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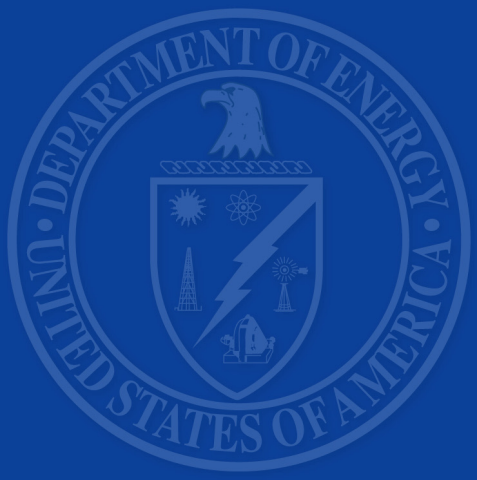
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

OCRWM

Annual Report to Congress December 2004



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For further information, contact:

U.S. Department of Energy
Office of Civilian Radioactive Waste Management
Planning and Administration Division, RW-54
1000 Independence Avenue, S.W.
Washington, D.C. 20585

For additional copies, call:
1-800-225-6972

or visit
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PREFACE

This report highlights the progress the Office of Civilian Radioactive Waste Management has made toward achieving a critical objective: the submission to the Nuclear Regulatory Commission of a high-quality, defensible application for an authorization to construct a Yucca Mountain repository. It also describes the main accomplishments of the Program in Fiscal Year 2003, the work that is underway in Fiscal Year 2004, and key aspects of the work planned for Fiscal Year 2005. The appendix contains the Office of Civilian Radioactive Waste Management Accountability Report dated September 30, 2003.

EXECUTIVE SUMMARY

During Fiscal Year 2004, the Department of Energy made considerable progress towards completion of work necessary for the submission of a high-quality license application to the Nuclear Regulatory Commission and to begin repository operations at Yucca Mountain, Nevada.

With the approval of Yucca Mountain as a suitable repository site, the focus has shifted from scientific study to the design, licensing, and construction of a repository and the development of transportation and waste acceptance systems. The Office of Civilian Radioactive Waste Management has established three projects: the Yucca Mountain Project, the National and Nevada Transportation Project, and the Waste Acceptance Project. The Program is now a project-oriented organization that will manage capital projects efficiently and cost-effectively, secure a repository license from the Nuclear Regulatory Commission, and achieve operation of the repository. The Program has established a technical, cost, and schedule baseline through construction authorization, along with a formal change control process. The Program has prepared a Capital Asset Management Plan showing how the goals of the Nuclear Waste Policy Act will be efficiently realized, and has installed a new senior management team with strong skills and extensive experience in the successful management of large capital projects.

The Department of Energy is committed to achieving a project management and organizational culture founded on the highest standards of safety and quality. The Program has undertaken major management initiatives to improve performance in such areas as Quality Assurance, Safety-Conscious Work Environment, and the Corrective Action Program, and to better define roles, responsibilities, authority, and accountability. These initiatives have better positioned the Department of Energy to be a successful licensee and to meet mandated requirements for a safe repository.

The Program will submit to the Nuclear Regulatory Commission a high-quality, defensible license application that meets regulatory requirements, merits the Commission's confidence, and provides the basis for beginning repository operations.

To add flexibility and reduce the cost and time to initial operation, the Program will take a "phased" approach to developing the repository. This means that when a license to receive and possess spent nuclear fuel and high-level radioactive waste at the site is received, the

initial phase of repository surface and underground facilities will be ready for the receipt, handling, packaging, and acceptance of waste. This approach reduces annual funding requirements by spreading capital construction costs over an extended period of time, allows the Department of Energy to take advantage of lessons learned, and offers the flexibility to adapt to changing information and circumstances and to incorporate new technology. The Program has also established a cost reduction and system enhancement program that, together with phased development of the repository, will improve operations, schedule, and cost over the repository's operating life.

The Department of Energy has made the key policy decisions required to develop the national and Nevada transportation systems for shipping spent nuclear fuel and high-level radioactive waste to the repository. The Department of Energy has issued a Transportation Strategic Plan and begun interacting with key stakeholders on the major transportation issues. On April 5, 2004, the Department of Energy announced the issuance of a Record of Decision choosing the mostly rail mode and selecting the Caliente Corridor in Nevada for construction of a branch line to the repository at Yucca Mountain.

The Department of Energy is ensuring that repository facilities and the transportation infrastructure are compatible with the wastes destined for Yucca Mountain. It is also managing the Program to ensure that all its elements merge into a single waste management system and that its work is accomplished efficiently, cost-effectively, and according to the highest standards of safety and quality.

The design, construction, and operation of the repository and the supporting transportation infrastructure will require increased funding for the Program several years in advance of receiving construction authorization from the Nuclear Regulatory Commission. Although the annual receipts and accumulated amounts in the Nuclear Waste Fund are enough to fund current needs, budget processes have severely limited access to those funds. In recent years, the Program has had to defer important work on the repository and most work on transportation largely because of budget shortfalls. The Administration has submitted a proposal to assure the availability of the long-term funding required to accomplish the objectives of the Nuclear Waste Policy Act in a timely manner. If funds are available as needed, the Department of Energy is well positioned to achieve the goal of beginning to accept waste in the world's first geologic repository for spent nuclear fuel and high-level radioactive waste.

PROGRAM OVERVIEW

Solving a National Problem

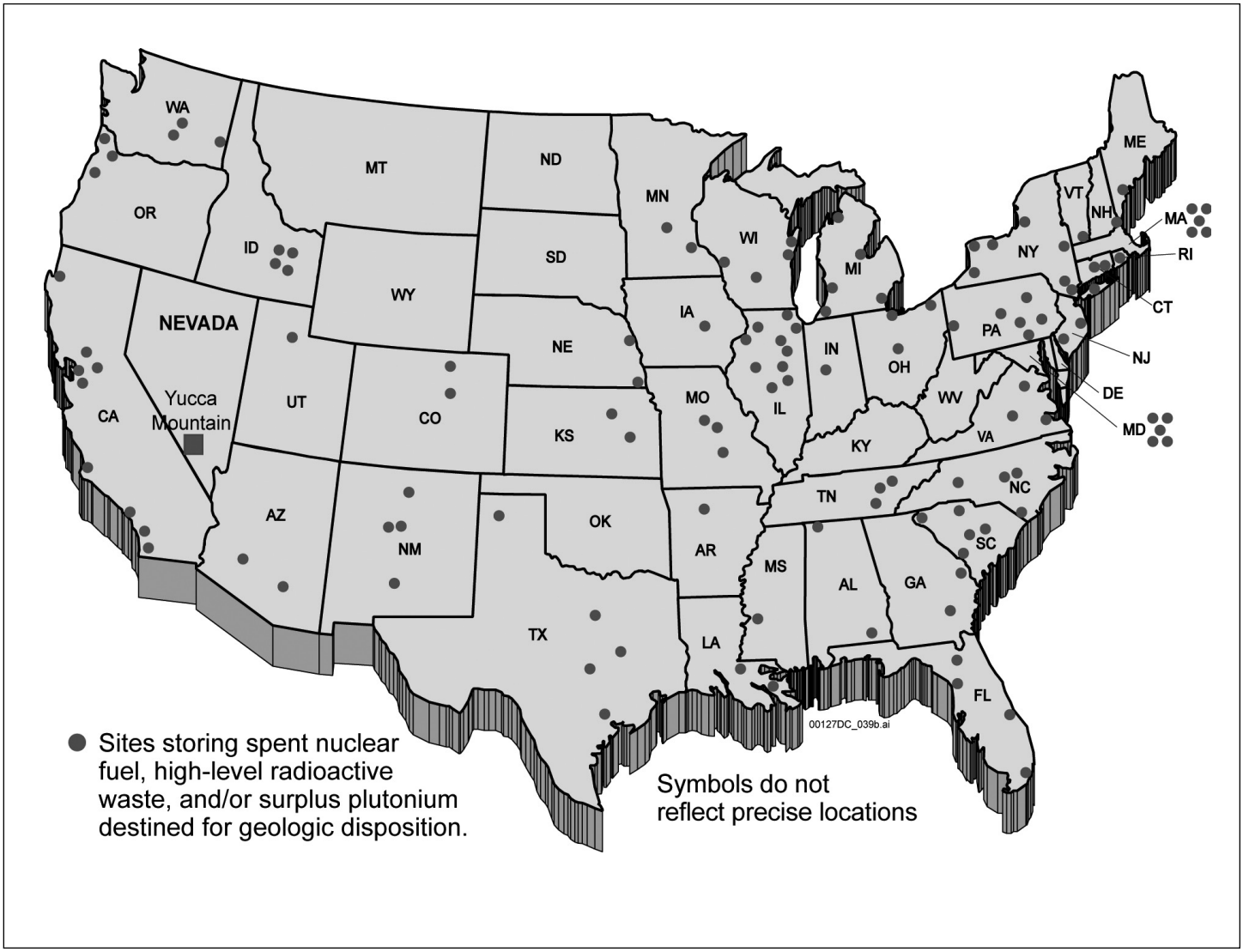
The nuclear waste problem

For more than half a century, the United States and countries across the world have been generating spent nuclear fuel (SNF) and high-level radioactive waste (HLW) by using nuclear materials to produce electricity, power naval vessels, perform research and development, and support the nuclear weapons program. For some elements of this waste, the radiation hazards remain serious for a few to several hundred years; for other elements, the hazards remain serious for thousands of years. This waste must be safely contained so that it does not pose a significant risk to human health and the environment. The SNF and HLW that have accumulated in the United States since the mid-1940s is currently stored in temporary facilities at 125 sites in 39 states. More than 160 million Americans live within 75 miles of one or more of these sites. The SNF and HLW destined for geologic disposal comes from five main sources.

1. *Commercial nuclear power generation:* The United States has to date produced 50,000 metric tons of heavy metal (MTHM) of SNF from commercial nuclear utilities. The SNF is now stored in 33 states at 72 commercial reactor sites.
2. *Production of nuclear weapons:* The production of nuclear weapons during World War II and the Cold War has left a legacy of SNF and HLW. The HLW was created when SNF was treated chemically to separate uranium and plutonium. The HLW and SNF are temporarily stored at sites in three states. This includes approximately 2,500 MTHM of surplus SNF from weapons production and a small amount from Department of Energy (DOE or the Department) research reactors.
3. *Disposal of surplus plutonium:* The end of the Cold War has brought the challenge of disposing of approximately 50 metric tons of surplus weapons-usable plutonium. Under current plans, 34 metric tons of this weapons-usable plutonium and fresh fuel would be fabricated into mixed oxide fuel, irradiated

in nuclear reactors, thereby burning up some of the plutonium and would subsequently be disposed of as SNF at the geologic repository. Currently, there is no path forward for the remaining 16 metric tons.

4. *Operation of naval nuclear vessels:* About 40 percent of the principal combat vessels of the United States Navy's fleet are nuclear powered. They must periodically be refueled and the SNF removed. This SNF is currently stored at surface facilities in the United States under temporary arrangements.
5. *Research reactors:* The federal government has provided nuclear fuel for use in domestic and foreign research reactors and laboratories. To limit the risk to the public and support non-proliferation objectives, the SNF provided for foreign use is returned to the United States and placed in temporary storage at Department sites. Domestic research SNF is stored at research reactors at 39 sites in 24 states and at Department sites.



A geologic repository at Yucca Mountain, Nevada, would consolidate SNF and HLW that is currently stored at 125 sites in 39 states.

The legislative mandate: permanent geologic disposal

The Nuclear Waste Policy Act (the Act or the NWPA), established a comprehensive federal policy to solve the national problem of what to do with SNF and HLW. The Act called for the development of one or more geologic repositories for the safe and final disposal of these wastes. A geologic repository is a facility deep underground in a stable geologic formation in which carefully packaged waste is placed for permanent disposal. A geologic repository does not require perpetual human care, relying instead on geologic formations that have remained relatively stable for millions of years and on long-lived engineered barriers.

The Act assigned the primary responsibility for implementing the national policy to the Department. The Act also identified specific actions to be undertaken by the Secretary of Energy (the Secretary) in characterizing a potential repository site and deciding whether to recommend the approval of the site to the President.

The Act:

- Establishes federal responsibility and policy for the disposal of SNF and HLW.
- Establishes a process for the siting, construction, and operation of a geologic repository.
- Establishes the Nuclear Waste Fund (NWF or the Fund) to ensure that the costs of disposal are borne by those responsible for generating the waste.
- Authorizes the Department to enter into contracts with nuclear utilities to begin accepting their spent fuel for disposal by January 31, 1998, in return for the fees they pay to cover the costs of disposal.
- Establishes the Office of Civilian Radioactive Waste Management (OCRWM or the Program) to carry out the responsibilities assigned to the Department.
- Directs the Environmental Protection Agency (EPA) to promulgate radiation protection standards.
- Directs the Nuclear Regulatory Commission (NRC) to promulgate technical requirements and criteria for approving applications to construct, operate, and close a geologic repository.

In 1987, Congress adopted amendments to the Act that directed that only the Yucca Mountain site be characterized for potential use as a repository. These amendments also established the Nuclear Waste Technical Review Board (NWTRB or the Board) to evaluate the technical and scientific validity of activities undertaken by the Department. The Act, as amended, set forth an open, orderly, and step-by-step process for studying, recommending, and approving the Yucca Mountain site and for the construction, operation, and eventual closure of the repository.

After over 20 years of research and billions of dollars of carefully planned and reviewed scientific work, the Department concluded, in

2002, that a repository at Yucca Mountain brings together a location, natural barriers, and design elements that will protect the health and safety of the public and the environment. In February 2002, the Secretary recommended the Yucca Mountain site to the President, and the President recommended it to Congress. Congress passed a joint resolution approving the Yucca Mountain site, which the President signed into law on July 23, 2002.

That resolution cleared the way for submission of a license application to the NRC – the next critical step toward a permanent solution to the problem of radioactive waste. As a result, the Program has shifted its focus from studying the site to licensing, building, and operating the repository, and developing the system for accepting and shipping waste to the repository for disposal.

