Post 2006 Completion

Program Mission

The Defense Environmental Restoration and Waste Management, Post 2006 Completion account, includes projects that will require funding beyond 2006. Within the Defense Environmental Restoration and Waste Management appropriation, this account includes a significant number of projects at the largest Department of Energy sites--the Office of River Protection and the Richland Operations Office at the Hanford site in Washington; the Savannah River Site in South Carolina; the Idaho National Engineering and Environmental Laboratory in Idaho; the Argonne National Laboratory-West in Idaho (administered through Chicago); the Oak Ridge Reservation in Tennessee--as well as, the Los Alamos National Laboratory in New Mexico; the Lawrence Livermore National Laboratory in California; the Nevada Test Site in Nevada; and the Waste Isolation Pilot Plant in Carlsbad, New Mexico.

After completion of cleanup, it will be necessary for the EM program to maintain a presence at most sites to monitor, maintain, and provide information on the contained residual contamination. These activities will be necessary to maintain the reduction in risk to human health. Such long-term stewardship will include passive or active controls and, often, treatment of groundwater over a long period of time. The extent of long-term stewardship required at a site will reflect the end-state developed in consultation among the U.S. Department of Energy, Congress, Tribal Nations, representatives of regulatory agencies and State and local authorities, representatives of non-governmental organizations, and interested members of the general public.

Program Strategic Performance Goals

Accelerating cleanup and project completion are central goals of the EM program. Environmental Management sites are working to reduce outyear costs by completing projects as soon and as efficiently as possible. For those sites in the Post 2006 Completion account, treatment will continue for the remaining "legacy" waste streams. The EM program will:

- Address environmental risks across the Department of Energy complex and ensure that facilities and activities pose no undue risks to the public and worker safety and health. This includes safe containment of high-level waste tanks at the Office of River Protection in Hanford, Washington, Idaho Falls, Idaho, and Savannah River, South Carolina; and ensuring the safe storage of spent nuclear fuel at Hanford, Idaho, and Savannah River.
- The Waste Isolation Pilot Plant will fully support shipments of contact-handled transuranic waste from the Idaho National Engineering and Environmental Laboratory, the Rocky Flats Environmental Technology Site, the Savannah River Site, and limited shipments from other sites.

One way EM is ensuring success is to manage the program based on sound performance measures that define and quantify programmatic strategic performance goals from the Departmental level down to the contractors performing the work. Environmental Management establishes specific performance measures and milestones on a project-by-project basis for the program within the context of the Environmental Quality Business Line and the Environmental Management Strategic Objectives. The EM program has been actively incorporating the requirements of the Government Performance and Results Act into its planning, budgeting, and management systems. At the programmatic level, these requirements are reflected in "corporate" performance measure and key milestone reporting and tracking. The EM management uses the corporate performance measures along with other site-specific and project-specific objectives on an annual basis to ensure that progress is being made toward the goal of site closure and project completion.

The chart below contains a summary of EM corporate performance measures for this program account. Detailed performance measure information can be found in the site details that follow this appropriation overview.

Annual Performance Results and Targets [a] [b]

	FY 2001 Actuals	FY 2002 Estimate	FY 2003 Estimate
Defense Post 2006 Completion			
Number of Release Site - Completion	152	74	54
Number of Facilities Decommissioned - Cleanup	11	2	0
Number of Facilities Deactivated - During Period	21	4	1
Number of High-Level Waste Canisters	227	200	100
Volume of Transuranic Waste Received for Disposal at WIPP [c]	1,945	4,709	4,605
Volume of Transuranic Waste Shipped to WIPP for Disposal (m^3)	154	2,142	849
Volume of Mixed Low-Level Waste Treated (m^3)	3,587	2,387	907
Volume of Mixed Low-Level Waste Disposed (m^3)	2,623	3,176	1,195
Volume of Low-Level Waste Disposed (m^3)	48,415	66,596	66,618
Spent Nuclear Fuel Moved to Dry Storage (MTHM)	79	4	4

[a] Life-cycle estimates for release sites, facilities, and high-level waste canisters include pre-1997 actuals. Waste type, nuclear materials, and spent nuclear fuel estimates are from fiscal years 1998 through 2070. In most instances, life-cycle refers to 1997-2070.

