.
- S. 1266 was introduced on May 21, 1987. The bill would halt all repository activities until 1998. The bill would authorize construction of four regional MRS facilities and the start of a new nationwide search for the first repository. DOE would conduct a survey on the need for a second repository and each state would be given authority to regulate but not prohibit nuclear waste transportation through its jurisdiction. The bill also provides that \$100 million dollars would be paid annually from the Nuclear Waste Fund to each of the four states or Indian tribes that host an MRS facility. The sponsors of the bill found that the present nuclear waste management program is in disarray and requires substantial midcourse direction.
- H.R. 2888 was introduced on July 1, 1987. It would suspend DOE's repository site selection program and establish a commission to review DOE's implementation of NWPA. According to the bill's sponsors, loss of public confidence in the nuclear waste management program has led to an impending crisis in the ability of the federal government to safely and permanently isolate radioactive waste. The

sponsors attributed the loss of public confidence to DOE's inability to implement the program in a scientifically sound and politically unbiased fashion in cooperation with affected states and Indian tribes.

- S. 1481 was introduced on July 10, 1987, and proposed to redirect the nuclear waste management program to achieve budget savings and other purposes. The bill directs DOE to (1) select one repository site by January 1, 1989, and (2) construct an MRS facility in Tennessee unless DOE finds a better site before January 1, 1989. It also provides that DOE make annual payments of \$50 million for an MRS facility and \$100 million for a repository from the Nuclear Waste Fund to any state, Indian tribe, or local unit under whose jurisdiction the MRS facility or repository would be located. The bill's sponsors believe that by characterizing one site and building an MRS facility, substantial program savings could result.

DOE COMMENTS ON PROPOSED BILLS

DOE believes that progress has been made in the program since the mission plan was published; however, DOE recognizes that this progress has not been without problems or dissent. On July 16, 1987, the Director, OCRWM, testified before the Senate Committee on Energy and Natural Resources that DOE is confident in the basic principles and blueprint outlined in NWPA. DOE also believes that a repository coupled with an MRS facility is an excellent means of achieving the program's objectives. According to the Director, OCRWM, although difficulties have occurred in working with affected parties, technical progress has been encouraging and the President's May 1986 approval of three sites for site characterization represents a key program milestone. He added that no objective reason exists to discard previous program findings to repeat the same steps.

In commenting on some aspects of the bills highlighted in this section, DOE stated that providing financial incentives represents a worthwhile attempt to make the siting of nuclear waste facilities more attractive in terms of economic benefits. Generally, DOE found no technical merit in either imposing a moratorium on the disposal of nuclear waste in a repository or suspending all work on the development of a repository. With the prospects for revisions from several bills, DOE believes that the Congress must take great care to ensure that, if changed, net improvements are made to NWPA.

SECTION 3

STATUS OF THE NUCLEAR WASTE FUND,

JUNE 30, 1987

The Nuclear Waste Fund, a separate fund maintained by the Department of the Treasury, finances the nuclear waste management program activities. The fund receives fees paid by the owners and generators of high-level radioactive waste. (Previous quarterly reports listed in app. I explain how the fund receives fees and makes disbursements.) As of June 30, 1987, the fund had a balance of about \$1.5 billion. (See table 3.1.)

Table 3.1: The Nuclear Waste Fund, June 30, 1987

| | |
|--|---------------------------------|
| Beginning fund balance (April 1, 1987) | \$1,459,773,395 |
| Fees from waste owners (April-June 1987) | 112,465,266 |
| Investment income collected (April-June 1987) | <u>58,036,657</u> |
| Total funds available | <u>1,630,275,318</u> |
| Disbursements | (117,516,397) ^a |
| Change in cost and face value of long-term investments | <u>(16,498,543)^b</u> |
| Fund balance, June 30, 1987 | <u>\$1,496,260,379</u> |
| Cash balance, June 30, 1987 | \$ 161,379 |
| Funds invested, June 30, 1987 | \$1,496,099,000 |
| Unpaid obligations, June 30, 1987 | \$ 212,621,132 ^c |

Note: All fiscal year 1987 dollar figures for section 3 are based on preliminary figures from DOE's financial information system. Final figures will not be available until after this report is issued.

^aThese figures include amounts disbursed in April-June that were obligated in current and prior years.

^bActions such as early redemptions of Treasury notes cause the face value to be reduced at that point. It does not, however, denote a loss to the fund.

^cThis figure includes amounts of undisbursed obligations remaining from current and prior years.