License Application

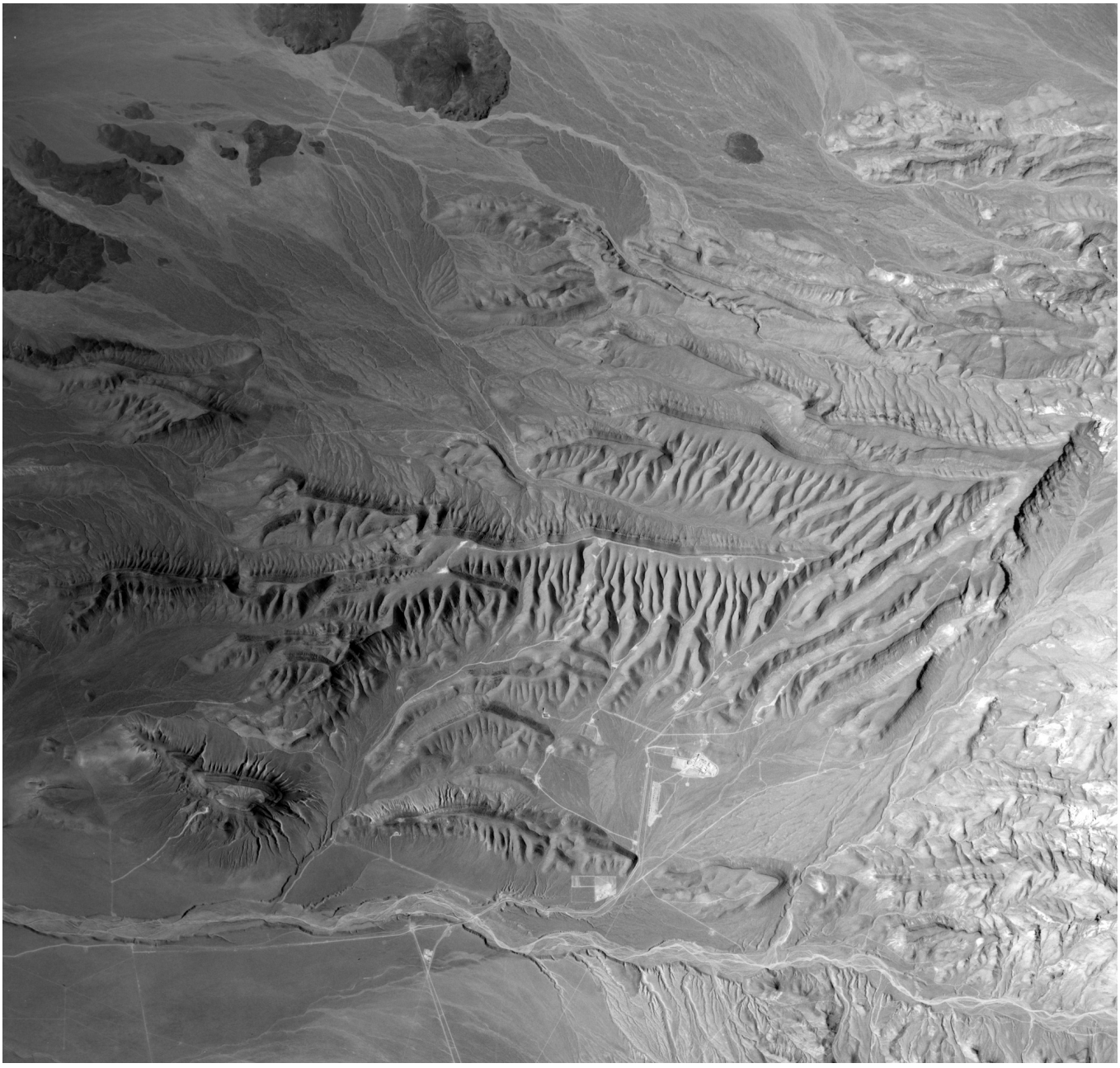
The license application will be the largest, most complex document the Program has ever written. It is expected to be about 5,500 pages long, with several hundred key supporting references, approximately 400 engineering drawings, and 33 system description documents describing how individual systems will work. It will contain a description of the site's physical features and other characteristics such as meteorological data and geologic and seismic information. The license application and its supporting references also will include design information for the three major site elements—the underground repository, the surface facilities, and the waste package—as well as descriptions of key repository programs, such as quality assurance, radiation protection, performance confirmation, and the total system performance assessment.

The Program Objective: Receive Waste at a Licensed Yucca Mountain Repository

The Program's key objective is to begin receiving waste at the NRC-licensed Yucca Mountain repository. To achieve that objective, the Program must seek and secure authorization to begin operation of the repository from the NRC, begin constructing the repository, receive a license amendment to allow the receipt of waste and operation of the repository, and develop the system for accepting waste from civilian and defense storage sites and shipping it to the repository.

The cost of storing and handling Departmental defense waste alone is estimated to be $500 million annually. Court decisions have already established the government's liability for damages for not beginning to take possession of commercial spent fuel by 1998. While an accurate calculation of damages must await determinations by the courts, it is reasonable to assume that the amount of damages may be substantial and will increase with each year of delay.

Achieving operation of a repository will require much greater resources than the Program has thus far received. DOE estimates that it will cost about $8 billion to construct the repository and develop the transportation system.



Aerial view of Yucca Mountain and vicinity.

The FY 2005 Budget Request

The budget request for Fiscal Year (FY) 2005, $880 million, was a significant increase over historical funding levels. This was an increase that had been carefully planned and understood for many years as being required by the referenced Program schedule based on submission of a license application in December 2004. The activities planned for FY 2005 included preparation for commencement of the formal licensing process and initiation of certain activities—in the areas of repository readiness and detailed design, transportation system development, and waste acceptance readiness—needed to permit timely construction and ensure readiness for operations.

The funding shortfall resulting from the actual FY 2005 appropriation of $557 million, the delay in the license application beyond December 2004, and the uncertainties resulting from the Court of Appeals decision concerning the EPA standard for the repository have necessitated replanning and rescheduling of these activities. This replanning will be reflected in the budget request for FY 2006. The Department is confident that, when this replanning is completed, it is positioned to commit funds responsibly and effectively to complete preparation of and defend the license application; to accelerate repository surface, subsurface, and waste package design work needed for construction authorization; to conduct conceptual and preliminary design activities for Nevada transportation; and to initiate the necessary procurements, including transportation cask acquisition and important repository safety infrastructure upgrades.

DOE WILL SUBMIT A HIGH-QUALITY LICENSE APPLICATION

The Program is working to complete a high-quality, defensible license application (including the underlying scientific, technical, and design work) that meets regulatory requirements, merits the NRC's confidence, and supports the granting of construction authorization within three years. OCRWM will have addressed all remaining technical issues with the NRC by the time it submits the license application, and will have taken major strides toward meeting the NRC's expectations for an organization to manage and undertake a major, first-of-a-kind nuclear project. Although considerable progress was made towards completing work on a license application, DOE will not submit a license application before the end of 2004. The submission date is dependent on completion of (1) work necessary to support a high-quality license application, (2) additional work relating to the Licensing Support Network (LSN), and (3) evaluation of the effects of the Court of Appeals decision on the EPA standard.

OCRWM is Resolving Remaining Technical Issues

NRC Key Technical Issues

Since 1996, the Program and the NRC have focused significant attention on nine topics, or Key Technical Issues (KTI), that the NRC considers important in evaluating the post-closure performance of the Yucca Mountain repository. During 2000 and 2001, the Program met with the NRC to discuss each KTI and achieve technical agreement on the information needed for resolution of the issues. As a result of these meetings, 293 agreements were reached regarding information OCRWM would provide to supplement the basis for the NRC review of the license application. Interactions between the Program and the NRC before submittal of a license application continue to focus on the resolution of issues relevant to licensing. These interactions are open to the public, the State of Nevada, affected units of local government, and other interested parties.

The prelicensing activities will improve the likelihood that the review of the application can be completed as provided in the Act. In their sufficiency comments submitted under the Act at the time of the Yucca Mountain site recommendation, the NRC stated: "Although significant additional work is needed prior to the submission of a possible license application, we believe that agreements reached between DOE and NRC staff regarding the collection of additional information provide the basis for concluding that development of an acceptable license application is achievable."

The 293 agreements were made prior to site recommendation, largely for documentation and data confirmation. The NRC used these agreements as a basis for their sufficiency comments that accompanied the site recommendation. Initially, the Program responded to these agreements individually, or in small groups. In 2003, it undertook a more integrated and efficient approach by "bundling" these agreements into 14 groups that reflect the major processes that affect the long-term safety of the repository.

As of September 30, 2004, the Program had submitted complete responses to all 293 agreement items to the NRC. A total of 108 responses have been reviewed and closed by the NRC. The NRC is currently reviewing the responses to 183 agreement items for completeness and needs additional information on 2 items. The NRC and the Program agree that every response need not be closed by NRC before submittal of the license application.

Other technical issues

While the Program is concentrating on the technical issues that the NRC expects it to address for the license application, it is also considering issues raised by the Nuclear Waste Technical Review Board. For example, the Board concluded in a November 2003 report that water vapor combining with corrosive chemicals in dust on the waste packages during the period in which the temperatures in the repository exceed the boiling point of water might cause crevice corrosion to initiate. In response to the Board's concerns, the Department of Energy conducted further tests and analyses to better explain the basis for its position that the conditions that could cause such "deliquescence-induced" corrosion would be unlikely. That information was presented to the Board in May 2004. On July 28, 2004, the Board wrote to the Department stating their conclusion, based on the information presented in May, that deliquescence-induced corrosion would be unlikely to occur.

The Department believes that the licensing process will ensure that any issue that has significant potential for affecting safety will receive rigorous scrutiny. A repository will not be constructed, much less operated, unless such issues have been addressed to the NRC's satisfaction. Even after operation begins, the NRC's regulations require the Program to conduct a long-term performance confirmation program to collect and analyze data to verify the basis for the repository license.

OCRWM must also ensure that the waste can be retrieved from the repository if necessary for at least 50 years after emplacement begins, in the event that the results of performance confirmation indicate that changes are necessary. In fact, the repository will have the capability to remain open for at least 100 years, allowing ample time to improve scientific understanding and deploy new technology as appropriate.

OCRWM is Developing a "Nuclear Culture"

A Yucca Mountain repository is a major, first-of-a-kind nuclear project. The Program must demonstrate to the NRC that it can construct and operate a repository at Yucca Mountain that can safely isolate waste. For that reason, the NRC will consider, in deciding whether to grant the Program a license, not only whether the repository is likely to be safe for that long time period, but also whether the Program is an organization that can meet the high standards of quality and safety required for such an endeavor.

For over 20 years, the repository workforce has operated under a scientific site investigation mode at Yucca Mountain. The Program must now undergo a significant cultural change to operate as a NRC licensee.

The Program is implementing major management initiatives to ensure that it fully meets the requirements of a NRC licensee. These initiatives:

- Clarify roles, responsibilities, authority and accountability within the Program, particularly between implementing line functions and the Quality Assurance (QA) program.
- Ensure that the best QA practices – which assure that the information in the license application is objective, accurate and documented – become an integral part of everyday work.
- Implement an effective Safety-Conscious Work Environment.
- Establish a strong Corrective Action Program.
- Streamline the procedure process and emphasize compliance to procedures.

A particularly important and challenging aspect of the required culture change has been the need to conform the Program's scientific, technical, and design work to the rigorous procedural requirements that are unique to licensing commercial nuclear projects in the United States. These requirements call for careful and detailed documentation of how scientific and design work was done so that the work can be defended in a rigorous licensing proceeding. A nuclear QA program ensures that these requirements are met by implementing detailed

procedures for performing and documenting technical work so that it is reproducible, retrievable, transparent, and traceable. It is important to recognize that work not performed and documented in accordance with QA procedures is a condition that needs to be corrected but does not suggest a fundamental defect in the work itself.

OCRWM is committed to carrying out its mission in a manner that protects the health and safety of the public and workers, protects the environment, and satisfies applicable regulatory requirements. In keeping with these commitments, OCRWM has developed a rigorous QA program that applies to work that could impact radiological safety or waste isolation and that is designed to respond to these NRC requirements.

On April 10, 2004, the NRC issued the *U.S. Nuclear Regulatory Commission Staff Evaluation of U.S. Department of Energy Analysis Model Reports, Process Controls and Corrective Actions*. The document is an evaluation of DOE Analysis Model Reports (AMRs), process controls, and corrective actions based on audits of AMRs for waste package corrosion, commercial spent nuclear fuel waste form degradation, and drift degradation. The evaluation noted improvements in technical information, corrective actions, data management, and software documentation. At the same time, it identified concerns with the clarity of certain technical bases and the sufficiency of some technical information. The evaluation neither assessed nor made any findings about the technical quality of the work described in the AMRs that were reviewed. The NRC stated that these concerns could have been prevented with more rigor in DOE's review process and more effective corrective actions. If not improved, the NRC stated that these problems could result in a large number of requests for additional information during the NRC's review of the license application and could cause an extension of its schedule for a construction authorization decision.

The Department does not believe that these problems have affected the technical basis of the Program, and it stands by the technical information and safety evaluation of the repository. However, OCRWM takes the NRC's concerns seriously, accepts the evaluations, and agrees that the AMRs, as currently written, could have led to a protracted NRC review. Following the NRC audits, DOE initiated a technical review that resulted in the formation of the Regulatory Integration Team, consisting of 150 top scientists and regulatory experts, to integrate the AMRs, identify and resolve quality and technical issues, and improve the transparency and traceability to support NRC's review. Separately, OCRWM is making other improvements in such areas as the Corrective Action Program and analysis of trends in QA compliance.

The Department is Addressing the Need for Adequate Funding

DOE and Congress have been aware for many years that funding requirements for the Program would increase substantially as it approached construction and transportation system development. The design, construction, and operation of the repository and acquisition and development of the transportation infrastructure will require increased funding for the Program several years in advance of the construction authorization from the NRC. Much greater certainty of funding is needed for such a large capital project to ensure proper and cost-effective planning and acquisition of capital assets. Delays increase costs without fulfilling the federal responsibility for safe, secure disposal of the waste.

In accordance with the funding approach established in the NWPA, the Department collects annual fees from nuclear utilities for disposal of their SNF. The fees are reflected in utility bills that their customers receive. In FY 2005, an estimated $749 million will be collected. The resources will be there to allow timely operation of a repository if Congress makes them available as needed for their intended purpose.

The Administration has proposed legislation to Congress that would reclassify the annual receipts that are deposited into the NWF as discretionary and credit them as offsetting collections to annual appropriations. By allowing the mandatory collections to be credited as discretionary, the net discretionary appropriation would be $0. The proposed legislation would be effective until construction is complete for surface facilities for the fully operating repository. Under this proposal, the Program would continue to be subject to the annual appropriations process and congressional oversight. There would be no weakening of external fiscal control of the Program. This proposal would simply allow the Appropriations Committees to provide funding sufficient for the Program's needs without interfering with other DOE programs.

Who Pays for the Program and How

The Nuclear Waste Policy Act of 1982 established that, while the federal government had the responsibility for disposing of highly radioactive waste, those who generated the wastes had the responsibility of paying for it. Those utilities with nuclear power plants would pay a fee to fund the disposal of wastes from their plants. The federal government would pay for disposing of defense waste out of federal tax revenues.

The Act directed the Secretary of Energy to enter into legally binding, fee-for-service contracts with utilities. In return for the service of disposal, utilities would pay fees to be deposited in the Nuclear Waste Fund where they would earn interest until spent.

In setting up the Nuclear Waste Fund, Congress recognized that the Program was a first-of-a-kind scientific and engineering endeavor that could succeed only through a sustained effort over a period of many decades. Thus, the Nuclear Waste Fund was originally designed to provide the adequate, assured, and stable funding—free from normal budgetary pressures—required for such a long-term effort.

The Nuclear Waste Fund was also intended to cover the entire cost—no more and no less—of the Program to dispose of commercial waste. The Secretary of Energy is to regularly review the Nuclear Waste Fund and projected costs of the Program to determine whether the fee is enough to cover its full costs. If the fee is too high or too low, the Secretary must propose to raise or lower the fee as required. The Department's most recent fee adequacy report, issued in May 2001, shows the current fee is enough to cover the Program's costs.

The original intent of this funding mechanism was to ensure that the fees utilities paid into the Nuclear Waste Fund, along with the interest they had earned, would be available as the Program needed them. Thus, the Nuclear Waste Fund would build up surpluses during the early years of scientific study that could be drawn on later to meet the higher costs of repository construction and operation. However, later budget deficit control laws have limited the ability of Congress to appropriate money from the Nuclear Waste Fund from year to year. As a result, the Program has repeatedly deferred and narrowed the scope of work so that it can continue to make progress with annual funding that is considerably less than required.