[b] This chart provides a consistent set of performance measures for the total EM program. The more detailed project-level justification provides a description of significant activities for each project including project-specific milestones, as applicable.

[c] Life-cycle estimate reflects the legal limit for the Waste Isolation Pilot Plant, since the expectation is that the full capacity at the Waste Isolation Pilot Plant will be needed to dispose of EM's transuranic waste. The PBSs have identified approximately 101,369 m^3 of transuranic waste. Additional quantities of transuranic waste will result from EM's decontamination and decommissioning activities.

Significant Accomplishments and Program Shifts

Comparabilities. The FY 2003 request has been prepared on a comparable basis. All activities and funds are displayed for FY 2001 and FY 2002 as if they were appropriated in the same appropriation and program account under which they are requested in FY 2003. The FY 2001 and FY 2002 Appropriations have been adjusted to reflect the following comparabilities: movement of projects and/or activities between appropriations and/or program accounts; creation of a separate Multi-Site account; shifts of projects and/or activities between sites; and Office of River Protection project re-structuring.

Funding Profile

(dollars in thousands)

	FY 2001 Comparable Appropriation	FY 2002 Original Appropriation	FY 2002 Adjustments	FY 2002 Comparable Appropriation	FY 2003 Request
Post 2006 Completion	1,910,233	1,961,195	0	1,961,195	1,717,111
Post 2006 Completion - ORP	790,780	1,025,198	0	1,025,198	897,988
Total, Defense Post 2006 Completion	2,701,013	2,986,393	0	2,986,393	2,615,099

Public Law Authorization:

Public Law 95-91, “Department of Energy Organization Act (1977)”

Public Law 102-579, “Waste Isolation Pilot Plant Land Withdrawal Act (1992)”

Public Law 103-62, “Government Performance and Results Act of 1993"

Public Law 106-377, “The Energy and Water Development Appropriations Act, 2001"

Public Law 106-398, “The National Defense Authorization Act for Fiscal Year 2001"

Public Law 107-66, “The Energy and Water Development Appropriations Act, 2002"

Funding by Site

(dollars in thousands)

	FY 2001	FY 2002	FY 2003	$ Change	% Change
Albuquerque Operations Office	89,553	81,606	59,459	-22,147	-27.1%
Carlsbad Field Office	197,886	183,437	193,228	9,791	5.3%
Chicago Operations Office	0	750	0	-750	-100.0%
Idaho Operations Office	268,550	371,932	295,087	-76,845	-20.7%
Nevada Operations Office	87,203	84,967	57,860	-27,107	-31.9%
Oak Ridge Operations Office	277,357	260,969	259,315	-1,654	-0.6%
Oakland Operations Office	47,497	42,403	30,752	-11,651	-27.5%
Richland Operations Office	226,411	256,338	198,187	-58,151	-22.7%
Savannah River Operations Office	715,776	678,793	623,223	-55,570	-8.2%
Subtotal, Defense Post 2006 Completion	1,910,233	1,961,195	1,717,111	-244,084	-12.4%
Post 2006 Completion-Office of River Protection	790,780	1,025,198	897,988	-127,210	-12.4%
Total, Defense Post 2006 Completion	2,701,013	2,986,393	2,615,099	-371,294	-12.4%

Albuquerque

Mission Supporting Goals and Objectives

Program Mission

Historically, the Albuquerque Operations Office's primary mission has been to manage sites that were involved in the research, development, production, and maintenance of nuclear weapons. The Los Alamos National Laboratory has an ongoing stockpile, stewardship, and research mission. The mission of the Defense Environmental Restoration and Waste Management, Post 2006 Completion account, carried out by the Albuquerque Operations Office is to support cleanup of contaminated waste sites, and to provide for legacy waste management activities at the Los Alamos National Laboratory in New Mexico. In addition, the Albuquerque Nuclear Materials Stewardship Office helps provide complex-wide solutions to issues associated with stabilization and storage of plutonium and other nuclear materials. The Off-site Source Recovery Project is responsible for managing defense-related sealed radioactive sources. Finally, the New Mexico Agreement-in-Principle is funded out of this account.

