

Chapter Four

Program Management Center

Background

The Program Management Center consists of the Office of Quality Assurance, the Office of Program Management and Administration, and the Systems Engineering and International Division of the Office of Acceptance, Transportation, and Integration. The first of these organizations is located in Las Vegas, Nevada, and the latter two are in Washington, D.C.

The Program Management Center provides guidance and support to the two business centers in implementing the Program's mission. The Program Management Center's activities supported the Office of Civilian Radioactive Waste Management's (OCRWM) implementation of the President's management initiatives, a set of guidelines launched by the President in August 2001 to measure and improve Federal agencies' performance and to link Federal spending to program performance and effectiveness. Five broad initiatives apply to all agencies: strategic management of human capital, competitive sourcing, improved financial performance, expanded use of electronic government (E-government), and budget and performance integration.

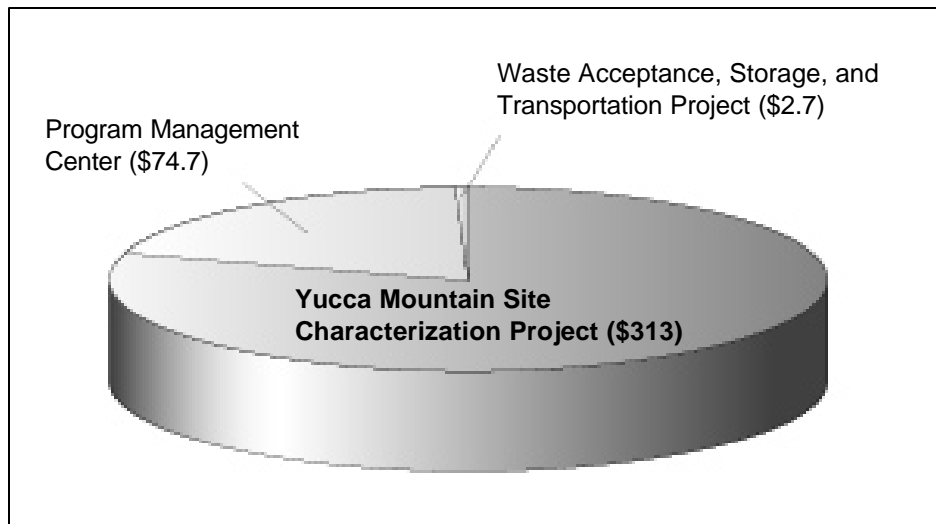
Funding

OCRWM's Fiscal Year 2001 appropriation of \$390.4 million was \$39.2 million more than our Fiscal Year 2000 appropriation, but \$40.2 million less than the President's budget request. We focused our resources on the Program's current priorities,

allocating roughly 80 percent to the Yucca Mountain Site Characterization Project, 1 percent to the Waste Acceptance, Storage, and Transportation Project, and 19 percent, or \$74.7 million, to the Program Management Center. Program Management Center funding is used primarily for Federal staff salaries and technical support services, and approximately half of the funds supported staff and activities at the Yucca Mountain Site Characterization Project.

Major Fiscal Year 2001 Activities and Results

The Program Management Center was directly responsible for meeting the Program's fourth performance target in the Department's Annual Performance Plan for Fiscal Year 2001 and led OCRWM's implementation of the Presidential management initiatives.



Distribution of Fiscal Year 2001 budget
(dollars in millions)

Performance Target #4: Complete and issue Total System Life Cycle Cost and Fee Adequacy reports

In May 2001, the Program issued the *Analysis of the Total System Life Cycle Cost of the Civilian Radioactive Waste Management Program and Nuclear Waste Fund Fee Adequacy: An Assessment*. In addition to fulfilling OCRWM's final performance target, completing these reports met the requirement, in Section 302 of the Nuclear Waste Policy Act, that the Department of Energy annually review and evaluate whether the ongoing fee of 1 mil/kilowatt-hour (kWh) is adequate to offset the civilian share of program costs. The updated total system life cycle cost estimate (TSLCC) reflects the new design and operating modes described in the *Yucca Mountain Science and Engineering Report* and the *Supplement to the Draft Environmental Impact Statement*. An independent cost estimate review was completed in January 2001. Other documents supporting the site recommendation provide additional cost information for alternative low-temperature repositories. The fee adequacy assessment concluded that the 1 mil/kWh fee continues to be adequate to pay for the estimated civilian costs of the Program under the assumptions used in the analysis.

Supporting the President's management agenda

OCRWM has long had management systems and processes in place that support the President's initiatives. We continued to use these systems during Fiscal Year 2001 to strengthen our human resource, financial, information, and performance management capabilities and prepare the Program for expected changes.

Strategic management of human capital

We continued to build on previous years' efforts to develop strategies that will reshape the workforce to meet our mission requirements and organizational needs. In addition, in line with the President's management initiatives, a more in-depth effort was launched to evaluate and improve our human capital management strategies to ensure our ability to achieve the Program's mission and goals; to hire, develop, and retain employees; to reduce the time it takes to make

decisions, and to use performance management systems to link performance to results.