THE PROGRAM IN DETAIL: DESCRIPTION, ACCOMPLISHMENTS, AND PLANS FOR FY 2003-2005

As the Program's focus shifted from scientific study to licensing and constructing a repository and developing a transportation system, the Program was restructured into three main Projects:

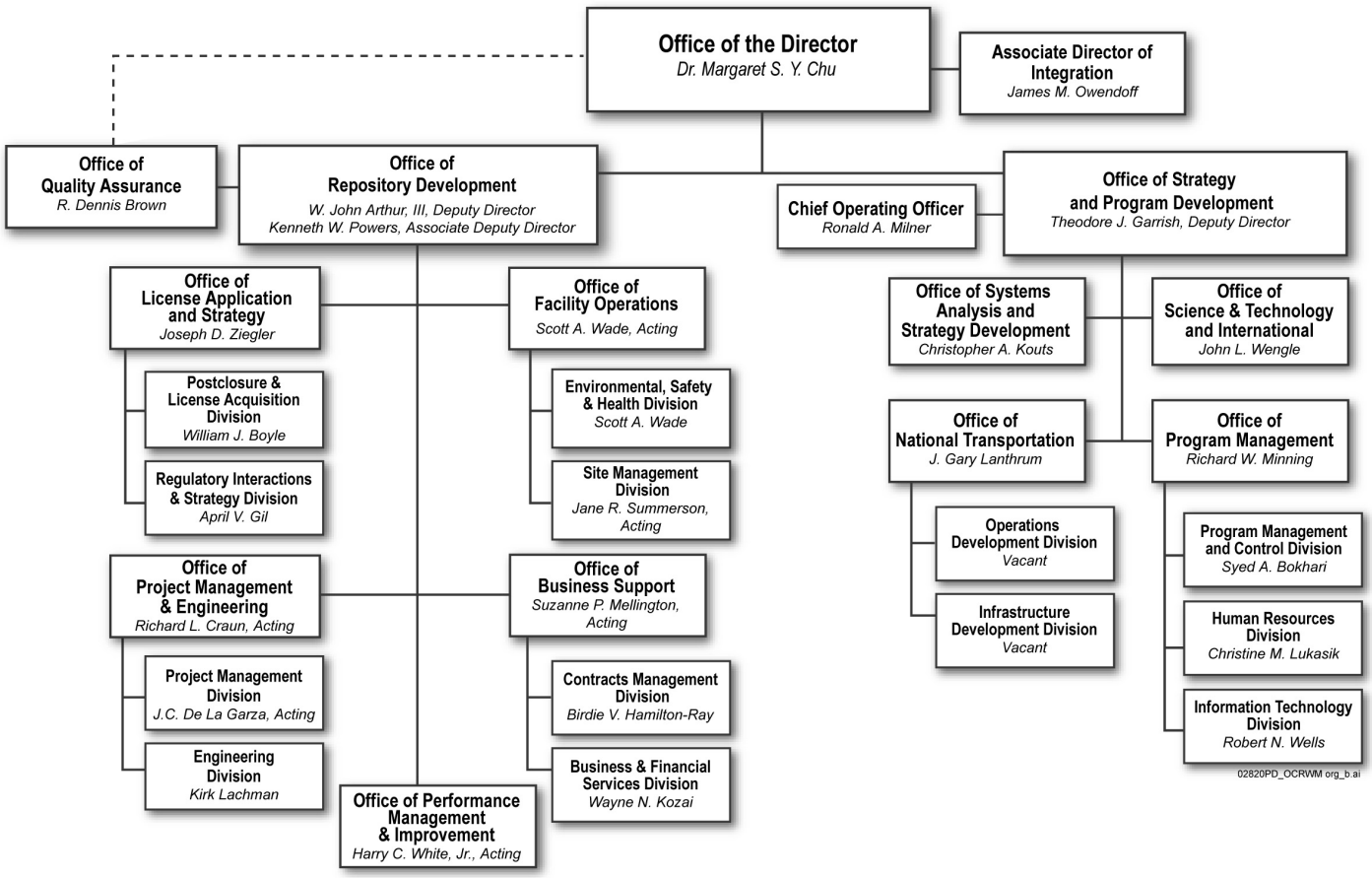
- The Yucca Mountain Project to seek a license and construct the repository.
- The National and Nevada Transportation Project to develop the system for transporting waste to the repository.
- The Waste Acceptance Project to establish the process by which waste will be accepted at the repository.

These three projects are supported by Program Management. The OCRWM organization for managing these activities is shown in the chart on the following page.

All three Projects are on parallel critical paths to meet the goal of beginning to accept waste in a licensed Yucca Mountain repository. To begin operation of a repository, the Program must submit high-quality licensing documents that support the timely granting of construction authorization and permission to receive and possess SNF and HLW. Because the Program has deferred essential work on transportation in the past, it must continue with an accelerated effort to develop the transportation system, including the Nevada rail line, to ensure it is ready to support the start of repository operations.

The subsequent pages contain a description of the three Projects and Program Management, and the work accomplished, ongoing, and planned in each over the three-year period FY 2003-2005.

Office of Civilian Radioactive Waste Management



THE YUCCA MOUNTAIN PROJECT

The objective of the Yucca Mountain Project is to license and develop a geologic repository at Yucca Mountain for the receipt and disposal of SNF and HLW. Its work includes conducting scientific studies and analyses; developing the repository design; preparing and updating the license application, environmental impact statement (EIS), and land withdrawal documentation; constructing the repository after receipt of the construction authorization; and receiving and emplacing SNF and HLW in the repository after the NRC grants a license to receive and possess waste. The repository license application is now the primary focus of the Project.

A geologic repository consists of the surface and underground facilities needed to receive, handle, package, store, and dispose of SNF and HLW. The repository at Yucca Mountain will rely on natural barriers and engineered features working together to protect the public's health and safety and the environment.

In October 1998, miners completed the 1.7-mile cross-drift tunnel built for scientific studies near the potential repository area.

Yucca Mountain site

Scientists have long considered Yucca Mountain a promising site for a repository due to the area's stable geology, dry climate, deep water table, closed water basin, and remoteness. Yucca Mountain is located in Nye County, Nevada, about 100 miles northwest of Las Vegas.

For more than 20 years, scientists have been investigating every aspect of the natural processes—past, present, and future—that could affect the ability of a repository beneath Yucca Mountain to isolate radionuclides. The mountain is one of the most thoroughly researched sites in the world.

Yucca Mountain has changed little over the last several million years. Extensive scientific studies of potential natural hazards at the site show it is highly unlikely that volcanoes, earthquakes, erosion, or other geologic processes and events will disrupt a repository at Yucca Mountain.

Yucca Mountain receives less than 7.5 inches of precipitation on average per year. Most of that precipitation runs off the mountain or evaporates. Yucca Mountain's dry climate is an important feature because water is the primary way by which radionuclides could be transported from the repository into the accessible environment.

The repository will be located in solid rock about 1,000 feet under the surface and on average about 1,000 feet above the water table. Studies show that although the water table has fluctuated in wetter seasons, it has never risen to the level of the repository.

Groundwater underneath Yucca Mountain flows southward for roughly 20 miles under Amargosa Valley, where it combines with groundwater from other areas. Some of this groundwater may eventually flow underground to Death Valley, 50 miles from Yucca Mountain. None of the groundwater enters sources that supply population centers.

Yucca Mountain is located at the edge of the Nevada Test Site where more than 900 nuclear weapons tests have been conducted. Yucca Mountain is surrounded by thousands of additional acres of land withdrawn from the public domain for use as a protected wildlife range and a military gunnery range, creating an unpopulated land area comprising approximately 5,470 square miles.

The U.S. Air Force Nevada Test and Training Range (formerly called the Nellis Air Force Range)—with its restricted airspace and defensive capabilities—surrounds the Yucca Mountain site on three sides.

The Regulatory Framework for Repository Development

The Nuclear Regulatory Commission has the statutory responsibility to ensure that a repository licensed and constructed at Yucca Mountain will meet stringent safety standards. The Nuclear Regulatory Commission will license the geologic repository under 10 Code of Federal Regulations Part 63, Disposal of High-Level Radioactive Wastes in a Proposed Geologic Repository at Yucca Mountain. This regulation implements the repository safety standards issued by the Environmental Protection Agency in 40 Code of Federal Regulations Part 197. The Nuclear Regulatory Commission licensing process consists of incremental steps. The Department will submit a license application and its Final Environmental Impact Statement, with any supplementary information, for construction authorization. The Nuclear Regulatory Commission will perform a docketing review, and upon docketing the license application, will perform a detailed technical review, prepare a safety evaluation report, and conduct mandatory formal hearings as mandated by the Nuclear Waste Policy Act.

After completing those activities, the Nuclear Regulatory Commission is expected to grant a construction authorization if it determines that the repository will meet regulatory requirements. The Department will then construct those surface and underground facilities needed for the initial phase of operations. The Nuclear Regulatory Commission will provide on-site inspection throughout the construction period. When construction for initial operations is substantially completed, the Department will submit an update to the license application for the Nuclear Regulatory Commission's review. The Nuclear Regulatory Commission will perform a technical review, update the safety evaluation report, and offer the opportunity for public hearings. After completing those activities and determining if the repository meets the requirements, the Nuclear Regulatory Commission is expected to issue the license to receive and possess waste, and the Department will begin receipt of waste. The Nuclear Regulatory Commission will provide on-site inspection throughout the operations period.

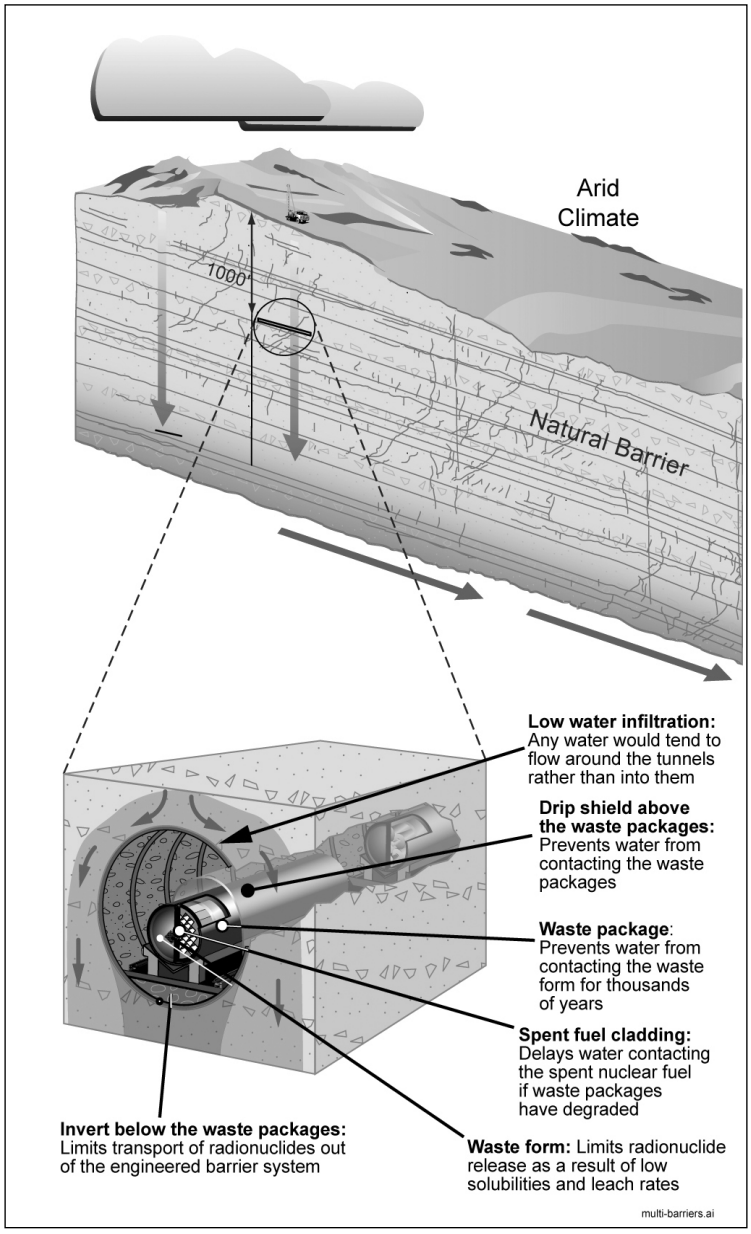
Recently, the U.S. Court of Appeals vacated the 10,000-year compliance period in the EPA standard for Yucca Mountain and the NRC implementing regulations on the grounds that it was not consistent with the findings and recommendations of the National Academy of Sciences. DOE intends to work with the EPA and Congress to determine appropriate steps to address this issue.

Repository design

The Department has developed a repository design concept that will work with the natural environment of Yucca Mountain to isolate radioactive materials.

According to the preliminary design, the underground repository will consist of about 50 miles of tunnels for access, emplacement of waste, and ventilation.

Using remote-handling equipment, repository workers will remove the waste from the shipping containers and place it in specially designed waste packages. The waste packages will be double-shelled, with the outer layer made of a highly corrosion-resistant metal alloy, Alloy 22, and the inner layer made of structurally strong stainless steel.



Graphic depicting how the repository's natural and engineered features will work together to isolate highly radioactive waste.

Protected from radiation by shielding equipment, workers will weld seal the waste packages and then use railcars to move the waste packages into the underground repository. Robotic equipment will place the waste packages in the emplacement drifts.

Each waste package will be covered by a drip shield, made of corrosion-resistant titanium, to divert moisture and provide protection from possible falling rock or debris. The titanium drip shield and Alloy 22 outer barrier of the waste package are expected to have long lifetimes in the repository environment. With the protection of the drip shields, only about 1 percent of the waste packages are projected to lose their integrity during the first 80,000 years.

The design of the underground facilities will allow the repository to be kept open for at least 100 years. This will meet the NRC's requirement that the waste can be retrieved from the repository if necessary for at least 50 years after emplacement begins, in the event that the results of performance confirmation indicate that changes are necessary. It will also allow time to improve scientific understanding and deploy new technology, such as improved waste packages, as appropriate.

Yucca Mountain Project activities

The primary goal of the Yucca Mountain Project over the three-year period FY 2003-2005 is to prepare and submit an application to the NRC for a license application and to begin to respond to NRC requests. To meet that goal, the Project must:

- Make the initial certification of the LSN to the NRC.
- Complete the repository design for the license application.
- Complete total system performance assessment for the license application.
- Transmit to the NRC responses to all 293 KTI agreements for a license application.
- Submit a license application that meets the docketing requirements of the NRC.

FY 2003 Accomplishments

Having achieved congressional and presidential approval of the Yucca Mountain site in 2002, the Program focused on meeting the regulatory requirements for obtaining a license from the NRC. OCRWM prepared a conceptual design and a detailed plan for repository licensing, construction, and operation, and continued work on completing the license application to the NRC for authority to construct the repository.

Licensing efforts centered, in particular, on developing the basic building blocks needed to demonstrate repository safety, including enhancing the models and analyses that support the post-closure performance assessment. The work also included developing the design of the facilities to sufficient detail to support the pre-closure safety analysis. A preliminary pre-closure safety analysis was performed to provide input for completion of the design for the license application and methodology for the analysis that will support the license application.

The Program implemented an integrated approach to the remaining KTI agreements with the NRC. Under this approach, responses to multiple agreements are "bundled" into 1 of 14 groups. These groups reflect the major processes that affect the ability of the repository system to isolate radioactive waste and correlate to the relevant parts of the model for evaluating post-closure total system performance.

The Program adopted a "phased" approach to developing the repository that will allow disposal to begin at far less cost and time. Under this approach, first the Department will construct the surface and subsurface facilities needed for initial waste receipt and emplacement, followed by construction of those facilities needed to support subsequent phases of operation. This approach reduces annual funding requirements, allows the Program to take advantage at later stages of lessons learned at earlier ones, and offers the flexibility to adapt to changing information and circumstances and to incorporate any technology improvements that may occur.