Program Goal

The Albuquerque Operations Office's goal is to complete cleanup of the Los Alamos National Laboratory. Over 2,000 potential release sites have been identified at the Los Alamos National Laboratory, along with significant volumes of legacy transuranic and mixed low-level wastes. Unforseen scope growth in other projects has caused a funding reprioritization to maintain earlier cleanup completion dates for the Pantex Plant and the Sandia National Laboratories, which in turn, has caused the Los Alamos cleanup date to be extended. The Los Alamos National Laboratory manages programs which help reduce the potential for public exposure to nuclear materials through retrieval of excess plutonium-239 beryllium neutron sources and stabilization of at-risk excess nuclear materials. The Albuquerque Nuclear Materials Stewardship Office assists in the implementation of the Department's Integrated Nuclear Materials Management Plan, which supports accelerated closure of Environmental Management sites and facilities. The goals of the Agreement-in-Principle are to provide states/tribes with opportunities to conduct oversight of the Environmental Management Programs, emergency response planning, and public information and outreach.

Program Objectives

The program objective for the Los Alamos National Laboratory is to have all contaminated sites remediated and all legacy waste disposed. In FY 2000, the Environmental Restoration program began a watershed approach, a strategy in which groups of release sites within a watershed are addressed, rather than evaluating each release site individually. This established a more systematic approach to characterization and remediation, and will help streamline the regulatory review process. Since 1999, treatment and disposal of all newly-generated mixed low-level waste and low-level waste at the Albuquerque sites is funded by Defense Programs. A key initiative at the Los Alamos National Laboratory in FY 1999 was to retrieve approximately 4,600 m^3 of transuranic waste from earth-covered storage pads and place it into inspectable storage configurations in accordance with a State of New Mexico compliance order. The FY 2003 budget also provides for continued transuranic waste retrieval and preparation activities at the Los Alamos National Laboratory in support of shipment and disposal at the Waste Isolation Pilot Plant.

The design development processes and improvements made in the Nuclear Material Facility Stabilization Research and Development Program will manage excess nuclear materials to help accelerate closure of sites and facilities, and the Off-Site Source Recovery Program will recover and consolidate the remaining backlog of plutonium-239 neutron sources. The Albuquerque Nuclear Material Stewardship Office will coordinate, consolidate, and integrate research and development and other activities to integrate the management of nuclear materials, including their packaging, shipping, and disposition.

Significant Accomplishments and Program Shifts

- Continue to conduct activities related to the Oversight programs: environmental surveillance oversight; environmental restoration oversight; waste management oversight; emergency response planning and oversight; and public information and outreach. Conduct oversight activities at the Los Alamos National Laboratory, Sandia National Laboratories, New Mexico, and the Lovelace Respiratory Research Institute. Activities include collection and analysis of air, surface water, drinking water, soil, sediment, and groundwater samples; review and comment on technical plans and reports; attendance at technical project meetings; preparation of technical documents; and community outreach activities. Technical support/advice to the Los Alamos and Sandia Citizens Advisory Boards and to four of the Los Alamos Accord Pueblos (FY 2002).

Los Alamos National Laboratory - Environmental Restoration

- LA/Pueblo Watershed activities: completed site cleanup in town site area and conducted the Resource Conservation and Recovery Act/Feasibility Investigation at Technical Area 0 (FY 2001).
- Mortandad Watershed activity: continued characterization in Technical Area 35 (FY 2001).
- Water Canyon Watershed activity: continued characterize of deep groundwater (FY 2001).
- Parjarito Canyon Watershed activity: drilled an additional deep well for characterization of groundwater (FY 2001).

Sandia Canyon Watershed activities: continued deep groundwater characterization and completed remediation activities for industrial site polychlorinated biphenyls (FY 2001).

Ancho Canyon Watershed activity planned: Monitored Material Disposal Area AB (FY 2001).