During Fiscal Year 2001, OCRWM provided input for the Department's Five-Year Workforce Restructuring Plan, which outlines the organization's strategy to further streamline and de-layer its management structure, broaden the span of control, eliminate excess supervisory positions, and reassign those resources into front-line positions in support of the President's management initiatives. OCRWM continued to use available human capital management tools, including support for internal and external training, and buyout and early retirement authority, in developing, retaining, and recruiting a talented and diverse workforce.

Federal staffing levels remained relatively stable from the end of Fiscal Year 2000 through Fiscal Year 2001. At the end of Fiscal Year 2001, 160 Federal employees were working in Las Vegas, Nevada, and Washington, D.C.

Competitive sourcing

The Program supported the President's management initiatives relating to competitive sourcing by completing its Federal Activities Inventory Reform (FAIR) Act personnel inventory and by successfully transitioning to a new management and operating (M&O) contractor.

The FAIR Act inventory classifies the work performed by Federal employees into either inherently Governmental or commercial (i.e., capable of being performed by contractors). Further study of commercial activities being performed by OCRWM Federal staff awaits Departmental guidance.

OCRWM has completed its transition to a new M&O contractor. After reviewing bids submitted by three companies, the Department competitively selected Bechtel SAIC Company, LLC, as the M&O contractor. The winner was announced on November 14, 2000, and the contract started on February 12, 2001. The contract award, estimated at \$3.1 billion, is for a five-year period with options up to a total of five additional years. A transition management team developed a transition management plan, procedures for implementation, and an integrated data base to house

the numerous issues, resolutions, and costs associated with the transition. Approximately 1,600 people, working for one prime contractor, with 24 subcontractors and a host of laboratories, were successfully transitioned into one M&O contract with six subcontracts and support from the national laboratories.

Improving Financial Performance

In August 2001, the Program published *Alternative Means of Financing and Managing the Civilian Radioactive Waste Management Program*. The Program requires a stable and predictable funding profile to succeed. It is, therefore, an OCRWM priority to work with Congress in making the Nuclear Waste Fund available to the Civilian Radioactive Waste Management Program for its intended purpose by November 2002.

Because of its special fiduciary responsibility for the fees paid by nuclear utilities into the Nuclear Waste Fund, OCRWM has, since inception of the Program, engaged the services of a “Big-5” public accounting firm to perform an independent audit of OCRWM’s

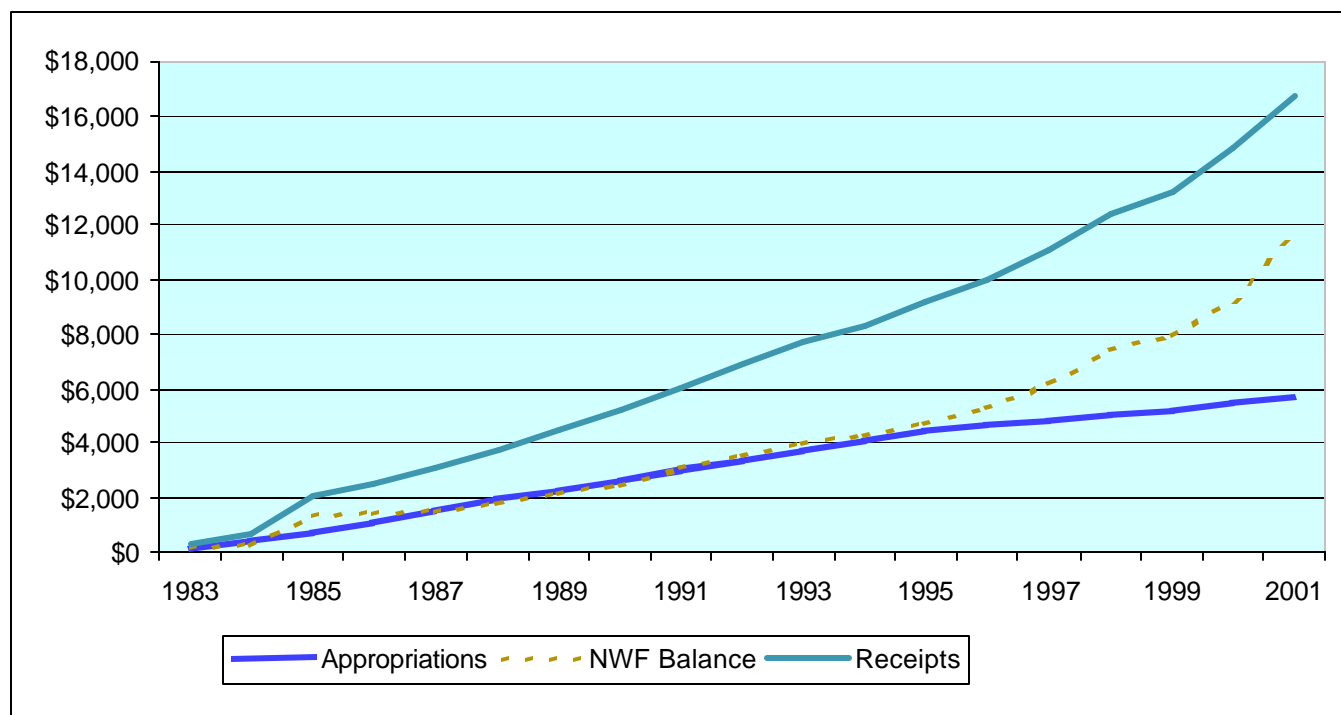
financial statements. OCRWM has received a “clean” (unqualified) opinion from its auditors every year. OCRWM continued to employ the services of an independent auditor during Fiscal Year 2001.