NUCLEAR WASTE FUND
RECEIPTS AND COSTS

DOE has contracted with 66 owners and generators of spent fuel for a 1-mill-per-kilowatt-hour fee to be paid quarterly into the fund to finance the waste program. One new contract was signed this quarter. The fund began receiving quarterly fees late in fiscal year 1983 and, as of June 30, 1987, had collected a total of about \$1.5 billion, of which about \$111 million was collected this quarter.

Owners of spent fuel generated before April 7, 1983, must pay a one-time fee into the Nuclear Waste Fund for the disposal of their spent fuel. This fee must be paid before delivery of spent fuel to the federal government. About \$1.5 million was collected during this quarter.

NWPA provides that when the amount of the Nuclear Waste Fund exceeds current needs, DOE may request the Secretary of the Treasury to invest these excess funds in Treasury financial instruments in amounts as the Secretary of Energy determines appropriate. In the quarter ending June 30, 1987, DOE collected daily overnight investments interest of about \$361,685 and long-term investments interest (90 days or more) of about \$57.7 million.

OCRWM can obligate amounts from the Nuclear Waste Fund only as appropriated, regardless of the balance in the fund. (See table 3.2.) OCRWM's appropriations for fiscal year 1986 totaled \$499 million. Appropriations for fiscal year 1987 are \$499 million. The conference report stipulates that expenditure of \$79 million of this amount is subject to prior approval by the Subcommittees on Energy and Water Development, House and Senate Committees on Appropriations. The \$79 million is also subject to certification by the Secretary of Energy that DOE has made a good faith effort to comply with the requirements of consultation with states selected for site characterization. The Secretary will also provide a detailed explanation of his efforts.

OCRWM obligates funds by awarding contracts and grants, and also disburses funds for its civil service payroll and other program needs. Actual costs are recorded when invoices are received, and disbursements are recorded when payments are made. Obligations, costs, and disbursements are recorded in DOE's financial information system by the field finance offices that receive allocations from the fund. During the quarter, expenses totaled about \$120 million for the five major cost activities. (See table 3.3.)

Table 3.2: Nuclear Waste Program Appropriations

| | |
|---|----------------------|
| Carryover from prior years, as of September 1986 | \$ 21,778,417 |
| Fiscal year 1987 appropriation | <u>499,000,000</u> |
| Total for fiscal year 1987 | <u>\$520,778,417</u> |
| Total amount obligated as of June 30, 1987 | \$341,181,596 |

Table 3.3: Nuclear Waste Fund Costs, June 30, 1987^a

| <u>Funding category</u> | <u>First quarter FY87 costs</u> | <u>Second quarter FY87 costs</u> | <u>Third quarter FY87 costs</u> | <u>Fourth quarter FY87 costs</u> | <u>Cumulative FY87 costs</u> |
|--|-------------------------------------|--------------------------------------|-------------------------------------|--------------------------------------|----------------------------------|
| <u>First repository:</u> | | | | | |
| Development, construction, operations | \$60,735,740 | \$ 83,891,158 | \$ 93,542,622 | \$ - | \$ - |
| Capital equipment | 871,284 | 1,598,150 | 1,435,767 | - | - |
| Plant acquisition and construction | - | - | - | - | - |
| Total | 61,607,024 | 85,489,308 | 94,978,389 | | |
| <u>Second repository:</u> | | | | | |
| Development, construction, operations | 4,909,201 | 2,313,080 | 5,024,317 | - | - |
| Capital equipment | 17,000 | 64,000 | 28,000 | - | - |
| Plant acquisition and construction | - | - | - | - | - |
| Total | 4,926,201 | 2,377,080 | 5,052,317 | | |
| <u>Monitored retrievable storage:</u> | | | | | |
| Development, construction, operations | 97,866 | 254,122 | 455,262 | - | - |
| Capital equipment | - | - | - | - | - |
| Plant acquisition and construction | - | - | - | - | - |
| Total | 97,866 | 254,622 | 455,262 | | |
| <u>Program management and technical support:</u> | | | | | |
| Management and support | 9,644,060 | 13,477,518 | 12,003,716 | - | - |
| Capital equipment | 110,026 | 48,167 | 43,290 | - | - |
| Plant acquisition and construction | - | - | - | - | - |
| Total | 9,754,086 | 13,525,685 | 12,047,006 | | |
| <u>Transportation and system integration:</u> | | | | | |
| Design, development, and testing | 5,325,946 | 6,830,426 | 7,028,490 | - | - |
| Capital equipment | 186,268 | 5,838 | 236,689 | - | - |
| Total | 5,512,214 | 6,836,264 | 7,265,179 | | |
| Total | \$81,897,393 | \$108,482,959 | \$119,798,152 | \$ | \$ |

^aTotals may not add because of rounding.