The limited funding provided during the continuing resolution and the final FY 2003 appropriation of $457 million - $134 million below the request - required the Department to institute contingency plans and reduce the scope of near-term work. Rather than stretch resources and risk the safety of workers, DOE elected to partially close the Yucca Mountain site and to defer some work there. The Program focused efforts on submitting a high-quality license application to the NRC.

The Program obtained the services of a litigation support contractor to "build" the LSN and began sending potentially relevant information to the contractor for processing.

Total System Performance Assessment

How Will Repository Safety Be Demonstrated?

The Program must present information and analyses to demonstrate that the repository will be safe during two periods: when it is operating and receiving waste (pre-closure) and after it is permanently closed (post-closure).

- The pre-closure safety analysis to be presented in the license application is a systematic evaluation of the repository's ability to protect the general public and worker health and safety from radioactive exposure before the repository is permanently closed. For this analysis, the Program considers the design of the repository and analyses of how a repository could safely receive and emplace waste.
- Post-closure performance assessment is a method of estimating how the system designed to isolate radioactive waste will behave over tens of thousands of years. It includes analyses of how the engineered and natural barriers would work together to safely contain and isolate waste after closure. The Program uses a computer model called the Total System Performance Assessment for this evaluation. A Total System Performance Assessment is a systematic analysis that identifies the features, events, and processes that might affect the performance of the Yucca Mountain repository; examines their effects on repository performance; and estimates radiological exposures. It is based on extensive site and laboratory data and detailed computer modeling. By completing this performance assessment, as required by the Nuclear Regulatory Commission rule at 10 Code of Federal Regulations Part 63, the Department will demonstrate compliance with the Nuclear Regulatory Commission's repository system performance objectives for the post-closure time period.

The technical data, design, results of the analyses and evaluations, and general information must be presented in the license application in a traceable and transparent manner that allows the Nuclear Regulatory Commission to conduct an independent review and reach a decision on whether or not to issue a construction authorization.

FY 2004 Ongoing Work

The Yucca Mountain Project continues to concentrate on completing the license application for submission to the NRC. The required elements of preliminary design, performance assessment, safety analyses, and technical data in the license application must be sufficient for the NRC to conduct an independent review and reach a decision to issue a construction authorization. The application must demonstrate that the repository can be constructed and operated with reasonable expectation that the health and safety of the public will be protected.

Even though site characterization is complete, OCRWM is continuing to collect valuable scientific information for the performance confirmation baseline. The NRC requires performance confirmation to continue until the repository is permanently closed.

By the end of this fiscal year, OCRWM will work to:

- Prepare millions of pages of relevant documentation for inclusion in the electronic LSN consistent with the requirements of 10 Code of Federal Regulations Part 2, Subpart J.
- Address all KTIs that the Department and the NRC agree the Program needs to address before submitting a license application.
- Finalize required elements of the preliminary design for the waste package, surface facilities, and subsurface facilities in support of the license application.
- Finalize the safety analyses for Department-owned SNF and HLW, and naval spent fuel for the license application.
- Finalize the Total System Performance Assessment postclosure analysis in support of the license application. This analysis will reflect an increased understanding of how emplaced nuclear waste will interact with the natural and engineered barriers after the repository is closed.

FY 2005 Planned Work

The Program's initial emphasis will be on completing the license application. The Department is closely managing the schedule for completing the application. Quality and completeness are paramount: the application submitted will meet the NRC's regulatory requirements and be docketable by the NRC.

The Department also will continue preparations to respond to queries and requests that the NRC makes during its technical review after the license application is delivered. The NRC's review will be thorough and rigorous, and DOE will provide all required information in a timely and effective manner so that the NRC can complete its review within the time period established by law.

The Department will also continue work on the design of the repository and on measures to ensure the site will be ready for construction to begin upon NRC construction authorization.

Licensing Support Network

The Yucca Mountain licensing proceeding will involve a substantial number of documents that cover numerous, complex issues. The Nuclear Regulatory Commission has required that the Department of Energy provide electronic access to these documents six months before the license application is submitted and stated that this "Licensing Support Network" is intended to supplant the need for the traditional "hard copy" discovery process used in Nuclear Regulatory Commission proceedings. By using this electronic approach, the Program will help ensure that the Nuclear Regulatory Commission and other parties to the proceedings have the opportunity to review supporting documentation to the license application. In August 2004, a Nuclear Regulatory Commission panel granted a motion by Nevada to strike the Department of Energy's initial certification on June 30, 2004, that it had made its Licensing Support Network documents available.

THE NATIONAL AND NEVADA TRANSPORTATION PROJECT

The mission of the Program's Office of National Transportation is to develop and manage a system to safely and efficiently transport SNF and HLW to the Yucca Mountain repository. This transportation capability is being developed through two efforts: National Transportation and Nevada Transportation.

The Department will use its experience in transporting nuclear materials, as well as best practices from domestic utility and foreign nuclear shipments, as the foundation for the transportation system. Over the past 30 years, the Department and industry have safely completed approximately 3,000 shipments of SNF, including fuel from naval nuclear vessels. There is also extensive worldwide experience with SNF transportation. More than 70,000 metric tons of SNF have been safely shipped internationally over the past 25 years with no harmful exposure to workers or the public. This is equal to the amount the Department will ship to Yucca Mountain.

The DOE published a Record of Decision (ROD) in the *Federal Register* on April 8, 2004, announcing that it had decided to select, both nationally and in the state of Nevada, the mostly rail transportation mode for the shipment of 70,000 metric tons of SNF and HLW to the repository site at Yucca Mountain, Nevada. DOE also decided in the same ROD to select the Caliente rail corridor in which to examine possible alignments for construction of a rail line that would connect the repository at Yucca Mountain to an existing main rail line in Nevada.

A Notice of Intent to develop a Rail Alignment EIS was published in the *Federal Register* on April 8, 2004. The Rail Alignment EIS will consider alternative alignments within the Caliente corridor for construction of a rail line, and this work in ongoing.

The objective of these efforts is to have a national transportation system ready to ship waste to the repository. This effort will maximize use of existing technology and hardware to minimize risks and combine the resources of the Department and private industry to develop the systems in the most efficient way.

The acquisition of rail and truck casks; interactions with state, tribal, and local governments; and construction of a rail line in Nevada are all critical for achieving waste acceptance goals. OCRWM must accelerate its transportation efforts to meet those goals.

As described in the following pages, the Program has taken some significant first steps.

The Regulatory Framework for Transportation

The Department will transport spent nuclear fuel and high-level waste to Yucca Mountain in accordance with strict standards established by the Department of Transportation and the Nuclear Regulatory Commission.

Department of Transportation regulations govern highway routing, and in cooperation with the Department of Homeland Security, set standards for emergency preparedness. The Department of Transportation has designated the use of interstate highways and the criteria for developing state alternative routes for highway transportation of route-controlled quantities of radioactive materials. Under Department of Transportation regulations, states are permitted to designate alternative preferred routes, if they so choose. In addition, Department of Transportation regulations require anyone involved in the preparation or transport of radioactive materials, including loading and unloading, packaging, documentation, or general transport safety, to have proper training.

The Department of Transportation is also responsible for developing and implementing transportation safety standards for hazardous materials, including radioactive materials. These standards (49 Code of Federal Regulations) govern packaging, transport, and handling of radioactive materials for all modes of transportation, including the use of containers meeting Nuclear Regulatory Commission standards, allowable levels of detectable radiation at the surface, and package markings. These regulations also specify safety requirements for vehicles and transportation operations, training for personnel who perform handling and transportation of hazardous materials, and liability insurance requirements for carriers.

The Nuclear Regulatory Commission sets performance standards for shipping casks that carry materials with high levels of radioactivity. The Department of Transportation accepts the Nuclear Regulatory Commission standards for shipping casks. As required by Section 180 of the Act, all shipments to Yucca Mountain will be in Nuclear Regulatory Commission-certified shipping casks and advance notice to state and local governments will be provided per Nuclear Regulatory Commission regulations.

Section 180(c) of the Nuclear Waste Policy Act requires DOE to provide technical assistance and funds to States for training public safety officials of appropriate units of local and Native American governments through whose jurisdictions the Department plans to transport spent nuclear fuel or high-level waste. This training will cover procedures required for safe routine transportation of these materials and for dealing with emergency response situations.

FY 2003 Accomplishments

As part of the overall Program realignment in early FY 2003, OCRWM organized transportation activities around the following five key project elements and their defined responsibilities:

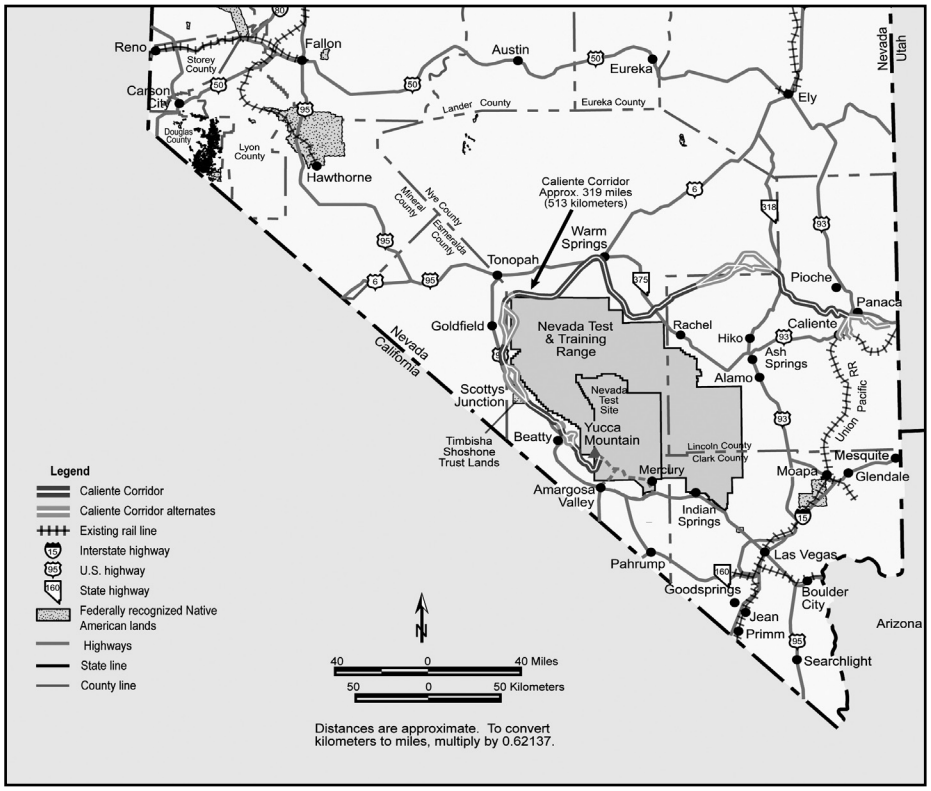
- Fleet Acquisition: Define the acquisition strategy and needs for cask systems, rolling stock, and auxiliary equipment.
- Fleet Maintenance: Define maintenance and overall management and operating strategies for the transportation fleet.
- Nevada Transportation: Develop any infrastructure in Nevada needed to support the national transportation system.
- Operational Infrastructure: Define, develop, mobilize, and demonstrate the operational infrastructure needed to support transportation operations.
- Institutional: Develop effective working relationships with stakeholders and build informed consent for transportation operations.

Limited funding required the Program to delay much of the key transportation work.

FY 2004 Ongoing Work

In November 2003, the Department published the *Strategic Plan for the Safe Transportation of Spent Nuclear Fuel and High-Level Radioactive Waste to Yucca Mountain*. The Program has already begun working with state regional groups to identify the topics for future interaction and establish processes for working together. DOE anticipates a productive dialogue on issues that include the selection of transportation routes and modes, emergency response planning and training, safeguards and security, operational practices, communications and information access, worker protection, training, training standards, and qualifications.

OCRWM is now defining infrastructure development projects to provide the capability for transporting SNF and HLW to the repository. The Department will make initial investments in such major transportation infrastructure needs as transportation casks, rolling stock, the branch rail line in Nevada, and a fleet management facility.



Preferred Nevada rail route through the Caliente Corridor.

FY 2005 Planned Work

With funding provided in the FY 2005 appropriation, the Program plans to focus on cask acquisition activities. It must begin the process now because cask design, certification, and fabrication take years to complete. The Department is also planning to undertake conceptual design for a fleet management facility that will support operations and maintenance of the cask fleet.

DOE plans to proceed toward the initial procurement of transportation rail casks and auxiliary equipment and to accelerate operational capability. The Department is working with the cask vendor industry to procure an efficient cask fleet that maximizes the government's ability to support the full range of contents that need to be shipped with the minimum number of separate designs. These procurements will proceed toward cask fabrication in a step-wise manner to maintain flexibility on final procurements as long as possible. OCRWM will continue to address a new railcar standard implemented by the American Association of Railroads for shipments of SNF and HLW. The Department also plans to continue work on procuring equipment and preparing the infrastructure needed for full-scale cask testing by the NRC to enhance public confidence in the NRC's cask certification process.

The Department will expand institutional interactions concerning the establishment of preliminary transportation routes, operating protocols, and safeguards and security activities. DOE will also continue support of state regional groups to facilitate development of the policy for funding state and tribal emergency response training and technical assistance as required by Section 180(c) of the NWPA. DOE will continue and expand its ongoing dialogue with state and tribal officials and other stakeholders who will play an integral role in transportation planning.

Nevada transportation work will focus on completing conceptual design and beginning preliminary design activities, issuance of the Rail Alignment Draft EIS, and associated public hearings.

Rail cask used to ship spent nuclear fuel.

THE WASTE ACCEPTANCE PROJECT

Waste acceptance is the formal process of taking title to and physical possession of SNF and HLW from commercial and government sites. The Program is responsible for establishing the process by which waste will be accepted at the repository from the various sites and for ensuring that this process works efficiently. Specifically, the Program manages the contracts and interactions between the Department and commercial waste generators to accept SNF in exchange for the fee they pay, and interactions with the Department's Office of Environmental Management (EM) sites for the disposal of Department-managed SNF and HLW. Finally, the Program has the responsibility for analyzing the operation of the waste acceptance, transportation, and repository elements as an integrated waste management system to ensure that the separate elements are compatible and function effectively together.

FY 2003 Accomplishments

The Program developed a statement of work for an update to the physical and logistical requirements of serving the commercial utility sites. These requirements will be included in a Facility Interface Data Sheet for each site.

The Program continued to implement the Memorandum of Agreement between OCRWM and EM for acceptance of EM-owned SNF and HLW and Navy spent fuel. OCRWM held integration meetings with EM and the Navy Nuclear Propulsion Program, issued high-level radioactive waste data, developed acceptance capacities for DOE and Navy materials requiring disposal, and established fee payment schedules. In addition, OCRWM planned and conducted nuclear fuel data surveys at commercial utility sites to analyze spent fuel discharges and projections.

The Program coordinated with EM to identify issues that may arise from potential changes in the EM waste acceptance programs. It also developed general specifications for new DOE waste forms to allow for accelerated DOE site closure.

OCRWM performed a series of system studies, tradeoff studies, sensitivity studies, and contingency analyses to help ensure that the system-wide impacts of system alternatives or proposed changes to the project are considered.

The Department affirmed the cost estimate in the May 2001 analysis of the Total System Life Cycle Cost (TSLCC) of the Program to support the Secretary's annual fee adequacy assessment. The fee adequacy analysis determined that the one mil per kilowatt-hour fee paid by the utilities into the NWF is sufficient to cover the projected total cost of the Program through closure and decommissioning. The TSLCC was updated in September 2003.