OCRWM utilizes a major Wall Street investment firm to provide monthly investment advice regarding the Treasury securities held in and/or to be purchased for its Nuclear Waste Fund portfolio. OCRWM continued to use an independent investment advisor during the Fiscal Year.

Expanding Electronic Government

Information management (IM) involves the strategic application of information technology (IT) to enhance productivity, facilitate process improvement, promote information exchange and system interoperability, and reduce overall Program costs.

Our IM activities supported the President’s management initiative relating to increased use of E-government so as to strengthen information sharing within the Federal Government and to provide a single access point for citizens seeking information about the Program. In Fiscal Year 2001, IM actions focused on



Approximately 40 percent of the Program’s cumulative income has been appropriated; the remainder is saved for future use

supporting site recommendation activities and preparing for a possible license application and the licensing process.

An Architectural Review Board, composed of members of OCRWM's IM team, evaluated current and future information systems, eliminated duplicative and outdated data base functionality, established a goal for future growth and consolidation of OCRWM systems, and developed a Program-wide information architecture. The Program information base was consolidated into a normalized, distributed data base with a standardized data dictionary.

OCRWM's IT Investment Review Board, established pursuant to the Clinger-Cohen Act in Fiscal Year 1999 to plan and manage IT investment decisions, met in Fiscal Year 2001 to implement new investment review thresholds, procedures, and criteria used in decision-making. We are addressing a number of improvements derived from the lessons learned that were discussed at that meeting.

The processing and indexing of more than 115,700 records and re-indexing of documents in the Records Management System were completed this year, thereby increasing document and record retrievability. Also, the Program's data, voice, and video telecommunications network was updated.

We developed, and are implementing, a Licensing Support Network (LSN) in anticipation of the license application requirements we will face. On May 31, 2001, the Nuclear Regulatory Commission (NRC) issued a final rule, clarifying the time at which the Department of Energy (DOE) must certify that the initial LSN requirements have been met, adding minimum design standards for the network. In Fiscal Year 2001, we procured a server and connected it to NRC's LSN server.

OCRWM has also implemented electronic comment/issue management and tracking systems to support the President's management initiative goals of reducing the time it takes to respond to stakeholder requests and to make decisions.

Budget and performance integration

OCRWM has implemented a suite of good business management practices designed to link planning, budgeting, and performance and to ensure that milestones are met and costs are managed effectively. OCRWM's Program Plan contains strategic objectives, performance goals, and performance measures for a five-year planning period. Performance goals and initial performance targets for each fiscal year are included in OCRWM's budget request to the Office of Management and Budget and the Department's Annual Performance Plan. These targets are finalized upon enactment of each fiscal year's appropriations bill. Strategic performance goals and associated performance measures are assigned to OCRWM project managers and office directors, who are accountable for their achievement. Resource allocation is tied directly to performance targets and is personally reviewed and approved by the OCRWM Director and issued in the final annual work plan for each fiscal year. Progress is reviewed quarterly by the OCRWM Director and tracked semiannually in the Department's commitments database. Final fiscal year results are included in OCRWM's Annual Report to the Congress and in the Department's Performance and Accountability Report.

Quality Assurance

One of the most important areas in which the Program must be successful is quality assurance. NRC, in making licensing decisions, wants to ensure that licensees will be able to construct and operate facilities in a reliable and consistently safe manner. Fiscal Year 2001 quality assurance activities focused on tasks related to site recommendation and, in particular, on activities supporting a total system performance assessment. OCRWM's Office of Quality Assurance regularly interfaces with NRC to discuss our progress in completing corrective actions for deficiencies and to address any concerns or issues NRC may have.