Continue remediation activities in several technical areas including: the Technical Area-35 integrated Sampling and Analysis, the South Fork Acid Canyon Vertical Contamination Migration activities, the Airport Landfill Vertical Contamination Migration Plan, the Technical Area-21 Sampling and Analysis Plan for Potential Release Site 21-009 and Material Disposition Area-B, the Material Disposition Area-P Closure Report, the Technical Area-16 260 Outfall 16-021(c) IM Source Removal, the Technical Area-53 Interim Action 53-002(a) and the Technical Area-54 Material Disposition Area H Corrective Measures Study Report (FY 2002).

Waste Management - Legacy Waste

Retrieved legacy transuranic waste from Pad 4 under earth cover and place into compliant storage (FY 2001).

Continued transuranic waste characterization for certification, seven shipments were successfully shipped to the Waste Isolation pilot Plant (FY 2001).

Treated and disposed 52m^3 of mixed low-level waste according to the Site Treatment Plan (FY 2001).

Completed retrieval of 5,877 drums and vented 5,519 drums at the Transuranic Inspectable Storage Project (FY 2001).

Complete retrieval and venting the Transuranic Waste Inspectable Storage Plant (FY 2002).

Complete 10 shipments of legacy transuranic debris waste to the Waste Isolation Pilot Plant (FY 2002).

Nuclear Material Facility Stabilization

Completed equipment setup for large scale testing and began filling containers as part of the shelf-life studies. These studies include processing and evaluating (pressure, corrosion resistance, etc.) materials in 3013 containers. Materials are from all sites holding plutonium-bearing oxides, plutonium metals, and plutonium alloys in the K-Area Materials Storage facility (FY 2001).

Held Integrated and Surveillance Implementation Plan Kick-Off meeting (FY 2001).

Deployed the prompt gamma instrument at Rocky Flats, which is a continuation of the development of the technical basis for safe storage via the core science program (FY 2001).

Complete initial data results on three full-scale shelf-life test (FY 2002).

Continue the development of the technical basis for safe storage via core technical program. Can puncture device designed and ready (FY 2002).

Albuquerque Nuclear Materials Stewardship Office

- # Provided management of the Department's Nuclear Materials Stewardship Program to ensure successful interim storage and consolidation of nuclear materials in an efficient and safe manner (FY 2001).
- # Consolidate excess nuclear materials to interim storage sites (materials from Rocky Flats, Fernald, and Mound will receive priority attention) (FY 2001/FY 2002).
- # Continue planning and integration for the transfer of excess nuclear materials to disposition programs (FY 2001/FY 2002).
- # Continue operating a material management center to assist sites with sealed sources and isotopes no longer required for their programs (FY 2002).
- # Continue successful Nuclear Material Transportation and Packaging Committee integration activities (FY 2002).

Off-Site Source Recovery Program - Defense

- # Implemented the charge back program to support source acceptance from within the DOE complex (FY 2001).
- # Packaged four drums of Transuranic Sealed Sources for disposal at the Waste Isolation Pilot Plant (FY 2001).
- # Continued recovery of excess DOE/Naval Reactors sealed sources (FY 2001).
- # Complete a National Environmental Protection Agency review selecting a DOE storage site for Strontium-90 Radioisotope Thermoelectric Generators (FY 2002).
- # Continue Off-Site waste actions (FY 2002).

Funding Schedule

(dollars in thousands)

	FY 2001	FY 2002	FY 2003
AL004 / New Mexico Agreement in Principle (AIP)	1,080	1,046	725
AL008 / Nuclear Material Facility Stabilization R&D	9,629	12,623	9,322
AL009 / LANL Environmental Restoration	46,900	40,536	29,634
AL013 / LANL Waste Management - Legacy Waste	24,137	24,943	18,436
AL026 / Off-site Source Recovery Program - Defense	1,733	476	351
AL028 / Albuquerque Nuclear Material Stewardship Project Office	1,952	1,982	991
AL030 / Land Parcels Transfer at LANL	4,122	0	0
Total, Albuquerque	89,553	81,606	59,459

Funding by Site

(dollars in thousands)

	FY 2001	FY 2002	FY 2003	$ Change	% Change
Los Alamos National Laboratory	86,521	78,578	57,743	-20,835	-26.5%
Albuquerque Operations Office	3,032	3,028	1,716	-1,312	-43.3%
Total, Albuquerque	89,553	81,606	59,459	-22,147	-27.1%