OCRWM continued work on a strategic approach to safeguards and security. Activities included developing the classification guide the Program would use to identify classified information and sensitive unclassified information, and completing the classified supplemental analysis of the relative attractiveness to theft of DOE SNF compared to commercial SNF.

FY 2004 Ongoing Work

OCRWM is continuing its work on the strategic approach for safeguards and security. These activities include, for example, ongoing development of strategic plans relating to physical protection and material control and accounting for the repository that will support the license application, and additional analyses relating to relative attractiveness to theft of DOE SNF compared to commercial SNF.

The Program is updating the physical and logistical requirements of serving each commercial utility site. These requirements will be included in a Facility Interface Data Sheet for each site. The Program has also planned and conducted nuclear fuel data surveys to analyze spent fuel discharges and projections. The information from these surveys and the Facility Interface Data Sheets will provide a more current picture of the utility sites' fuel inventories and capabilities.

To support the start of repository operations, OCRWM will continue developing a process, in accordance with the Standard Contract with nuclear utilities, for taking title to and physical possession of SNF and HLW at the sites where they are stored. As part of this effort, the Program issued an updated Acceptance Priority Ranking/Annual Capacity Report which will be used by commercial waste generators as the basis for the development of Delivery Commitment Schedules. Delivery Commitment Schedules are used by the Program to begin the waste acceptance scheduling process to support repository operations.

The Program is developing a Total System Model (TSM) to serve as the basic tool for analyzing the performance of the integrated waste management system. The first version of the TSM, completed in June 2004, provides a detailed assessment of throughput and ramp-up capability. TSM will also determine the efficiency and cost of a large-scale waste management system involving over 100 shipping sites, multiple types of wastes and shipping casks, and aging and blending of the wastes over approximately 50 years of active operations. Further development of the TSM is ongoing to increase its flexibility and reflect the evolution of the repository design.

Waste Acceptance Litigation

The Nuclear Waste Policy Act authorized the Secretary to enter into contracts with the owners and generators of commercial spent nuclear fuel and high-level radioactive waste. Interactions on matters concerning receipt, shipment, and disposal of their spent nuclear fuel are governed by the Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste, 10 Code of Federal Regulations Part 961. Under terms of the standard contract, the Program was to start accepting spent nuclear fuel from utilities in 1998. A number of utilities are seeking damages in the United States Court of Federal Claims that they allege are a result of the Department's delay in beginning waste acceptance. The Court has determined that the government is in partial breach of its contractual obligation to begin accepting waste in 1998. In Fiscal Year 2003, the Program worked with the Department's Office of General Counsel and the U.S. Department of Justice in support of litigation activities. Trials to determine the amount of the liability are now underway.

FY 2005 Planned Work

With funding provided in the FY 2005 appropriation, the Department plans to address waste acceptance issues to ensure that repository facilities and transportation infrastructure will be compatible with the commercial SNF and DOE-managed wastes. This will include a transportation/waste acceptance integration analysis. It will also continue to work closely with EM on DOE SNF and HLW acceptance criteria to ensure that it has an integrated, timely, and cost-effective approach. OCRWM plans to complete the DOE defense waste acceptance schedule and review the Delivery Commitment Schedules submitted by the contract holders.

PROGRAM MANAGEMENT

To focus efforts and resources on achieving the Program objective, OCRWM has restructured into the three result-oriented projects described previously, brought an experienced and successful senior management team on board, and undertaken a number of management initiatives to ensure that it makes the most effective and efficient use of its resources to meet the NRC's expectations for a licensee.

The Program considerably strengthened its "human capital" by installing a new senior management team with strong skills and extensive experience in the successful management of large capital projects.

The Program has also developed a Capital Asset Management Plan and a Work Force Plan to facilitate the management of its capital assets and human resources. The Capital Asset Management Plan is an important management tool that aligns funding requirements with the technical and acquisition approaches to provide the Program and the Nation with a clear and concise description of how the goals of the NWPA will be efficiently realized.

The Program has made considerable progress in meeting commitments to the NRC to improve performance in such areas as QA and the Corrective Action Program, and to better define roles, responsibilities, authority, and accountability. These initiatives will better position the Program to be a successful NRC licensee and to meet mandated requirements for operating a repository.

FY 2003 Accomplishments

In February 2002, the Program launched the Management Improvement Initiatives. Based on recommendations from the NRC as well as internal assessments, these initiatives are designed to strengthen the Program's nuclear culture.

In May 2003, the Program issued a Strategic Plan which outlines its overall vision, goals, and strategies in the licensing phase. The plan provides strategic direction and a high-level implementation strategy to reach the beginning of waste acceptance and move forward into full-scale operations. In the plan, OCRWM sets specific goals in the areas of submitting a license application, completing the initial transportation infrastructure, beginning to receive SNF and HLW, and continuing activities to optimize the civilian radioactive waste management system.

OCRWM established new baselines to accommodate the transition from site characterization. This involved chartering the Program Change Control Board, finalizing the program work breakdown structure, and establishing the program cost and schedule baselines.

The Program prepared an initial draft Capital Asset Management Plan, which described the capital investments the Nation must make to implement the requirements of the NWPA; a funding schedule for those investments; and how the proposed repository design and construction effort will be managed. The plan supported improved financial performance by linking capital expenditures through the completion of repository surface facilities and transportation systems to the acquisition of specific assets.

OCRWM initiated a new cost reduction and system enhancement program whose objectives are to improve existing and develop new technologies to achieve efficiencies and savings in the waste management system, and to enhance confidence in the repository performance. This program will play a key role in the effort both to achieve near-term cost savings and to reduce the total system life cycle costs by as much as $10 billion.

In general, the cost reduction and system enhancement program will enable OCRWM to ensure technical excellence and develop new technologies; maintain leadership in nuclear waste management; and keep abreast of emerging technical developments both here and abroad so that it can use them to improve performance, lower costs, and maintain schedule.

FY 2004 Ongoing Work

QA is the cornerstone of the Program's efforts to assure the NRC that it will meet its radiological health and safety and waste isolation requirements. In the last year, OCRWM has made significant progress in the implementation of its QA program requirements. For example, it recently closed two major outstanding corrective actions for data and software. The Department has had several independent assessments that have determined that the QA program is being effectively implemented. Finally, it is preparing a major revision to the QA program document in support of the license application.

The Program has taken several steps to ensure it is prepared to manage major capital projects efficiently and cost-effectively. It submitted a detailed Capital Asset Management Plan for the Program to the Office of Management and Budget in November 2003, and is now working to complete a comprehensive program acquisition strategy that will be incorporated in the next update of the plan next fall. OCRWM has strengthened its performance measurement and project management capabilities and systems, and is using them to monitor and manage all the activities that support license application completion.

The Program has taken decisive action to ensure respiratory protection for workers at Yucca Mountain. In September 2003, a former Yucca Mountain Project employee expressed concern about overexposure to silica and other potentially harmful substances during tunnel mining operations in the early to mid-1990s. Before tunnel-boring operations began in 1994, safety programs were in place and respiratory protection was made available to Yucca Mountain workers. However, between 1992 and 1996, requirements for its use were not consistently applied. In 1996, the Program issued a stop work order, established a rigorous protection program, and enhanced monitoring of the work environment. Ventilation in the tunnel was also improved to better control dust levels.

To respond to the concern expressed by the former employee, OCRWM in January 2004, established a silicosis screening program with the University of Cincinnati for current and former workers. This program provides medical screening for any pulmonary changes. This program is free of charge to the workers.

In addition to implementing the screening program, the Program has taken action to ensure that its current worker protection program is technically sound and fully implemented.

FY 2005 Planned Work

OCRWM will concentrate on ensuring that it has the strongest possible nuclear QA program as it moves into the licensing phase. The Program will also complete the institutionalization of improvements that were introduced through the Management Improvement Initiatives to meet the NRC's expectations of its licensees.

OCRWM will expand its system engineering and analysis activities to better evaluate and optimize the Program's component elements as they begin to converge into a single waste management system. Finally, OCRWM will address waste acceptance issues to ensure that repository facilities and transportation infrastructure will be compatible with the commercial SNF and DOE-managed wastes.

Beginning in FY 2005, the Department has committed to providing Congress with an annual cost, schedule, and technical audit of the Program. By September 2005, OCRWM will have an Earned Value Management System certified and its performance baseline in place as it begins to finalize designs for the Yucca Mountain Project.

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

ACCOUNTABILITY REPORT

SEPTEMBER 30, 2003

APPENDIX

UNITED STATES DEPARTMENT OF ENERGY
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

Years Ended September 30, 2003 and 2002

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OVERVIEW

Reporting Entity

The Nuclear Waste Policy Act of 1982 (Public Law 97-425) established the Office of Civilian Radioactive Waste Management (OCRWM) within the Department of Energy (Department). OCRWM's mission is to manage and dispose of the nation's spent nuclear fuel (SNF) and high-level radioactive waste (HLW). OCRWM provides leadership in developing and implementing strategies to accomplish this mission that ensure public and worker health and safety, protect the environment, merit public confidence, and are economically viable.

The Nuclear Waste Policy Amendments Act of 1987 (Title V, Public Law 100-203) directed the Secretary of Energy to characterize only the Yucca Mountain site in Nevada as a candidate site to determine if it was suitable for a repository for SNF and HLW.

The characterization of the Yucca Mountain Site has been completed. On February 14, 2002, the Secretary of Energy recommended the site to the President for development of a nuclear waste repository. On February 15, 2002, the President recommended the site to Congress. On May 8 and July 9, 2002, the House of Representatives and the Senate, respectively, passed a resolution approving the site recommendation. On July 23, 2002, the President signed into law the Congressional Joint Resolution designating Yucca Mountain as the site for the Nation's first SNF and HLW repository. At that point, the focus of the Yucca Mountain Project changed to the activities associated with the Nuclear Regulatory Commission licensing process for construction and receiving and possessing waste.

As of September 30, 2003, OCRWM employed 2,259 full-time equivalents (FTE's). This included 171 OCRWM Federal FTE's, 20 FTE's at other Headquarters offices, 6 Federal FTE's at the Department of Energy NNSA/Nevada Site Office, 40 U.S. Geological Survey FTE's, and 2,022 contractor FTE's, including employees of national laboratories.

In fiscal year 2003 OCRWM carried out its mission through the Office of Repository Development (ORD) (the Yucca Mountain Project), located in Las Vegas, NV and the Office of Strategy and Program Development (OSPD), located in Washington, DC.

The ORD oversaw the scientific and technical work related to development of license application for the proposed repository at Yucca Mountain, including:

- Addressing the NRC agreements on key technical issues related to the repository,
- Operating the exploratory studies facility,
- Developing the preliminary design for the repository and waste package,
- Preparing a license application for repository construction for submittal to the Nuclear Regulatory Commission.

The Office of Strategy and Program Development (OSPD), located in Washington, DC, is responsible for the management of the Office of National Transportation (ONT), which is focused on development of an infrastructure required to transport SNF and HLW to the repository. The requirements that the infrastructure had to meet, and an institutional program that will allow transportation issues to be addressed with OCRWM Program (Program) stakeholders, were also developed.

The OSPD activities also include activities associated with the Office of Systems Analysis and Strategy Development, which is focused on development of waste acceptance processes and system integration activities for the Program. The OSPD also manages the activities of the Office of Chief Operating Officer, the Office of Science and Technology and International, and the Office of Program Management which provides program integration and management support to the Director, OCRWM, and the ORD. Other activities which the OSPD is responsible for include program planning and administration, technical and regulatory integration, cost reduction and systems enhancement activities, international waste management activities, institutional activities, and management of the Nuclear Waste Fund (NWF).

Fiscal Year 2003 Technical Performance

Of OCRWM's five performance targets for FY 2003, two were met, and one was not met, one was partially met, and one was deleted due to reduced funding.

Performance Target One. Complete additional testing and analyses required to support license application design.

Results: *Partially Achieved: The Waste Package Thermal Investigation (WPTI) Test rescheduled for completion in the 4th quarter is expected to be completed in the 1st quarter of FY 2004 because of the actual time and effort required to resolve instrumentation problems and set up the reduced scale WPTI.*

Although the additional testing required to support license application design was not 100 percent completed in FY 2003, a work-around was developed to allow the designers to continue their work using a range of values that encompasses the expected test results. The actual results will be used to confirm the assumptions. Therefore, there should be no resultant delay in achieving the program goal of obtaining a construction license from NRC in FY 2008.

Performance Target Two. Complete development of repository conceptual design and request Acquisition Executive approval to start preliminary design, which will be used in the license application.

Results: *Achieved: Acquisition Executive approval was received in October 2002.*

Performance Target Three. Complete and Issue updated Total System Life Cycle Cost and Fee Adequacy report in preparation for license application.

Results: *Achieved: A Letter Report, which updated the Total Systems Life Cycle Cost and Assessed the Fee Adequacy, was issued in September 2003.*

Performance Target Four. Develop and issue the OCRWM Strategic Transportation Plan.

Results: *Not Achieved: The Director of the National Transportation Program did not assume his position until August 18, 2003. Although his predecessor, serving in an acting capacity, had initiated the transportation strategic planning process and produced a draft Plan, it is reasonable for the permanent Director to conduct an initial survey of the OCRWM transportation program and to modify the draft report to ensure that, based on his expertise and experience, it reflects the optimal strategies for success. The Director has collected the necessary data and established the milestones required to build and operate an effective transportation program. The OCRWM Strategic Transportation Plan will be issued during the 1st quarter of FY 2004.*

Although the issuance of the OCRWM Strategic Transportation Plan was not completed by the end of FY 2003, its issuance in the 1st quarter of FY 2004 is not a significant delay, and should have no impact on the Program goal of developing the transportation infrastructure required to support the anticipated shipment of spent nuclear fuel and high-level radioactive waste to the repository in 2010.

Performance Target Five. Acquire transportation planning services.

Results: *Not Achieved: OCRWM's FY 2003 appropriation was $134 million less than the President's budget request. The resultant reprioritization of the FY 2003 activities necessitated a delay in planned transportation development activities and the measure was deleted.*

Fiscal Year 2003 Financial Performance

OCRWM is required by the NWPA to recover the full cost of the Program. The Program's total cost was estimated in *Analysis of the Total System Life Cycle Cost of the Civilian Radioactive Waste Management Program,* dated *May 2001*.

Program funding comes from the NWF and the Defense Nuclear Waste Disposal Appropriation (DNWDA). The NWF consists of fees paid by the owners and generators of SNF from commercial reactors, in accordance with provisions of their contracts with the Department for disposal services. NWF assets in excess of those appropriated to pay program costs are invested in U.S. Treasury securities. The DNWDA was established by the Congress in lieu of direct payment of fees by the Department into the NWF, to pay for the disposal costs of the HLW resulting from atomic energy defense activities and other Department-managed nuclear materials. As of September 30, 2003, cumulative revenue from fees and the DNWDA totaled approximately $15.805 billion, and cumulative interest earnings and other revenue totaled

approximately $10.106 billion. Cumulative expenditures from appropriations, including direct appropriations to the Nuclear Regulatory Commission, the now defunct Office of the Nuclear Waste negotiator, and the Nuclear Waste Technical Review Board, totaled approximately $8.1 billion.

As of September 30, 2003, the U.S. Treasury securities held by OCRWM had a market value of $15.022 billion compared to $14.009 billion at the end of Fiscal Year 2002. Investment income for fiscal year 2003 was $751.9 million, including $672.7 million in interest earnings and $79.2 million in net gains on the sale of securities.