The Office of Quality Assurance took steps to ensure that appropriate quality assurance requirements were in place and that they were fully understood and implemented. Through audits, surveillance, observations, and reviews, quality assurance personnel continued to examine the full range of quality-affecting activities performed by OCRWM, its contractors, and the high-level radioactive waste and spent nuclear fuel organizations within DOE's Office of Environmental Management (EM) whose wastes will be disposed of by OCRWM. Audits and monitoring were used to evaluate how well quality assurance requirements were being met and whether documentation was sufficient to demonstrate compliance. Quality assurance personnel ensured that any deficiencies identified were evaluated, and that adequate investigations, where warranted, were conducted. For each deficiency identified, a corrective action plan was developed, reviewed, and approved. All such plans are tracked through to completion, and the adequacy of the corrective action is verified by quality assurance personnel when all corrective actions are complete. Quality assurance audit and surveillance schedules and reports were posted on the OCRWM web site.

OCRWM quality assurance personnel also provided classroom training to EM personnel on the quality assurance audit process. The purpose of this training was to ensure that EM personnel are qualified to perform audits in accordance with OCRWM quality assurance requirements and to ensure appropriate approaches are used for activities that could impact OCRWM's acceptance and disposal of EM materials.

Program Management, Administration, and Integration

As the Program continues to gather, analyze, and document information about the site and repository and surface facility designs, we update various planning documents so that our stakeholders will have an accurate picture of how the waste management system will operate and the steps we are taking to ensure safety, fiscal responsibility, and effective performance.

We continued to monitor how effectively budget resources were being used for Program activities and, assuming the site would be recommended, to plan for the next phase of the Program.

Program planning

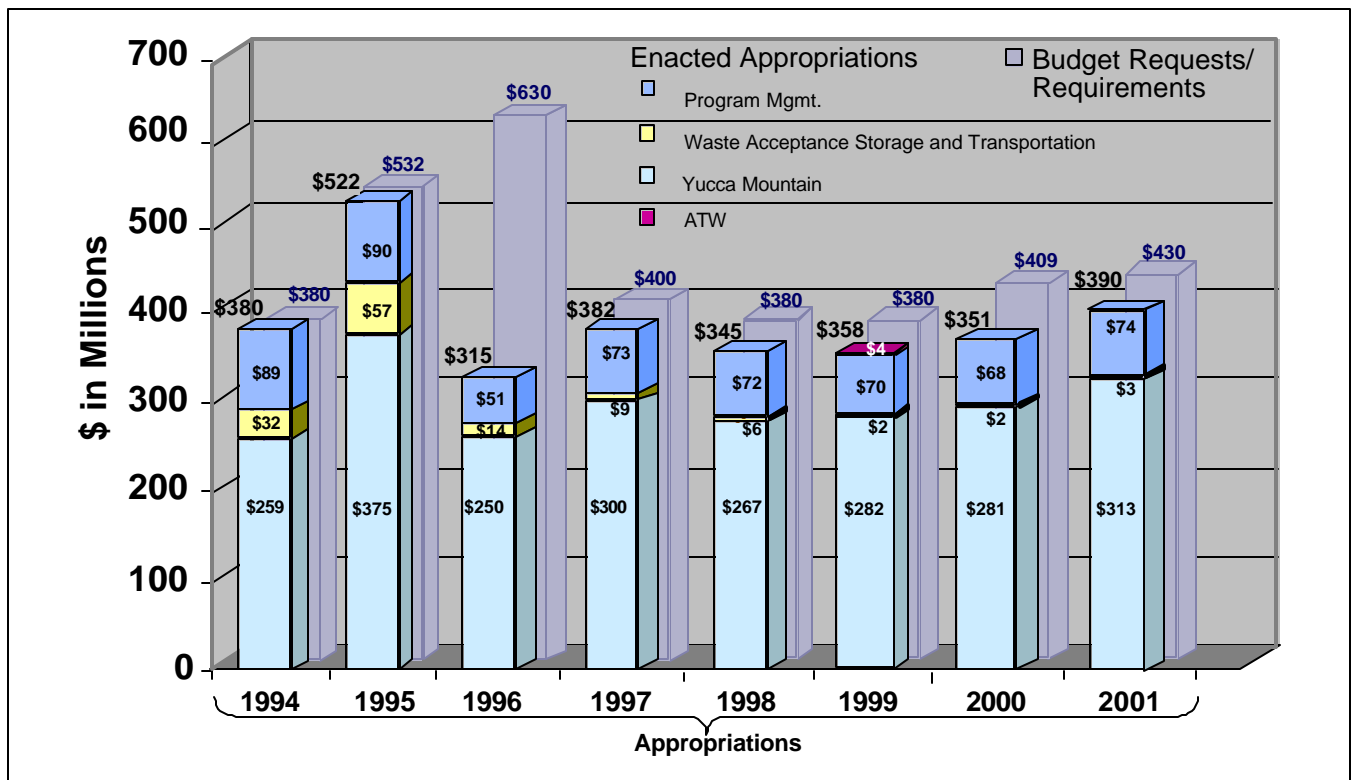
During Fiscal Year 2001, OCRWM began replanning the site characterization and pre-licensing activities and planning the repository design and licensing work that must be completed before license application. Replanning was necessary because Congressional appropriations over the past five years were approximately \$224 million short, in the aggregate, of Program requirements. Work that was not essential to the site recommendation was deferred. In addition, we needed to integrate new work necessary to reduce uncertainty in meeting regulatory requirements and to respond to recommendations from oversight groups such as the Nuclear Waste Technical Review Board. This replanning/planning effort will be completed in Fiscal Year 2003. At that time, OCRWM intends to revise its Program Plan. Until the new plan is issued, OCRWM continues implementing the general planning approach described in Revision 3 of the *Civilian Radioactive Waste Management Program Plan*, which was issued in March 2000. The Program Plan contains strategic objectives, performance goals, and performance measures for a five-year planning period.