Metrics Summary

	FY 2001	FY 2002	FY 2003
Release Site			
Cleanup	5	2	1
Transuranic Waste			
Shipped to WIPP for Disposal (m^3)	94	85	181
Mixed Low-Level Waste			
Disposal (m^3)	52	30	17
Low-Level Waste			
Disposal (m^3)	315	1,640	37

Site Description

Los Alamos National Laboratory

The Los Alamos National Laboratory encompasses over 43 square miles in northern New Mexico and conducts major programs in multiple areas, including applied research in nuclear and conventional weapons development, nuclear fission and fusion, nuclear safeguards and security, and environmental and energy research. The waste produced includes low-level, mixed, hazardous, transuranic, sanitary waste streams, and small amounts of other waste from research. The primary waste management activities include storage, treatment, and disposal of transuranic and mixed low-level waste. All newly generated waste activities were transferred to the Office of Defense Programs in FY 1999. The Laboratory is comprised of approximately 2,000 release sites and about 150 surplus facilities within the currently defined scope. Because of its expertise with nuclear materials, the Los Alamos National Laboratory has been designated the lead laboratory for research and development efforts to support the Department's response to Defense Nuclear Facilities Safety Board Recommendation 94-1. In this capacity, the Los Alamos National Laboratory provides solutions to complex-wide technical and operational issues associated with stabilization and storage of plutonium and other nuclear materials.

Albuquerque Operations Office

The Department of Energy Albuquerque Operations Office manages, coordinates, tracks, and assists in the implementation of programs at the Los Alamos National Laboratory. Legal drivers at Albuquerque include the Resource Conservation and Recovery Act; Comprehensive Environmental Response, Compensation, and Liability Act; National Environmental Policy Act; State laws and codes; and DOE Orders.

Detailed Program Justification

(dollars in thousands)

FY 2001	FY 2002	FY 2003

At the Los Alamos National Laboratory, a performance-based management program began in 1992 and was renewed in 1997 and in 2000 with the negotiation of new contracts between the Los Alamos National Laboratory and DOE that incorporated the concepts of contractor performance against established expectations. The contract embodies the objectives of the Department's contract reform initiatives including incorporation of performance-based management provisions, more defined statements of work, enhanced performance objectives, increased accountability, and improved measures for safety and health of workers, the public, and the environment. This is a much more comprehensive and systematic approach than a typical award fee contract that focuses on a few areas of performance emphasis or improvement. The performance-based system measures against the expectations and rewards and penalizes, through monetary means, the contractor for its overall performance based on the results of the annual validation, evaluation, and rating.

The current contract with the Los Alamos National Laboratory for the management and operation of the laboratory was extended in 2000 through September 30, 2005. The scope planned for FY 2003 has been reviewed and is appropriate to meet the goals of the site as outlined in the EM sites' baseline planning data. The funds requested for FY 2003 are appropriate based on historical costs for similar work.

AL004 / New Mexico Agreement in Principle (AIP) **1,080** **1,046** **725**

The New Mexico Agreement-in-Principle provides partial funding (through a grant) for the support of New Mexico's oversight and monitoring of Department of Energy compliance with applicable environmental laws and regulations for the Los Alamos National Laboratory; Sandia National Laboratories, New Mexico; and the Lovelace Respiratory Research Institute. The New Mexico Environment Department employees supporting Agreement-in-Principle activities are located on-site at the Department of Energy facilities in Los Alamos and Albuquerque and at the New Mexico Environment Department in Santa Fe.

Continue to conduct oversight activities including: collection and analysis of air, surface water, drinking water, soil, sediment, and groundwater samples; review and comment on technical plans and reports; attendance at technical project meetings; preparation of technical documents; and community outreach activities.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

Oversight activities will be conducted at the Los Alamos National Laboratory, Sandia National Laboratory, New Mexico, and the Lovelace Respiratory Research Institute.