OCRWM's primary financial goal is to ensure that future spending needs can be met. Therefore, OCRWM relies on the asset-liability matching approach to investing used by pension funds and insurance companies. By matching investments to anticipated funding requirements, OCRWM reduces the risk that changes in interest rates will adversely affect the fee adequacy balance, ensures that identified spending projections will be met, and makes investments at the most favorable rates currently available.

In its FY 2002 Overview, OCRWM established the following two financial performance measures for FY 2003:

- To maintain an adequate liquid reserve of approximately $2 billion in U. S. Treasury securities, with an average duration not to exceed 3 years, to meet unexpected spending needs.

  RESULTS*:* The month-end balances in the contingency fund were between $1.8 billion and $2.0 billion, and the contingency fund's average maturity at the end of each month was less than 3 years.

- To reallocate existing investments and invest any additional surpluses to match the Program's cumulative spending profile through 2024.

  RESULTS: As of September 30, 2002, the cumulative spending profile was matched through 2027.

2001 M Street, NW
Washington, DC 20036

INDEPENDENT AUDITORS' REPORT

U.S. Department of Energy
Office of Civilian Radioactive Waste Management:

We have audited the accompanying balance sheets of the Office of Civilian Radioactive Waste Management (OCRWM), a component of the U.S. Department of Energy (Department), as of September 30, 2003 and 2002, and the related statements of net cost, changes in net position, financing, and the related combined statements of budgetary resources (hereinafter referred to as "financial statements"), for the years then ended. The objective of our audits was to express an opinion on the fair presentation of these financial statements. In connection with our audits, we also considered OCRWM's internal control over financial reporting and tested OCRWM's compliance with certain provisions of applicable laws and regulations that could have a direct and material effect on its financial statements.

Summary

As stated in our opinion on the financial statements, we concluded that OCRWM's financial statements as of and for the years ended September 30, 2003 and 2002, are presented fairly, in all material respects, in conformity with accounting principles generally accepted in the United States of America.

Our consideration of internal control over financial reporting identified a reportable condition with respect to unclassified network and information systems security.

The results of our tests of compliance with certain provisions of laws and regulations disclosed no instances of noncompliance that are required to be reported herein under *Government Auditing Standards*, issued by the Comptroller General of the United States, or Office of Management and Budget (OMB) Bulletin No. 01-02, *Audit Requirements for Federal Financial Statements*.

The following sections discuss our opinion on OCRWM's financial statements, our consideration of OCRWM's internal control over financial reporting, our tests of OCRWM's compliance with certain provisions of applicable laws and regulations, and management's and our responsibilities.

Opinion on Financial Statements

We have audited the accompanying balance sheets of the Office of Civilian Radioactive Waste Management as of September 30, 2003 and 2002, and the related statements of net cost, changes in net position, financing, and the related combined statements of budgetary resources, for the years then ended.

Independent Auditors' Report, Continued

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of OCRWM as of September 30, 2003 and 2002, and its net costs, changes in net position, budgetary resources, and reconciliation of net costs to budgetary obligations for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

As discussed in Note 2 to the financial statements, during fiscal year 2002 OCRWM changed its method for accounting for Nuclear Waste Fund investments effective October 1, 2001.

As discussed in Note 9 to the financial statements, OCRWM is involved as a defendant in several matters of litigation relating to its inability to accept waste by the January 31, 1998 date specified in the Nuclear Waste Policy Act of 1982, as amended.

The information in the Overview and Required Supplementary Stewardship Information sections of OCRWM's *Fiscal Year 2003 Accountability Report* is not a required part of the financial statements, but is supplementary information required by accounting principles generally accepted in the United States of America or OMB Bulletin No. 01-09, *Form and Content of Agency Financial Statements*. We have applied certain limited procedures, which consisted principally of inquiries of management regarding the methods of measurement and presentation of this information. However, we did not audit this information and, accordingly, we express no opinion on it.

Our audits were conducted for the purposes of forming an opinion on the basic financial statements taken as a whole. The supplementary information included in Supplementary Information – Schedules I and II for the years ended September 30, 2003, are presented for purposes of additional analysis and are not a required part of the financial statements. Such information has been subjected to the auditing procedures applied in the audits of the financial statements and, in our opinion, is fairly stated in all material respects in relation to the financial statements taken as a whole.

We have also previously audited, in accordance with auditing standards generally accepted in the United States of America, the financial statements of OCRWM as of and for the years ended September 30, 1983 through September 30, 2001 (none of which are presented herein), and we expressed unqualified opinions on those financial statements. The supplementary information included in Schedules I and II related to OCRWM's financial statements as of and for the years ended September 30, 1983 through September 30, 2001 was subjected to auditing procedures applied in the audits of those financial statements and, in our opinion, is fairly stated in all material respects in relation to the financial statements from which it has been derived.

Internal Control over Financial Reporting

Our consideration of internal control over financial reporting would not necessarily disclose all matters in the internal control over financial reporting that might be reportable conditions. Under standards issued by the American Institute of Certified Public Accountants, reportable conditions are matters coming to our attention relating to significant deficiencies in the design or operation

of the internal control over financial reporting that, in our judgment, could adversely affect OCRWM's ability to record, process, summarize, and report financial data consistent with the assertions by management in the financial statements.

Material weaknesses are reportable conditions in which the design or operation of one or more of the internal control components does not reduce to a relatively low level the risk that misstatements, in amounts that would be material in relation to the financial statements being audited, may occur and not be detected within a timely period by employees in the normal course of performing their assigned functions.

In our fiscal year 2003 audit, we noted a Department-level matter involving internal control over financial reporting and its operation that was reported by the Department and considered to be a reportable condition. Because OCRWM uses the Department's Information Technology (IT) systems to process financial transactions and generate reports, this weakness also affects the IT environment for OCRWM. For our fiscal year 2003 audit, we considered this matter, described below and in more detail in Exhibit I, to be a reportable condition. However, this reportable condition is not believed to be a material weakness.

> ***Unclassified Network and Information Systems Security*** – We noted network vulnerabilities and weaknesses in access and other security controls in the Department's unclassified computer information systems. The identified weaknesses and vulnerabilities increase the risk that malicious destruction or alteration of data or unauthorized processing could occur, and may threaten the integrity of essential financial management system data. The Department should continue to improve network and information systems security.

A summary of the status of prior year reportable conditions is included as Exhibit II.

We also noted other matters involving internal control over financial reporting and its operation that we will report to OCRWM's management in a separate letter dated November 22, 2003.

Compliance with Laws and Regulations

The results of our tests of compliance with certain provisions of laws and regulations, as described in the Responsibilities section of this report, disclosed no instances of noncompliance that are required to be reported herein under *Government Auditing Standards* and OMB Bulletin No. 01-02.

Responsibilities

Management's Responsibilities

Management is responsible for the financial statements, including:

- Preparing the financial statements in conformity with accounting principles generally accepted in the United States of America;

- Establishing and maintaining internal control over financial reporting, and preparation of the Overview (including the performance measures), the Required Supplementary Stewardship Information; and

- Complying with laws and regulations.

In fulfilling this responsibility, estimates and judgments by management are required to assess the expected benefits and related costs of internal control policies. Because of inherent limitations in internal control, misstatements, due to error or fraud may nevertheless occur and not be detected.

Auditors' Responsibilities

Our responsibility is to express an opinion on the fiscal year 2003 and 2002 financial statements of OCRWM based upon our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America, the standards applicable to financial audits contained in *Government Auditing Standards*, and OMB Bulletin No. 01-02. Those standards and OMB Bulletin No. 01-02 require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit includes:

- Examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements;

- Assessing the accounting principles used and significant estimates made by management; and

- Evaluating the overall financial statement presentation.

We believe that our audits provide a reasonable basis for our opinion.

In planning and performing our fiscal year 2003 audit, we considered OCRWM's internal control over financial reporting by obtaining an understanding of OCRWM's internal control, determining whether internal controls had been placed in operation, assessing control risk, and performing tests of controls in order to determine our auditing procedures for the purpose of expressing our opinion on the financial statements. We limited our internal control testing to those controls necessary to achieve the objectives described in OMB Bulletin No. 01-02 and *Government Auditing Standards*. We did not test all internal controls relevant to operating objectives as broadly defined by the *Federal Managers' Financial Integrity Act of 1982*. The objective of our audit was not to provide assurance on internal control over financial reporting and, accordingly, we do not provide an opinion thereon.

As required by OMB Bulletin No. 01-02, we considered the Department's internal control over the Required Supplementary Stewardship Information by obtaining an understanding of OCRWM's internal control, determining whether controls had been placed in operation, assessing control risk, and performing tests of controls. Our procedures were not designed to provide

assurance on internal control over the Required Supplementary Stewardship Information and, accordingly, we do not provide an opinion thereon.

As further required by OMB Bulletin No. 01-02, with respect to internal control related to performance measures determined by management to be key and reported in the Overview, we obtained an understanding of the design of significant internal controls relating to the existence and completeness assertions. Our procedures were not designed to provide assurance on internal control over performance reporting and, accordingly, we do not provide an opinion thereon.

As part of obtaining reasonable assurance about whether OCRWM's fiscal year 2003 financial statements are free of material misstatement, we performed tests of the OCRWM's compliance with certain provisions of laws and regulations, noncompliance with which could have a direct and material effect on the determination of financial statement amounts, and certain provisions of other laws and regulations specified in OMB Bulletin No. 01-02, including certain provisions referred to in the *Federal Financial Management Improvement Act of 1996* (FFMIA), which was evaluated at the Department level. We limited our tests of compliance to the provisions described in the preceding sentence, and we did not test compliance with all laws and regulations applicable to OCRWM. Providing an opinion on compliance with laws and regulations was not an objective of our audit and, accordingly, we do not express such an opinion.

Distribution

This report is intended for the information and use of OCRWM's and the Department's management, the Department's Office of Inspector General, OMB, General Accounting Office (GAO), and the U.S. Congress, and is not intended to be used and should not be used by anyone other than these specified parties.

KPMG LLP

December 3, 2003

Unclassified Network and Information Systems Security

We noted network vulnerabilities and weaknesses in access and other security controls in unclassified information systems.

Finding 1: Network Security

The Department maintains a series of interconnected unclassified networks and information systems. Federal and Departmental directives require the establishment and maintenance of security over unclassified information systems, including financial management systems. Past audits identified significant weaknesses in selected systems and devices attached to the computer networks at some Department sites. The Department has implemented corrective actions to improve network security at the sites we reviewed in prior years. However, we, and the Department's Office of Independent Oversight and Performance Assurance identified network security weaknesses at sites reviewed in fiscal year 2003, although the frequency and severity of those weaknesses were less than in prior years. Improvements are still needed in the areas of password management, configuration management, and restriction of services.

The identified weaknesses and vulnerabilities increase the risk that malicious destruction or alteration of data or unauthorized processing could occur. Because of our concerns, we performed supplemental procedures and identified compensating controls that mitigate their potential effect on the integrity of the Department's financial systems.

Recommendation:

We recommend that the Department's Chief Information Officer take actions to improve network security throughout the Department. Detailed recommendations to address the issues discussed above have been separately reported to the Office of the Chief Information Officer. We also recommend that the Office of Civilian Radioactive Waste Management's (OCRWM) management continue to monitor the actions of the Department's Chief Information Officer and assess the impact on the processing and reporting of OCRWM's financial data.

Finding 2: Information Systems Access and Other Security Controls

The Department has mandated compliance with several Federal information security directives and public laws in DOE Order 205.1, *Cyber Security Management Program*, dated March 21, 2003. The Order also establishes policies for the protection of unclassified information and information systems. Within this security framework, the Department operates the financial management systems that form the basis for preparing its financial statements.

Our fiscal year 2003 audit disclosed weaknesses in access and other security controls at several sites, similar to our prior year findings. Specifically, we noted weaknesses in the review of

physical access controls, monitoring of networks for questionable activity, password security, restriction and review of user privileges, segregation of incompatible privileges, and contingency and disaster recovery planning. In addition, we identified weaknesses in security planning, including insufficient identification of critical and sensitive systems and applications, and outdated or nonexistent risk assessments and security certifications for support systems and major applications. Further, the Department's Office of Inspector General also reported deficiencies in the Department's network and information system risk management, contingency planning, configuration management, and access controls in its evaluation report on *The Department's Unclassified Cyber Security Program*, dated September 2003.

The Department has acknowledged the need to improve its information systems security and other information technology controls. In fiscal year 2003, the Department's Chief Information Officer initiated an aggressive approach to identify the root causes and to develop new policies and procedures to strengthen controls and reduce network vulnerabilities. Once implemented, these new policies and procedures should strengthen the Department's overall cyber security program. While significant progress has been achieved, continued focus is needed to resolve the access and security control weaknesses noted above.

The identified weaknesses in access and computer security controls may threaten the integrity of essential financial management system data. Because of our concerns, we performed supplementary audit procedures and identified compensating controls that mitigate the potential effect of these security weaknesses on the integrity of the Department's financial systems. However, we did not address the potential effect of the security weaknesses on the integrity of the Department's non-financial systems.

Recommendation:

As recommended in the prior year, the Department's Chief Information Officer should monitor and enforce the implementation of its Cyber Security Program throughout the Department, to ensure that the Federal information security standards are met and that its networks and information systems are adequately protected against unauthorized access. Detailed recommendations to address the issues discussed above have been separately reported to the Office of the Chief Information Officer. We also recommend that OCRWM's management continue to monitor the actions of the Department's Chief Information Officer and assess the impact on its operations.

Reportable Conditions from Fiscal Year 2002 (with parenthetical disclosure of year first reported)	**Status at September 30, 2003**
1. Unclassified Information Systems Security (1999)	Still reported in Exhibit I as a reportable condition.