We held three OCRWM planning workshops: on November 28-30, 2000, and on January 16-18, 2001, in Baltimore, Maryland, and on August 21-23, 2001, in Mesquite, Nevada. Fiscal Year 2001 meetings focused particularly on our strategy for addressing the completion of technical work and on documentation supporting the site recommendation.

Program-level systems studies

Systems studies serve to ensure that changes evolving from a major decision about one component of the national waste management system are technically integrated with all other components. This ensures that resources will be available for planned work and that all efforts will be directed toward achieving Program goals.

In May 2001, we issued Revision 3 of the *CRWMS Modular Design/Construction and Operation Options Report*. This report provides an updated analysis of alternative Civilian Radioactive Waste Management System (CRWMS) architectures, system operations, and implementation strategies. The report



Annual funding levels have been less than the Administration's request

includes various scenarios to respond to Program uncertainties, including uncertainties in funding levels to be expected during the period of the repository construction and initial operations. Creation of a mechanism for predictable, adequate funding during the initial repository construction and operations period could reduce uncertainty and total Program cost.

Program-level baseline control

Integrated technical, cost, and schedule baselines are the foundation of our Program management system and support budget and performance integration. Baselines are managed through system-level documents. The *Civilian Radioactive Waste Management System Requirements Document (CRD)* defines the basic technical requirements for a national waste management system. We issued CRD Revision 5 Document Change Notice (DCN) 2 in December 2000 and Revision 5 DCN 3 in February 2001. These two important DCNs reflected updates to the inventory of nuclear materials used as a design basis for the site

recommendation; recognition of the request by the Naval Nuclear Propulsion Program for faster and earlier receipt of naval spent nuclear fuel; and clarification that the receipt rate schedule contained in the document represents only target rates and does not create any binding legal obligation on DOE.

Revision 02 of the Program's *Total System Description* was issued in September 2001. This document provides a top-level system description and its concept of operations. Revision 02 incorporates site recommendation designs for the waste package and the potential repository. It also incorporates a flexible design concept that may allow the repository to operate over a wide range of thermal loads.

During Fiscal Year 2001, we continued to update the 1999 *Integrated Interface Control Document (IICD)*, which was released in early Fiscal Year 2002. The IICD specifies the physical and operational interface agreements among the components of the national waste management system, which includes the waste acceptance, transportation, and repository systems, and

DOE offices whose materials OCRWM will accept. These interfaces determine how waste handling facilities and equipment must be designed to accommodate different shipping casks and waste forms. Major changes include: (1) modifying the transportation system development responsibilities for shipping DOE spent nuclear fuel from EM to OCRWM; (2) specific inclusion of the high-level radioactive waste canister interfaces (previously only spent nuclear fuel canisters were included); (3) updates to reflect recent canister designs; and (4) evolving design solutions that were determined to be interface agreements instead of waste acceptance criteria.

The Program's cost and schedule baseline will be updated when the Program replanning effort that is currently under way is completed in Fiscal Year 2003.

Integrated safety management

The Department requires that safety be systematically integrated into management and work practices at all levels so that missions are accomplished while protecting the public, workers, and the environment. The integrated safety management system implementation annual review for Fiscal Year 2001 was conducted from July 23 to August 3, 2001. The review identified one deficiency and seven opportunities for improvement. To address the deficiency and opportunities for improvement, management has developed and initiated implementation of both short-term mitigation actions and long-term corrective actions to ensure safety, quality, and efficient operation of the facility.

As part of our efforts to improve our integrated safety management strategy in Fiscal Year 2001, we issued Addendum 1, titled *Integrated Safety Management Quality Assurance Program*, to the OCRWM Quality Assurance Requirements and Description document. This addendum established the minimum quality assurance requirements for the performance of work governed by the *OCRWM Integrated Safety Management Plan*.

External Interactions

Outreach

Each milestone on the path to operating a potential repository presents opportunities for public outreach. To participate effectively, stakeholders seek information about our work. In turn, we request their views as we formulate our plans and assess our performance. Our external interactions include Congress, the Office of Management and Budget, the State of Nevada, and other affected jurisdictions, industry, regulatory agencies, other Federal agencies, and public interest groups. Appendix E presents an overview of the formal interactions in which we are engaged. Although some of our external interactions have been curtailed in recent years because of funding cuts, we continue to provide public information and actively solicit their views.