AL008 / Nuclear Material Facility Stabilization R&D 9,629 12,623 9,322

The Los Alamos National Laboratory is performing research and development activities as part of the Department's efforts to stabilize at-risk excess nuclear materials and to accelerate site closures. This program is being carried out primarily in response to the Defense Nuclear Facilities Safety Board Recommendation 94-1, and is the responsibility of the Office of Integration and Disposition. This recommendation focuses on accelerating the Department's efforts to reduce health and safety risks to workers, the public, and the environment. The Office of Integration and Disposition continues to direct the stabilization technology development activities under this project in coordination with the Albuquerque Nuclear Materials Stewardship Office.

Complete the analysis and reporting of initial large-scale surveillance samples.

Complete the gas generator model development.

Construct the 3013 can puncture device.

Key Milestones

Complete development moisture sorption and desorption rates on pure and impure plutonium oxides (November 2001).

Complete moisture measure validation (September 2002).

Complete analysis and reporting of initial small-scale surveillance samples (July 2003).

AL009 / LANL Environmental Restoration 46,900 40,536 29,634

Los Alamos National Laboratory encompasses 43 square miles in North Central New Mexico. From 1945 to the mid-1980s, the laboratory disposed of radioactive materials and hazardous chemicals in a manner that resulted in the contamination of the surrounding environment. There are approximately 2100 potential contaminated areas, known as Potential Release Sites that fall under the purview of the environmental restoration project. These Potential Release Sites have various contaminants of concern, including inorganic liquids, sludges, solids, liquid and volatile organic chemicals, non-nuclear explosive residues and radioactive compounds. In addition, there are about 150 structures that are to undergo Decontamination and Decommissioning.

Start field work for Technical Area-35, Technical Area-21, and Material Disposal Area T and Technical Area-73.

Start of the Bayo/Guaje/Rendija Canyons Work Plan.

Start of the Technical Area-54 Material Disposal Area CMI Design.

Implement drilling of the R-18 Deep Groundwater Well near Pajarito Canyon.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

Airport Landfill Cover - Work on the cover system for the landfill is necessary in FY 2003 in order to meet Public Law 105-119 completion date goal.

Metrics			
Release Site			
Cleanup	5	1	1
Low-Level Waste			
Disposal (m^3)	306	1,640	37

Key Milestones

Complete two deep wells FY 2001 (December 2000).

Technical Area - 54: Material Disposal Area H - Submit corrective measures study work plan to administrative authority (March 2001).

Technical Area - 0: Waste Water Treatment Plant - Submit voluntary corrective measure report to administrative authority (0-030(g)) (June 2001).

Technical Area - 51, 54: Submit voluntary corrective measure report to administrative authority (September 2001).

Technical Area - 03: Submit voluntary corrective measure report PRS 03-056 (c) (September 2001).

Well R-22 Completion Report (December 2001).

Well R-15 Geochemistry Report (December 2001).

Well R-9 and R9 Geochemistry Report (February 2002).

Well R-19 Geochemistry Report (March 2002).

Technical Area 35 - Submit Integrated Sampling and Analysis Plan to administrative authority (March 2002).

Well R-12 Geochemistry Report (April 2002).

Well R-7 Completion Report (April 2002).

Complete one deep well FY 2002 (September 2002).

Technical Area - 4, 5, 52, 64: Submit integrated Sampling and Analysis Plan to administrative authority (July 2003).

Technical Area - 21: Submit voluntary corrective measure report to administrative authority 21-029 (September 2003).

Technical Area - 35: Submit Remedial Field Investigation report to administrative authority (September 2003).

Complete one deep well FY 2003 (September 2003).

(dollars in thousands)

FY 2001	FY 2002	FY 2003

AL013 / LANL Waste Management - Legacy Waste 24,137 24,943 18,436

This project provides for the treatment, storage, or disposal of all legacy waste, including mixed transuranic waste and mixed low-level waste generated at the Los Alamos National Laboratory. The waste was generated at 33 technical areas and is treated, stored, and disposed in compliance with applicable Federal and state requirements.

- # Continue mixed low-level waste operations and storage.
- # Continue mixed low-level waste characterization and disposal.
- # Continue to store, sort, segregate, and repackage transuranic waste.
- # Continue transuranic waste characterization and optimization.
- # Complete shipments of transuranic waste to the Waste Isolation Pilot Plant in FY 2003.
- # Perform decontamination and volume reduction activities.