UNITED STATES DEPARTMENT OF ENERGY
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
Balance Sheets
For the Years Ended September 30, 2003 and 2002
(Dollars in thousands)

	2003	2002
ASSETS		
Intragovernmental		
Fund Balance with Treasury (note 3)	$ 31,297	$ 26,716
Investments, Net (note 4)	13,819,565	12,464,732
Accounts Receivable:		
Receivables from Defense Fees and Interest (note 7)	1,056,266	1,213,285
Utilities (note 5)	10,610	11,104
Accrued Investment Interest (note 4)	69,465	71,180
Other Accounts Receivable	25	17
Other Intragovernmental Assets	106	262
Total Intragovernmental Assets	$ 14,987,334	$ 13,787,296
Accounts Receivable:		
Utilities (note 5)	2,966,217	2,927,967
Other Accounts Receivable	79	20
General Property, Plant, and Equipment, Net (note 6)	15,414	16,705
Other Assets	1,082	717
Total Assets	$ 17,970,126	$ 16,732,705
LIABILITIES		
Intragovernmental:		
Accounts Payable	$ 10,375	$ 11,177
Deferred Revenue (note 10)	935,275	922,818
Other Liabilities	92	51
Total Intragovernmental Liabilities	$ 945,742	$ 934,046
Accounts Payable	42,623	27,397
Deferred Revenue (note 10)	16,931,832	15,742,914
Pension and Other Actuarial Liabilities	6,577	5,289
Contract Holdback	316	544
Other Liabilities	13,743	14,606
Commitments and Contingencies (note 9)	2,000,000	2,000,000
Total Liabilities (note 8)	$ 19,940,833	$ 18,724,796
NET POSITION		
Unexpended Appropriations	$ 29,293	$ 7,909
Cumulative Results of Operations	(2,000,000)	(2,000,000)
Total Net Position	$ (1,970,707)	$ (1,992,091)
Total Liabilities and Net Position	$ 17,970,126	$ 16,732,705

UNITED STATES DEPARTMENT OF ENERGY
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
Statements of Net Costs
For the Years Ended September 30, 2003 and 2002
(Dollars in thousands)

	2003	2002
First Repository Costs	$ 336,401	$ 306,948
All Other Program Costs:		
Program Support	$ 78,019	$ 71,498
Transfers of Appropriations (note 7)	27,938	26,750
Waste Acceptance, Storage and Transportation	5,760	2,347
Imputed and Other Costs	1,520	1,202
Total All Other Program Costs	$ 113,237	$ 101,797
Total First Repository and Other Program Costs	$ 449,638	$ 408,745
Less Earned Revenues (note 10)	(448,118)	(407,543)
Net Costs	$ 1,520	$ 1,202

UNITED STATES DEPARTMENT OF ENERGY
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
Statements of Changes in Net Position

For the Years Ended September 30, 2003 and 2002
(Dollars in thousands)

	2003	2002
CUMULATIVE RESULTS OF OPERATIONS:		
Beginning Balance	$ (2,000,000)	$ (2,000,000)
Other Financing Sources:		
Imputed Financing from Costs Absorbed by Others	1,520	1,202
Total Financing Sources	$ 1,520	$ 1,202
Net Cost of Operations	(1,520)	(1,202)
Ending Balance - Cumulative Results of Operations	$ (2,000,000)	$ (2,000,000)
UNEXPENDED APPROPRIATIONS:		
Beginning Balance of Unexpended Appropriations	$ 7,909	$ 8,573
Budgetary Financing Sources Related to Appropriations:		
Appropriations Received (note 2)	315,000	280,000
Other Adjustments	(2,047)	(205)
Appropriations Used	(291,569)	(280,459)
Total Budgetary Financing Sources Related to Appropriations	$ 21,384	$ (664)
Ending Balance Unexpended Appropriations	$ 29,293	$ 7,909
Total Net Position	$ (1,970,707)	$ (1,992,091)

UNITED STATES DEPARTMENT OF ENERGY
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

Statements of Budgetary Resources

For the Years Ended September 30, 2003 and 2002
(Dollars in thousands)

	2003	2002
BUDGETARY RESOURCES		
Budget Authority:		
Appropriations Received (note 2)	$ 488,100	$ 401,750
Appropriations Transferred Out (note 7)	(27,938)	(26,750)
Unobligated Balances, Beginning of Period	8,482	7,621
Spending Authority from Offsetting Collections	10	1,190
Recoveries of Prior Year Obligations	26	15
Authority Temporarily Not Available	-	(239)
Authority Permanently Not Available	(3,152)	(289)
Total Budgetary Resources	$ 465,528	$ 383,298
STATUS OF BUDGETARY RESOURCES		
Obligations Incurred:		
Direct	$ 312,951	$ 280,243
Exempt from Apportionment	138,457	94,573
Unobligated Balances Available	14,055	8,453
Unobligated Balances Not Available	65	29
Total Status of Budgetary Resources	$ 465,528	$ 383,298
RELATIONSHIP OF OBLIGATIONS TO OUTLAYS		
Obligated Balance, Net - Beginning of Period	$ 100,711	$ 96,036
Obligated Balance, Net - End of Period:		
Undelivered Orders	$ 84,206	$ 50,713
Accounts Payable	62,871	49,998
	$ 147,077	$ 100,711
Outlays:		
Disbursements	$ 405,016	$ 370,126
Collections	(10)	(1,190)
Subtotal	$ 405,006	$ 368,936
Less: Offsetting Receipts	(1,171,429)	(2,310,638)
Net Outlays	$ (766,423)	$ (1,941,702)

UNITED STATES DEPARTMENT OF ENERGY
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
Statements of Financing
For the Years Ended September 30, 2003 and 2002
(Dollars in thousands)

	2003	2002
RESOURCES USED TO FINANCE ACTIVITIES:		
Budgetary Resources Obligated:		
Obligations Incurred	$ 451,408	$ 374,816
Less: Spending Authority from Offsetting Collections and Recoveries	(36)	(1,205)
Obligations, Net of Offsetting Collections and Recoveries	$ 451,372	$ 373,611
Offsetting Receipts:		
Fees for Disposal of Spent Nuclear Fuel	$ (725,777)	$ (712,226)
Earnings on Investments	(445,650)	(1,598,412)
Other Offsetting Receipts	(2)	-
Total Offsetting Receipts	$ (1,171,429)	$ (2,310,638)
Net Obligations	$ (720,057)	$ (1,937,027)
Other Resources:		
Financing Imputed For Cost Subsidies	$ 1,520	$ 1,202
Appropriations Transferred Out (note 7)	(27,938)	(26,750)
Other:		
Offsetting Receipts, Deferred	1,177,368	2,345,888
Defense Fees and Related Interest	(134,550)	(133,873)
Adjustment for Department of Energy Appropriation	(291,569)	(280,459)
Other Adjustments	27,938	25,039
Total Other	$ 779,187	$ 1,956,595
Net Other Resources Used to Finance Activities	$ 752,769	$ 1,931,047
Total Resources Used to Finance Activities	$ 32,713	$ (5,980)
RESOURCES USED TO FINANCE ITEMS NOT PART OF THE NET COST OF OPERATIONS:		
Change in Resources Obligated for Goods/Services/Benefits Ordered But Not Yet Provided	$ (33,680)	$ (242)
Resources that Finance the Acquisition of Assets	(2,273)	(3,122)
Total Resources Used to Finance Items Not Part of the Net Cost of Operations	$ (35,953)	$ (3,364)
Total Resources Used to Finance the Net Cost of Operations	$ (3,240)	$ (9,344)
NET COST ITEMS THAT DO NOT REQUIRE OR GENERATE RESOURCES IN CURRENT PERIOD:		
Increases in Unfunded Liability Estimates	$ 1,219	$ 5,311
Components Not Requiring or Generating Resources:		
Depreciation and Amortization	3,365	3,571
Revaluation of Assets and Liabilities	182	(48)
Other	(6)	1,712
Total Components Not Requiring or Generating Resources	$ 3,541	$ 5,235
Total Net Cost Items That Do Not Require or Generate Resources in Current Period	$ 4,760	$ 10,546
NET COST OF OPERATIONS	$ 1,520	$ 1,202

(1) Legislative Background

The Nuclear Waste Policy Act of 1982 (NWPA) was signed into law on January 7, 1983. The NWPA establishes a framework for the financing, siting, licensing, operating and decommissioning of one or more mined geologic repositories for the Nation's spent nuclear fuel (SNF) and high-level radioactive waste (HLW) which is to be carried out by the Department of Energy's (Department) Office of Civilian Radioactive Waste Management (OCRWM). In addition, the NWPA contains other provisions including:

- Assigning responsibility for the full payment of disposal costs to the owners and generators of SNF and HLW and creating a special Nuclear Waste Fund (NWF) within the Department of Treasury of the United States for the collection of fees related to such costs;

- Providing for contracts between the Department and the owners and generators of SNF and HLW pursuant to which the Department is to take title to the SNF or HLW as expeditiously as possible, following commencement of repository operations and, in return for payment of fees established by the NWPA, to begin disposal of the SNF or HLW not later than January 31, 1998; and

- Requiring evaluation of the use of civilian disposal capacity for the disposal of HLW resulting from atomic energy defense activities (defense waste). In April 1985, the President notified the Department of his determination that a separate defense waste repository was not necessary and directed the Department to proceed with arrangements for disposal of such waste. Fees, equivalent to those paid by commercial owners, must be paid for this service by the Federal Government to the NWF account.

On December 22, 1987, the President signed into law the Budget Reconciliation Act, Subtitle A of Title V, of which contained amendments to the NWPA. The legislation directed the Department to characterize only the Yucca Mountain site in Nevada as a candidate site for the first repository. The legislation also provided for the termination of site-specific activities at all candidate sites other than the Yucca Mountain site, within 90 days of enactment, and for phasing out, not later than 6 months after enactment, all research programs in existence that were designed to evaluate the suitability of crystalline rock as a potential repository host medium. In the event that the Yucca Mountain site proves unsuitable for use as a repository, the legislation requires the Department to terminate site-specific activities and report to Congress.

(2) Significant Accounting Policies

Basis of Presentation – These financial statements have been prepared to report the financial position and results of operations of OCRWM and include all activity related to OCRWM, including the Nuclear Waste Fund Appropriation and the Defense Nuclear Waste Disposal Appropriation, used for the disposal of SNF and HLW. The financial statements have been prepared from the books and records of the Department for OCRWM in accordance with accounting principles generally accepted in the United States of America as applicable to Federal entities.

Basis of Accounting – OCRWM's financial statements are prepared using the accrual method of accounting. Under the accrual method, revenues are recognized when earned, and expenses are recognized when a liability is incurred without regard to receipt or payment of cash. OCRWM also uses budgetary accounting to facilitate compliance with legal constraints and to monitor its budget authority.

Revenue Recognition – Fees, related accrued interest, and investment income are recognized as exchange (earned) revenue to the extent of expenses incurred, subject to Congressional authorization as discussed below. Fees billed, related accrued interest, and investment income in excess of current expenses are deferred.

The NWPA requires the civilian owners and generators of nuclear waste to pay their share of the full cost of the Civilian Radioactive Waste Management Program (Program) and, to that end, establishes a fee for electricity generated and sold by civilian nuclear power reactors which the Department must collect and annually assess to determine its adequacy. A one-time fee (see note 5) was recorded by OCRWM as of April 7, 1983, related to the disposal of SNF generated prior to that date. Fees recognized by OCRWM are based upon kWh of electricity generated and sold by civilian nuclear reactors on and after April 7, 1983.

Fees associated with the disposal of the Department's SNF and HLW are also recognized as the related costs are incurred and allocated. To estimate the share of the total Program costs that should be allocated to the Department, the methodology announced by the Department in the Federal Register in August 1987 was used. The most recent cost estimate, *Analysis of the Total System Cost of the Civilian Radioactive Waste Management Program* (TSLCC), issued in May 2001, of the surrogate single repository system (without interim storage) established the amounts to allocate.

Appropriations – Expenditure authority for OCRWM is provided by two separate appropriations as follows:

- For fiscal years 2003 and 2002, Congress appropriated $315,000 and $280,000, respectively, from the Defense Nuclear Waste Disposal Appropriation to be used for nuclear waste disposal activities. Pursuant to the fiscal year 2003 Consolidated Appropriations Act, $2,047 of the $315,000 was rescinded from the Defense Nuclear Waste Disposal Appropriation. Pursuant to the fiscal year 2002 Consolidated Appropriations Act, $205 of the $280,000 was rescinded from the Defense Nuclear Waste Disposal Appropriation.

- For fiscal years 2003 and 2002, Congress authorized $173,100 and $121,750, respectively, to be used for nuclear waste disposal activities and remain available until expended. This expenditure authority enables OCRWM to finance activities using the NWF special accounts. Pursuant to the Consolidated Appropriations Act, for fiscal years 2003 and 2002, $1,105 and $84, respectively, were rescinded. Fee payments and investment income are deposited into the NWF account and are made available to the Department through the annual expenditure authority provided by Congress. Investments are made in U.S. Treasury securities from funds in excess of current needs. If, at any time, monies available in the NWF are insufficient to discharge responsibilities under the NWPA, borrowings may be made from the U.S. Treasury. The NWPA limits the OCRWM from incurring expenditures, entering into contracts, and obligating amounts to be expended except as provided in advance by appropriation acts. Appropriated dedicated receipts such as these are excluded from appropriations received on the *Statements of Changes in Net Position*.

Imputed Financing Sources – In certain instances, operating costs of OCRWM are paid out of funds appropriated to other federal agencies. For example, certain costs of retirement programs are paid by the Office of Personnel Management (OPM). When costs directly attributable to OCRWM's operations are paid by other agencies, OCRWM recognizes these amounts on the *Statements of Net Costs*. In addition, these amounts are recognized as imputed financing sources in the *Statements of Changes in Net Position*.

Investments – Investments are in U.S. Treasury securities and are stated at cost, adjusted for amortization of premiums and accretion of discounts, which are recognized as adjustments to interest income using the effective interest method. (see note 4).

General Property, Plant, and Equipment – Purchases of general property, plant, and equipment (PP&E) exceeding $25 are capitalized if they have a useful life greater than two years. PP&E is depreciated on a straight-line basis over the estimated useful lives of the assets. Useful lives range from 5 to 30 years. Maintenance costs are borne by OCRWM for equipment either on loan from or shared with other programs.

Accounts Receivable – Payment of accounts receivable will not be complete until OCRWM starts accepting waste, which is currently expected in the year 2010. Interest is accrued quarterly on the outstanding amount receivable including accrued interest. The interest rate used is the 13-week U.S. Treasury bill rate. An allowance for doubtful accounts related to one-time spent fuel fees has not been recorded as of September 30, 2003, as OCRWM is not obligated to accept waste without payment of fees.

Accrued Investment Interest Receivable – Investment interest is accrued on the outstanding investment balance using the applicable interest rate for the investments.

Liabilities – Liabilities represent the amount of monies or other resources that are likely to be paid by OCRWM as the result of a transaction or event that has already occurred. However, no liability can be paid by OCRWM absent an appropriation. Liabilities for which an appropriation has not been enacted are therefore classified in these notes as liabilities not covered by budgetary resources and there is no certainty that the appropriation will be enacted. Also, liabilities other than contracts can be abrogated by the Government acting in its sovereign capacity.

Accrued Annual Leave – Federal employees' annual leave is accrued as it is earned, and the accrual is reduced annually for actual leave taken. Each year, the accrued annual leave balance is adjusted to reflect the latest pay rates and unused annual leave balances. To the extent that current or prior year appropriations are not available to fund annual leave earned but not taken, funding will be obtained from future financing sources. Sick leave and other types of non-vested leave are expensed as taken.

Tax Status – OCRWM, as a part of the Department of Energy, which is a Federal agency, is not subject to federal, state, or local income taxes.

First Repository Costs – For the years ended September 30, 2003 and 2002, first repository costs consist primarily of Yucca Mountain costs.

Retirement Plans – *Federal Employees* – There are two primary retirement systems for Federal employees. Employees hired prior to January 1, 1984, may participate in the Civil Service Retirement System (CSRS). On January 1, 1984, the Federal Employees Retirement System (FERS) went into effect pursuant to Public Law 99-335. Most employees hired after December 31, 1983, are automatically covered by FERS and Social Security. Employees hired prior to January 1, 1984, elected to either join FERS and Social Security or remain in CSRS. A primary feature of FERS is that it offers a savings plan to which the Department automatically contributes 1 percent of pay and matches any employee contribution up to an additional 4 percent of pay. For most employees hired since December 31, 1983, OCRWM also contributes the employer's matching share for Social Security. OCRWM does not report CSRS or FERS assets, accumulated plan benefits, or unfunded liabilities, if any, applicable to its employees. Reporting

(Dollars in thousands unless otherwise noted)

such amounts is the responsibility of OPM and the FERS. OCRWM does report, as an imputed financing source and a program expense, the difference between its contributions to Federal employee pension and other retirement benefits and the estimated actuarial costs as computed by OPM.

Contractor Employees – OCRWM's primary integrated contractor maintains a defined benefit pension plan under which they promise to pay employees specified benefits, such as a percentage of the final average pay for each year of service. OCRWM's cost under the contract includes reimbursement of annual employer contributions to the pension plans.

Each year an amount is calculated for employers to contribute to the pension plan to ensure the plan assets are sufficient to provide for the full accrued benefits of contractor employees in the event that the plan is terminated. The level of contributions is dependent on actuarial assumptions about the future, such as the interest rate, employee turnover and deaths, age of retirement, and salary progression. OCRWM reports assets and liabilities of these pension plans as if it were the plan sponsor.