Source: DOE's financial information system.

Most waste disposal activities have been and are being carried out by contractors. Of the \$120 million spent this quarter for program cost activities, DOE spent \$105 million for contractor services. About \$22.8 million obligated was for contractors. Since inception of the fund, OCRWM has obligated about \$1.5 billion for over 140 contracts.

SECTION 4

LITIGATION RELATING TO THE NUCLEAR WASTE PROGRAM

During the quarter ending June 30, 1987, none of the pending court cases involving the nuclear waste program were resolved (see previous quarterly reports for more detailed information on the individual cases). Although no new lawsuits were filed, several briefs were filed for consideration on pending cases.

PENDING LITIGATION

On March 4, 1987, the U.S. Court of Appeals granted the state of Washington's motion for expedited briefing of the motion by the state of Washington for a judgment declaring that the Secretary has no authority to postpone second repository siting activities. Petitioners' (states and others) briefs were due by May 22, 1987. Briefs were filed by the state of Washington, the Environmental Defense Fund, and People Against Nuclear Dumping. Joint briefs were also filed by the states of Oregon, Idaho, and Nebraska; the state of Texas and the Nuclear Waste Task Force; and the Yakima Indian Nation and Clark County Public Utility District.

DOE's response was filed June 29, 1987, and the petitioners filed a single joint reply brief on July 16, 1987. DOE argued in part that the petitioners could not "establish a concrete and immediate injury or threat of such injury, that is fairly traceable to the conduct of the Secretary" and therefore "cannot establish standing to challenge the decision to postpone site-specific activities in the second repository program." DOE also argued that the petitioners "base their claim of injury on the wholly unwarranted assumption that the effect of the Secretary's decision is that the second repository has been cancelled and there will be only one repository."

On March 4, 1987, the U.S. Court of Appeals denied motions filed by petitioners for discovery, without prejudice for refiling, which would have allowed them to serve DOE with requests to produce program documents relating to DOE's guidelines and first and second repository decisions. However, DOE has made a voluntary effort to make some of their information files accessible. According to DOE's Office of General Counsel, approximately 20 attorneys representing the petitioners will be examining DOE's records. The process is expected to last 120 days in headquarters and 90 days in the project offices. At the end of this quarter, the process continues and the deadline has not been determined. DOE anticipates a possible extension from the original time frame.

State of Tennessee v. Herrington

On March 31, 1987, DOE submitted its MRS proposal to the Congress along with an environmental assessment and a program plan that describes certain activities, costs, and schedules for siting, constructing, and operating an MRS facility in Oak Ridge, Tennessee. DOE was enjoined from submitting the proposal until the U.S. Supreme Court decided on March 30, 1987, against reviewing a Court of Appeals decision that NWPA did not require DOE to consult with any state before DOE submits the MRS proposal to the Congress.

On May 28, 1987, the state of Tennessee filed a notice of disapproval of DOE's proposal to put an MRS at Oak Ridge. The formal two-page notice from Tennessee's governor and the General Assembly went to the President of the Senate and the Speaker of the House. According to DOE, the notice of disapproval came 2 days after the U.S. Court of Appeals for the D.C. Circuit dismissed the lawsuit filed by the state of Tennessee, which sought judicial determination of the schedule that the state could follow in submitting its disapproval of DOE's MRS proposal.

Natural Resources Defense Council,
Inc., et al. v. the Environmental
Protection Agency and the United
States of America

The states of Maine, Minnesota, Texas, and Vermont and various environmental groups, including the Natural Resources Defense Council, Inc., and the Environmental Policy Institute, have filed suits challenging EPA's High-Level Waste Standards, which were published in September 1985. The suits were consolidated, and in March 1986 briefs were filed in the U.S. Court of Appeals for the First Circuit in Boston. These states and environmental groups allege that EPA standards are arbitrary and capricious and that the groundwater and individual protection provisions of the standards violate provisions of the Safe Drinking Water Act. According to an attorney from the Department of Justice, oral arguments were heard during the quarter ending December 1986.

DOE told us, on July 17, 1987, the Court of Appeals invalidated the standards on the ground that EPA had not adequately explained the basis for adopting standards less stringent than those provided for under the Safe Drinking Water Act. According to DOE, the court also found that EPA had not adequately explained the basis for the decision to limit certain requirements to 1,000 years and that EPA had failed to provide adequate notice and opportunity for comment before adopting part of the standards.