Major public outreach activities in Fiscal Year 2001 occurred in the context of the site recommendation consideration process, described in detail in Chapter 2. In addition, OCRWM's Acting Director, Lake Barrett, made extensive efforts to meet the numerous individuals and organizations with which OCRWM interacts to address their concerns and to meet the challenges ahead. The Acting Director and staff, both in Washington, D.C., and Las Vegas, Nevada, met with representatives of more than 20 Federal agencies, environmental groups, technical and professional organizations, policy groups, and international organizations. These meetings helped our stakeholders build an understanding of our work and enabled us to understand their views.

We rely heavily on our web site as the most efficient and cost-effective means of making Program documents, announcements, and other materials available to the general public. The OCRWM home page at www.rw.doe.gov presents current Program and budget plans, major documents, congressional testimony, *Federal Register* notices, speeches, news releases, and photographs of the Yucca Mountain site. An interactive mailbox facilitates responses to individual questions and solicits comments. The site is linked to the web sites of other agencies and organizations with which OCRWM regularly interacts, including NRC, the Environmental Protection Agency, the Nuclear Waste Technical

Review Board, and the State of Nevada. Web site visitors came from more than 30 countries and represented a variety of government, commercial, academic, and private organizations. The web site supports the President's E-government goal of providing a single point of access for information about the Program.

International cooperation

The United States is the leader in efforts to characterize a geologic repository site. OCRWM's international activities promote cooperation with other countries and international organizations to exchange information, develop consensus on common issues, prevent nuclear proliferation, and foster safe radioactive waste management around the world.

Our international program focuses on areas of technical exchange that will benefit the U.S. civilian radioactive waste management program and further nonproliferation objectives. The United States maintains bilateral agreements with Canada, France, Japan, Switzerland, Sweden, and Spain, and participates in a memorandum of understanding with the Russian Federation's Academy of Science. Bilateral agreements are still in the process of being developed with the United Kingdom, Finland, and the Russian Federation's Ministry of Atomic Energy (Minatom). Senior OCRWM managers presented briefings and participated in technical exchanges throughout Fiscal Year 2001.

An important step toward international information exchange and consensus building occurred with the DOE's sponsorship of the 2001 International High-Level Radioactive Waste Management Conference. The conference, which was held from April 29 through May 3, 2001, in Las Vegas, Nevada, discussed the critical issue of high-level waste management as it relates not only to the United States, but also to the global community. Participants with broad interests related to high-level radioactive waste — from governmental to technical — convened at the conference to share information and discuss issues. The event theme this year was "Back to the Future, Managing the Back End of the Nuclear Fuel Cycle to Create a More Secure Energy Future." Discussion

topics included the management, storage, transportation, and disposal of spent nuclear fuel, as well as key scientific, technical, regulatory, and institutional issues surrounding the waste topic.

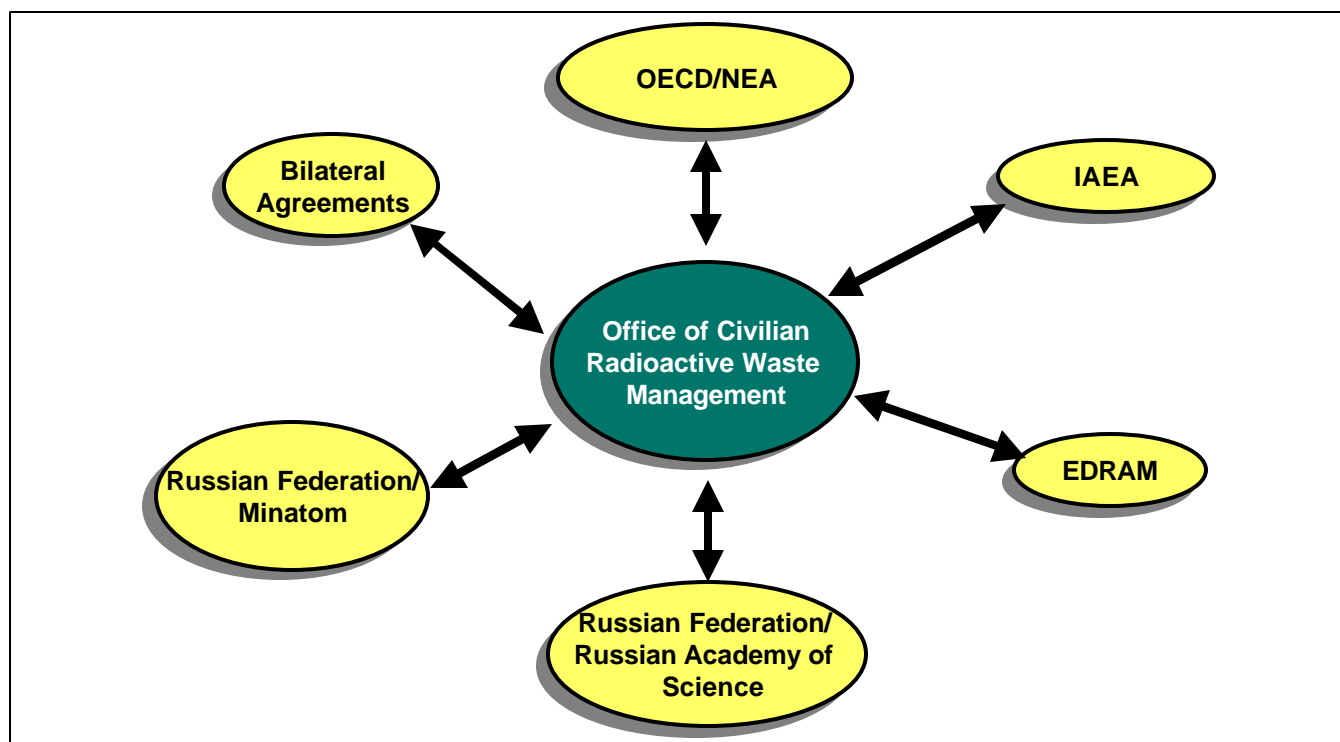
During Fiscal Year 2001, OCRWM continued to participate in collaborative activities with international organizations. Our collaboration with these organizations enables us to reduce Program costs by benefiting from the results of their research and experiences. In exchange, we share our information.