Reclassifications – Certain fiscal year 2002 amounts in the financial statements have been reclassified to ensure consistency with the presentation of fiscal year 2003 amounts.

(3) Fund Balance with Treasury

A summary of the status of fund balances with the U.S. Treasury for appropriated and special funds as of September 30, 2003 and 2002, are as follows:

Fiscal Year 2003	Appropriated Funds	Special Funds	Total
Unobligated budgetary resources			
Available	$ 1	$ 14,054	$ 14,055
Unavailable	10	55	65
Obligated balance not yet disbursed			
Undelivered orders	29,063	55,143	84,206
Accounts payable and deposit fund liabilities	2,004	60,868	62,872
Budgetary resources invested in Treasury securities		(129,901)	(129,901)
Total FY 2003 Fund balance with Treasury	**$ 31,078**	**$ 219**	**$ 31,297**

Fiscal Year 2002			
Unobligated budgetary resources			
Available	$ -	$ 8,453	$ 8,453
Unavailable	-	29	29
Obligated balance not yet disbursed			
Undelivered orders	7,909	42,804	50,713
Accounts payable and deposit fund liabilities	18,518	31,480	49,998
Budgetary resources invested in Treasury securities	-	(82,477)	(82,477)
Total FY 2002 Fund balance with Treasury	**$ 26,427**	**$ 289**	**$ 26,716**

(Dollars in thousands unless otherwise noted)

(4) Investments

For the years ended September 30, 2003 and 2002, the NWF received proceeds of $1,806,802 and $2,887,535, respectively, from the sale of securities. The realized gain on the sale using the specific identification method for the years ended September 30, 2003 and 2002, was $79,208 and $171,382, respectively.

Accrued interest receivable on investments as of September 30, 2003 and 2002, totaled $69,465 and $71,180, respectively.

Investments in U.S. Treasury securities held as of September 30 of each year consisted of the following:

	2003	2002
	$ 25,881,143	$ 23,421,219
Unamortized discount, net	(12,061,578)	(10,956,487)
Investments, net	$ 13,819,565	$ 12,464,732
Unrealized market gains, net	1,202,091	1,544,215
Investments at fair value	$ 15,021,656	$ 14,008,947

(5) Receivables Due from Utilities

Owners and generators of civilian SNF and HLW have entered into contracts with the Department for disposal services and for payment of fees to the NWF.

The NWPA specifies two types of fees to be paid to the NWF for disposal services: (a) a one-time charge per kilogram of heavy metal in solidified SNF or HLW existing prior to April 7, 1983; and (b) a one mil per kWh fee on all net electricity generated and sold by civilian nuclear power reactors on and after April 7, 1983. The Secretary of Energy shall annually review the adequacy of the fees established. In the event the Secretary of Energy determines either insufficient or excess revenue is being collected, the Secretary of Energy shall propose an adjustment to the fee to ensure full cost recovery. The kWh fees are due when billed. The contracts between the Department and the owners and generators of the waste provide three options for payment of the one-time spent fuel fee, one of which must have been selected by June 30, 1985, or within two years of contract execution. The options were:

1. Payment of the amount due, plus interest earned from April 7, 1983, in 40 quarterly installments with the final payment due on or before the first scheduled delivery of SNF to the Department;

2. Payment of the amount due, plus interest from April 7, 1983, in a single payment anytime prior to the first delivery of SNF to the Department; or

3. Payment of the amount due any time prior to June 30, 1985, or two years after contract execution, in the form of a single payment, with no interest due.

Under options (1) and (2), interest accrues from April 7, 1983, to date of first payment at the 13-week U.S. Treasury bill rate compounded quarterly. Under option (1), beginning with the first payment, interest is

(Dollars in thousands unless otherwise noted)

calculated at the 10-year Treasury note rate in effect at the time. Two utilities selected option (1); neither has begun making payments.

In fiscal year 2003, there were no payments or adjustments of one-time spent fuel fees by owners and generators of civilian SNF and HLW.

Accounts receivables from public and intragovernmental utilities at September 30 of each year were as follows:

	2003	2002
Accounts receivable - utilities		
Accounts receivable - intragovernmental utilities		
Kilowatt hour fees	$ 10,610	$ 11,104
Accounts receivable - public utilities		
Kilowatt hour fees	$ 210,712	$ 205,777
One-time spent nuclear fuel fees:		
Option (1)	$ 143,531	$ 143,531
Option (2)	736,958	736,958
Total one-time spent nuclear fuel fees	$ 880,489	$ 880,489
Accrued interest on one-time spent nuclear fuel fees:		
Option (1)	$ 306,322	$ 300,968
Option (2)	1,568,694	1,540,733
Total accrued interest on one-time spent nuclear fuel fees	$ 1,875,016	$ 1,841,701
Total accounts receivable - public utilities	$ 2,966,217	$ 2,927,967
Total accounts receivable - utilities	$ 2,976,827	$ 2,939,071

(6) General Property, Plant, and Equipment, Net

General property, plant, and equipment and related accumulated depreciation consisted of the following at September 30, 2003 and 2002:

	2003	2002
General property, plant, and equipment	$ 72,873	$ 81,077
Less accumulted depreciation	(57,459)	(64,372)
General property, plant, and equipment	$ 15,414	$ 16,705

(Dollars in thousands unless otherwise noted)

(7) Transactions with the Department and Other Federal Government Agencies

The NWPA established OCRWM within the Department to carry out the provisions of the NWPA and created the Nuclear Waste Fund in the U.S. Treasury. The investment and borrowing powers of the NWF are limited to transactions with the U.S. Treasury. In discharging its obligations under the NWPA, the Department contracts for services with numerous contractors including other Federal Government agencies. Further, significant administrative services are provided by the Department.

As of September 30, 2003 and 2002, OCRWM owed other Federal Government agencies $10,374 and $11,177, respectively, for services and costs provided to OCRWM. For the years ended September 30, 2003 and 2002, OCRWM had incurred costs of $52,143 and $41,113, respectively, for services and costs provided by other Federal Government agencies. The incurred costs in 2003 and 2002 include Congressional authorized transfers of funds from the NWF to the following entities to pay for necessary expenses of OCRWM. Amounts transferred consisted of:

	2003	2002
Nuclear Regulatory Commission	$ 24,738	$ 23,650
Nuclear Waste Technical Review Board	3,200	3,100
Total Transfers of appropriations	$ 27,938	$ 26,750

OCRWM has entered into Memoranda of Agreement (MOA) with the Department's Office of Environmental Management and the Department's Office of Naval Nuclear Propulsion. The MOA established the terms and conditions for acceptance of Department-owned SNF and HLW (Defense Waste) for disposal. Those estimated liabilities are included in the TSLCC that is used to calculate the estimate of the Department's share of total current and future Program costs. The TSLCC in fiscal year 2000 dollars was $57,520,000. Based on the TSLCC, the Department's estimated share as of September 30, 2003 and 2002, was $13,988,554 and $13,849,085, respectively.

The Department's Defense Waste total cost share as of September 30, 2003, is estimated to be $3,046,298, including interest amounting to $930,515, based on the methodology published in the Federal Register in August 1987. As of September 30, 2003 and 2002, the NWF was due $1,056,266 and $1,213,285 from the Department, respectively.

(Dollars in thousands unless otherwise noted)

(8) Liabilities Not Covered by Budgetary Resources

A summary of liabilities not covered by budgetary resources as of September 30, 2003 and 2002, is as follows:

	2003	2002
Pensions and actuarial liabilities	$ 6,577	$ 5,289
Other liabilities	4,250	4,318
Estimated liability for waste acceptance obligation	2,000,000	2,000,000
Total liabilities not covered by budgetary resources	$ 2,010,827	$ 2,009,607
Total liabilities covered by budgetary resources	17,930,006	16,715,189
Total liabilities	$ 19,940,833	$ 18,724,796

(9) Commitments and Contingencies

In accordance with the NWPA, the Department entered into contracts with more than 45 utilities in which, in return for payment of fees into the NWF, the Department agreed to begin disposal of SNF by January 31, 1998. Because the Department has no facility available to receive SNF under the NWPA and does not anticipate that there will be such a facility until at least 2010, the Department has been unable to begin disposal of the utilities' SNF as required by the contracts. Significant litigation has ensued as a result of this delay.

To date, that litigation has conclusively established that the Department's obligation to begin disposal of SNF is legally binding notwithstanding the lack of a facility to receive SNF, Indiana Michigan Power Co. v. Department of Energy, 88 F.3d 1272 (D.C. Cir. 1996); that the utilities' remedies for the Department's failure to begin disposal of their SNF are to be determined as a matter of contract law, Northern States Power Co. v. U.S., 128 F.3d 754 (D.C. Cir. 1997), cert. Denied, 119 S. Ct. 540 (1998); and that the Department cannot deny liability on the ground that its delay was unavoidable, Ibid. In addition, the Court of Appeals for the Federal Circuit has held that the Department is in partial breach of its contracts and that utilities are entitled to recover damages for that breach. Maine Yankee Atomic Power Company v. United States, 225 F.3d 1336 (Fed. Cir. 2000); Northern States Power co. v. U.S., 224 F.3d 1361 (Fed. Cir. 2000).

Currently, 34 utilities have filed suits in the Court of Federal Claims for breach of contract in which they collectively seek $6.18 billion. The industry is reported to estimate that damages for all utilities with which the Department has contracts could be $50 billion. The Department, however, believes that the industry estimate is highly inflated, and if the Department prevails on some key disputed issues, the actual total damages suffered by all utilities as a result of the delay in beginning SNF disposal are more likely to be in the range of between $2 billion and $3 billion and has recorded a liability the low end of that range. However, if several recent adverse rulings on dispositive motions by the various trial courts accurately reflect how those issues will ultimately be resolved, the Government's damages prediction is likely to increase significantly.

Liability is certain and in most of the pending cases orders have been entered affirming the Government's liability. Other than ascertaining the actual amount of damages, the only outstanding issue is how that liability is to be satisfied. At this time, it is uncertain whether damages will be paid from the Judgment

Fund, the Nuclear Waste Fund or some other source. However, in Alabama Power v. U.S. Department of Energy, 307 F.3d 1300 (11th Cir. 2002), the Court found that the Department is not authorized to spend Nuclear Waste Fund monies on settlement agreements aimed at compensating utilities for their on-site storage costs that result from the Department's breach of their Standard Contracts, which suggests that the Nuclear Waste Fund would not be an appropriate source for paying damages.

The State of Nevada has filed four actions against the Department in the U.S. Court of Appeals for the District of Columbia challenging: 1) the adequacy of the Department's repository siting guidelines; 2) the adequacy of the Department's Environmental Impact Statement for Yucca Mountain; 3) the recommendation by the Secretary to the President and the President's recommendation to Congress of the Yucca Mountain site; and 4) the constitutionality of the Yucca Mountain Development Act. The Department is vigorously contesting these actions. An adverse ruling by the court in any of these cases could result in additional costs and additional damages in the spent nuclear fuel litigation. No related liabilities are recorded in the Department's financial statements.

The allocation of Program costs to the Department is dependent on the amount of Department-owned waste requiring geological disposal. As additional waste requiring geological disposal is identified and incorporated into the technical Program baseline and MOA, OCRWM will update its cost estimate and cost share allocation to the Department. Certain wastes that may require geological disposal are described below.

The Department's Office of Environmental Safety and Health has identified additional waste owned by the Department, from both commercial and defense projects, that may require disposal in a repository for SNF and HLW. However, this waste has not been sufficiently characterized and quantified to be included in the MOA. No related liabilities are recorded in the Department's financial statements.

HLW owned by the State of New York and currently stored at the West Valley Demonstration Project site is of a type that may be disposed of in a Federal repository if the State of New York were to enter into a contractual agreement with the Department, similar to the provisions of 10 CFR Part 961. To date, the State of New York has not entered into such an agreement. No amount has been recorded in the financial statements as of September 30, 2003, because, at this time, the Department is not legally required to take title to or dispose of the West Valley HLW, nor is the State of New York required to enter into a disposal contract with the Department if it does not plan to dispose of the HLW in a Federal repository. No related liabilities are recorded in the Department's financial statements.

(Dollars in thousands unless otherwise noted)

(10) Deferred Revenue

As described in note 2, all fees, both kWh fees and Defense high-level radioactive waste fees, as well as the related interest and investment income, are recognized as revenue to the extent of expenses incurred. Amounts in excess of current expenses are deferred. Deferred revenue at September 30, 2003 and 2002, was as follows:

	2003	2002
Fees billed:		
kWh fees:		
Public	$ 688,110	$ 712,622
Intragovernmental	40,231	42,114
Defense high-level waste fees, intragovernmental	122,093	111,674
Interest on one-time spent nuclear fuel fees, public	33,314	52,320
Interest, intragovernmental:		
Income on investments	672,705	683,400
Defense high-level waste fees	12,457	22,198
Other revenue	80,583	171,927
Total revenues	$ 1,649,493	$ 1,796,255
Less earned revenue	(448,118)	(407,543)
Change in deferred revenue	$ 1,201,375	$ 1,388,712
Deferred revenue - beginning balance	16,665,732	15,277,020
Deferred revenue - ending balance	$ 17,867,107	$ 16,665,732

Other revenue primarily consists of net gains on sale of investments. The net gain on sale of investments was $79,208 and $171,382 for the years ended September 30, 2003 and 2002, respectively.

UNITED STATES DEPARTMENT OF ENERGY
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

Required Supplementary Stewardship Information for Research and Development (Unaudited)

(Dollars in thousands unless otherwise noted)

Applied Research and Development

	For Fiscal Years Ending September 30,				
	2003	2002	2001	2000	1999
Environmental Quality	$75,782	$62,523	$60,393	$58,662	$59,006

Applied research activities were carried out on the long-term storage of high-level nuclear waste in a permanent underground repository.

UNITED STATES DEPARTMENT OF ENERGY
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

Supplementary Information - Schedule I
Schedule of Cumulative Net First and Second Repository Costs for the
Twenty One Years Ended September 30, 2003

(Dollars in thousands unless otherwise noted)

	Inception through **9/30/2003**
First Repository Costs	$ 5,648,092
All Other Program Costs:	
Program Support	$ 1,469,360
Transfers of Appropriations	314,953
Waste Acceptance, Storage and Transportation	368,249
Imputed and Other Costs	140,464
Total All Other Program Costs	$ 2,293,026
Second Repository Costs	108,896
Total First and Second Repository Costs and Other Program Costs	$ 8,050,014
Less Earned Revenues	(8,041,713)
Cumulative Net First and Second Repository Costs	$ 8,301

UNITED STATES DEPARTMENT OF ENERGY
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

Supplementary Information - Schedule II
Schedule of Cumulative Revenues and Deferred Revenue as of and for the
Twenty One Years Ended September 30, 2003

(Dollars in thousands unless otherwise noted)

		Inception through **9/30/2003**
Fees Billed:		
One Time Spent Nuclear Fuel Fees:		
Public	$	2,174,802
Intragovernmental		174,598
kWh fees:		
Public		10,848,966
Intragovernmental		491,048
Defense High-Level Waste Fees, Intragovernmental		2,115,783
Interest on One-time Spent Nuclear Fuel Fees, Public		1,904,784
Interest, Intragovernmental:		
Income on Investments		6,594,197
Defense High-Level Waste Fees		930,515
Other Revenue		674,127
Total Revenues	$	25,908,820
Less Earned Revenue		(8,041,713)
Deferred Revenue	$	17,867,107

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

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