Metrics			
Transuranic			
Shipped to WIPP for Disposal (m^3)	94	84	181
Mixed Low-Level Waste			
Disposal (m^3)	52	30	17

Key Milestones

- # Update and submit the Site Treatment Plan to the New Mexico Environment Department (February 2001).
- # Retrieve 3,832 Transuranic Waste Inspectable Storage Project drums equivalents from Pad 2 (July 2001).
- # Vent 3,832 Tank Waste Inspectable Storage Project drums (July 2001).
- # Process 60 m^3 of transuranic waste composed of large metal objects in Decontamination of Volume and Reduction project (September 2001).
- # Complete 14 shipments of legacy transuranic debris waste to the Waste Isolation Pilot Plant (September 2001).
- # Treat and dispose 52 m^3 of legacy mixed low-level waste (September 2001).
- # Complete the retrieval, venting, and placing into inspectable storage of all Tank Waste Inspectable Storage drums from PADZ (January 2002).
- # Process 60 m^3 of transuranic waste composed of large metal objects in Decontamination and Volume Reduction System project (September 2002).
- # Complete shipment of 420 transuranic legacy debris drums to the Waste Isolation Pilot Plant (September 2002).

(dollars in thousands)

FY 2001	FY 2002	FY 2003

#	Treat and dispose of 30 m^3 of legacy mixed low-level waste (September 2002).
#	Update and submit Site Treatment Plan to New Mexico Environment Department (March 2003).

AL026 / Off-site Source Recovery Program - Defense 1,733 476 351

The Los Alamos National Laboratory conducts programs for the management of nuclear materials, including the Off-Site Source Recovery Program. This program reduces the potential for public exposure to nuclear materials through the retrieval of excess plutonium neutron sources and other excess materials.

Continue to focus on aggressive recovery of sealed sources.

Ship eligible sealed sources to the Waste Isolation Pilot Plant for disposal.

Metrics			
Transuranic Waste			
Shipped to WIPP for Disposal (m^3)	0	1	1

Key Milestones	
#	Complete waste characterization and certification (April 2001).
#	Establish the Waste Isolation Pilot Plant shipping schedule (September 2001).
#	Investigate self supporting program (December 2002).
#	Package sealed sources for shipment to the Waste Isolation Pilot Plant (September 2003).

AL028 / Albuquerque Nuclear Material Stewardship Project Office 1,952 1,982 991

The Albuquerque Nuclear Materials Stewardship Office provides field management of the Nuclear Materials Stewardship Program to ensure successful interim storage and consolidation of nuclear materials in a safe and efficient manner; implements nuclear materials technology, standards and data management; serves as the principal integrator for planning, packaging, transportation, interim storage and surveillance systems; expedites removal of nuclear materials from facilities and sites to reduce mortgages, facilitate achievement of Accelerating Cleanup goals, and to minimize the need for new storage facilities; and ensures the availability of appropriate facilities and capabilities to provide interim storage of excess nuclear materials in a safe, secure, and accountable manner.

Continue to provide field management of the Department's Nuclear Materials Stewardship Program to ensure consolidation, interim storage, and disposition of nuclear materials in a safe and efficient manner.

Removal of excess nuclear materials from closure sites will continue to receive priority attention.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

- # The Nuclear Materials Packaging and Shipping Committee will coordinate and integrate activities necessary to support efforts to safely remove nuclear materials in accordance with site schedules.
- # The Non-Actinide Isotopes and Sealed Sources management group will help sites identify disposition paths for items no longer needed for their programs.

Key Milestones

- # Expand Non-Actinide Isotopes and Sealed Sources Materials Group Support (September 2001).
- # FY 2003 Packaging and Transportation Schedule (September 2002).
- # Quarterly Report - Secure shipping analysis (October 2002).
- # Quarterly Report - Secure shipping analysis (January 2003).
- # Quarterly Report - Secure shipping analysis (April 2003).
- # Quarterly Report - Secure shipping analysis (July 2003).
- # Support de-inventory of two EM sites (September 2003).
- # Complete two trade studies (September 2003).