Representing the United States on the Organization for Economic Cooperation and Development/Nuclear Energy Agency (OECD/NEA) 27-nation Radioactive Waste Management Committee, we participated in a number of technical projects. OCRWM is an active member of subgroups that:

- implement repository development for long-lived radioactive waste,
- focus on public perception and confidence,
- develop a comprehensive and quality-assured international thermodynamic data base for five transuranic elements, and
- exchange information and conduct in-depth discussions on approaches to acquiring field data, as well as on testing and modeling the transport of radionuclides in geologic formations.

At OCRWM's request, the NEA led a joint NEA-International Atomic Energy Agency (IAEA) international peer review of the *Yucca Mountain Total System Performance Assessment* document, using international experts in radioactive waste management.

Our work with the IAEA continued to focus on the development of overall radioactive waste management system technical issues, such as spent fuel burnup credits and spent fuel storage. During Fiscal Year 2001, OCRWM participated in several IAEA Consultant and Advisory Group Meetings held in Vienna, Austria. In addition, the IAEA and OCRWM were involved in a peer review on biosphere modeling.



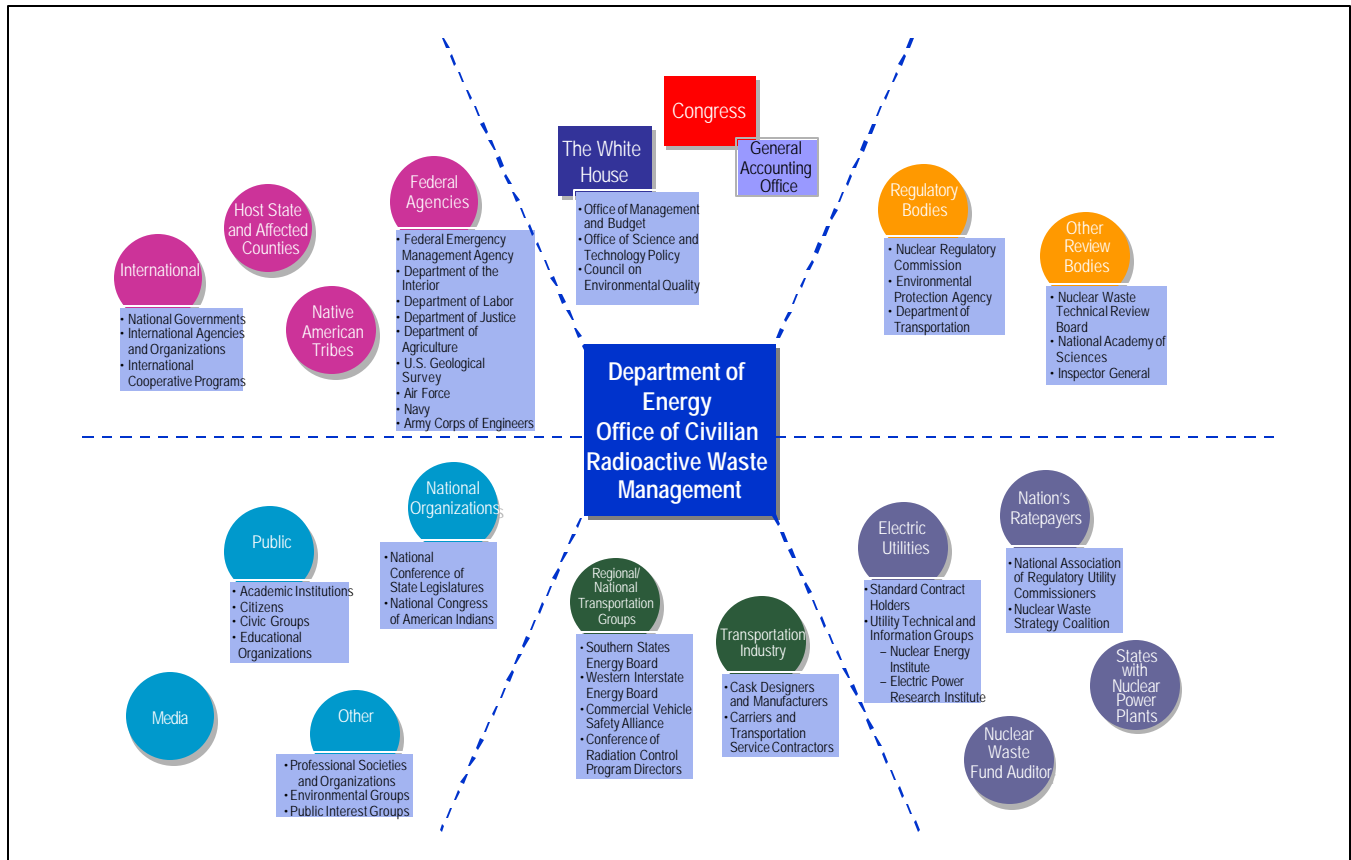
OCRWM works collaboratively with other nations to address the need for final disposition of nuclear materials and promote our nonproliferation policy objectives