Lakes Environmental
Association v. DOE

On April 25, 1986, the Lakes Environmental Association, a group of local property owners in Maine, petitioned the U.S. Court of Appeals for the First Circuit to review and set aside certain aspects of DOE's general siting guidelines and the screening methodology for the second repository.

During the last quarter, this case was transferred to the Ninth Circuit and consolidated with the other environmental assessments cases. This case was still pending at the end of this quarter.

NEW LITIGATION THIS QUARTER

According to DOE's Office of General Counsel, no new lawsuits were filed during this quarter.

GAO REPORTS ON THE NUCLEAR WASTE PROGRAMANNUAL REPORTS TO THE CONGRESS

Department of Energy's Initial Efforts to Implement the Nuclear Waste Policy Act of 1982 (GAO/RCED-85-27, Jan. 10, 1985).

Nuclear Waste Policy Act: 1984 Implementation Status, Progress, and Problems (GAO/RCED-85-100, Sept. 30, 1985).

Nuclear Waste: Status of DOE's Implementation of the Nuclear Waste Policy Act (GAO/RCED-87-17, Apr. 15, 1987).

QUARTERLY REPORTS TO THE
SENATE COMMITTEE ON ENERGY
AND NATURAL RESOURCES

Status 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).

Status of the Department of Energy's Implementation of the Nuclear Waste Policy Act of 1982 as of June 30, 1985 (GAO/RCED-85-156, July 31, 1985).

Nuclear Waste: Quarterly Report on DOE's Nuclear Waste Program as of September 30, 1985 (GAO/RCED-86-42, Oct. 30, 1985).

Nuclear Waste: Quarterly Report on DOE's Nuclear Waste Program as of December 31, 1985 (GAO/RCED-86-86, Jan. 31, 1986).

Nuclear Waste: Quarterly Report on DOE's Nuclear Waste Program as of March 31, 1986 (GAO/RCED-86-154FS, Apr. 30, 1986).

Nuclear Waste: Quarterly Report on DOE's Nuclear Waste Program as of June 30, 1986 (GAO/RCED-86-206FS, Aug. 11, 1986).

Nuclear Waste: Quarterly Report on DOE's Nuclear Waste Program as of September 30, 1986 (GAO/RCED-87-48FS, Nov. 5, 1986).

Nuclear Waste: Quarterly Report on DOE's Nuclear Waste Program as of December 31, 1986 (GAO/RCED-87-95FS, Feb. 19, 1987).

Nuclear Waste: Quarterly Report on DOE's Nuclear Waste Program as of March 31, 1987 (GAO/RCED-87-139FS, May 13, 1987).

OTHER CONGRESSIONAL REPORTS

Nuclear Waste: Monitored Retrievable Storage of Spent Nuclear Fuel (GAO/RCED-86-104FS, May 8, 1986).

Nuclear Waste: Impact of Savannah River Plant's Radioactive Waste Management Practices (GAO/RCED-86-143, July 29, 1986).

Nuclear Waste: Issues Concerning DOE's Postponement of Second Repository Siting Activities (GAO/RCED-86-200FS, July 30, 1986).

Nuclear Waste: Cost of DOE's Proposed Monitored Retrievable Storage Facility (GAO/RCED-86-198FS, Aug. 15, 1986).

Nuclear Waste: Institutional Relations Under the Nuclear Waste Policy Act of 1982 (GAO/RCED-87-14, Feb. 9, 1987).

Nuclear Waste: Status of DOE's Nuclear Waste Site Characterization Activities (GAO/RCED-87-103FS, Mar. 20, 1987).

Nuclear Waste: DOE Should Provide More Information on Monitored Retrievable Storage (GAO/RCED-87-92, June 1, 1987).

REPORTS TO AGENCY OFFICIALS

Department of Energy's Program for Financial Assistance
(GAO/RCED-86-4, Apr. 1, 1986).

TESTIMONY

Nuclear Waste: DOE Should Provide More Information on Monitored
Retrievable Storage (GAO/T-RCED-87-30, June 11, 1987).

Nuclear Waste: DOE Should Provide More Information on Monitored
Retrievable Storage (GAO/T-RCED-87-35, June 18, 1987).

OTHER DOCUMENTS

NUS Corp. et al., B-221863, June 20, 1986 (Decision).

Letter Response on GAO's MRS Fact Sheet, B-202377, Aug. 21,
1986.

Study of Legal Issues Concerning Postponement of the Second
Repository Program, B-223315, B-223370, Sept. 12, 1986.

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