During Fiscal Year 2001, OCRWM participated in the second year of the DECOVALEX project, which facilitates international cooperation on modeling and validation of coupled thermo-hydromechanical models. The Project will model data from the drift-scale heater test at Yucca Mountain, and several other participating nations will use these data in their own thermo-hydromechanical models.

In Fiscal Year 2001, OCRWM continued to work directly with the Russian Federation in cooperative programs to support our Nation's nonproliferation objectives. We work with two Russian organizations responsible for waste management – Minatom and the Russian Academy of Sciences. DOE and Minatom are formalizing a bilateral agreement on isolation of radioactive materials in geologic repositories. OCRWM and the Russian Academy of Sciences are also collaborating in the area of repository development. Projects in this area include research into the interaction of actinides and fission products, actinide speciation in the environment, and the modeling of contaminant transport processes in unsaturated rocks.

Scholarship and Fellowship Programs

Through its Radioactive Waste Management Graduate Fellowship Program and the Historically Black Colleges and Universities Undergraduate Scholarship Program, OCRWM seeks to ensure that competent staff will be available to meet future Program needs. The Graduate Fellowship Program provided fellowships to eight graduate students pursuing advanced degrees in disciplines directly related to high-level radioactive waste management at the Nation's top colleges and universities. Fellows complete a research-oriented practicum assignment either at the Yucca Mountain Site Characterization Project or with Program participants. Ten undergraduate scholars received scholarships through the Historically Black Colleges and Universities Undergraduate Scholarship Program. Recipients are chosen by a panel consisting of representatives from historically black colleges and universities and experts in civilian radioactive waste management from the Department's national laboratories, academia, and private industry. The Undergraduate Scholarship Program is designed to encourage students to consider



OCRWM benefits from the participation of many organizations

a career in high-level radioactive waste management by providing support to academically superior juniors and seniors pursuing degrees in related fields. Undergraduate scholars are encouraged to apply to OCRWM's Radioactive Waste Management Graduate Fellowship Program to increase the diversity of OCRWM's future workforce.

Fiscal Year 2001 in Context

During Fiscal Year 2001, the Program Management Center completed a revised TSLCC and the statutorily required annual fee adequacy assessment. The latter concluded that the 1 mil/kWh fee remains adequate under the assumptions used in the analysis. These documents were required to support the President's site recommendation to Congress.

We also took actions to strengthen our implementation of the President's management initiatives. These actions position the Program for the transition from

primarily scientific research to the more engineering-focused activities of licensing and construction. We launched an effort to evaluate and improve our human capital management strategies to ensure a smooth transition to new activities. We completed the transition to a new M&O contractor that is well suited to the needs of licensing, construction and operations. We published the *Alternative Means of Financing and Managing the Civilian Radioactive Waste Management Program* report, which suggested ways to improve the Program's funding mechanism and provide long-term management alternatives for the construction and operating phases of the Program. We continued processing records and installing and testing equipment for the Licensing Support Network that is required to support the NRC licensing process. And we continued managing to and achieving the performance targets in the Department's Annual Performance Plan. We have a flexible and effective management structure that can continue to accomplish the Program's mission.