AL030 / Land Parcels Transfer at LANL	**4,122**	**0**	**0**

This project is required to meet legislative mandates of Public Law 105-119, which requires the Department of Energy to transfer land not required for national security purposes and which has been cleaned up back to the County of Los Alamos and the San Ildefenso Pueblo. Ten parcels totaling approximately 4,000 acres have been identified for transfer. The process, schedule, and costs for the land transfers are described in the Conveyance and Transfer Plans submitted to Congress in December 2000.

- # Activities transferred to PBS AL009, Los Alamos National Laboratory Environmental Restoration

Metrics			
Low-Level Waste			
Disposal (m^3)	0	9	0
Facilities Decommissioning			
Cleanup	0	1	0

Key Milestones

- # Issue Final White Rock Parcel Comprehensive Environmental Response, Compensation, and Liability Act 120 (H) Report (January 2001).

Total, Albuquerque	**89,553**	**81,606**	**59,459**

Explanation of Funding Changes

	FY 2003 vs. FY 2002 ($000)
AL004 / New Mexico Agreement in Principle	
# Decrease in funding reflects reduction in cost for oversight activities.	-321
AL008 / Nuclear Material Facility Stabilization Research and Development	
# Decrease in funding reflects completion of gas generation model development.	-3,301
AL009 / LANL Environmental Restoration	
# Decrease reflects reprioritization due to scope growth at Pantex and the Sandia National Laboratory.	-10,902
AL013 / LANL Waste Management - Legacy Waste	
# Decrease reflects productivity improvements.	-6,507
AL026 / Off-site Source Recovery Program - Defense	
# Decrease in funding will defer development of disposal for non-Waste Isolation Pilot Plant eligible sources.	-125
AL028 / Albuquerque Nuclear Material Stewardship	
# Decrease in funding reflects revised schedule for identification and preparation of preferred disposition options for non-actinide isotopes and sealed sources.	-991
Total Funding Change, Albuquerque	-22,147

Carlsbad

Mission Supporting Goals and Objectives

Program Mission

The mission of the Defense, Environmental Restoration and Waste Management, Post 2006 Completion account, carried out by the Carlsbad Field Office, is to protect human health and the environment by operating the Waste Isolation Pilot Plant for safe disposal of transuranic waste and by maintaining an effective system for the transportation of transuranic waste. The disposal facility is located in southeastern New Mexico near Carlsbad, 2,150 feet (655 meters) underground in bedded salt. Transuranic waste is a by-product of the nation's nuclear weapons research, development, production, and decommissioning activities. Congress authorized the Waste Isolation Pilot Plant in 1979 (Public Law 96-164) as a research project to prove the feasibility of deep geological disposal for transuranic waste to protect human health and the environment. In October 1992, Congress passed the Waste Isolation Pilot Plant Land Withdrawal Act (Public Law 102-579), which permanently transferred public lands to the Department of Energy, established the Environmental Protection Agency as the facility regulator, and authorized the Department to annually provide $20,000,000 (with inflation adjustments) for 14 years starting in FY 1998, to the State of New Mexico for economic assistance. Hazardous waste compliance with the Resource Conservation and Recovery Act is regulated by the New Mexico Environment Department. The State permit was issued in October 1999 with an effective date of November 1999.

Program Goal

The primary goal of the program is to permanently dispose transuranic waste at the Waste Isolation Pilot Plant in a safe and environmentally compliant manner. In addition, the Carlsbad Field Office is responsible for the transportation program, including the transportation packagings and trailers, for shipping transuranic waste from the DOE waste generation sites to the Waste Isolation Pilot Plant. Many of the Federal Facility Compliance Act consent orders and agreements between the States, agencies, and the Department depend on disposal of transuranic waste at the Waste Isolation Pilot Plant. The startup goal was achieved on March 26, 1999, when the first shipment of transuranic waste from the Los Alamos National Laboratory was received at the site for disposal. Waste receipt to date has been contact-handled. Receipt of remote-handled transuranic waste is planned in FY 2003. In addition, the Carlsbad Field Office will initiate a mobile vendor program to assist small quantity sites in characterization of their transuranic waste. During the planned 35-year disposal phase, waste will be received from 6 major sites and up to 21 small quantity sites. Current planning has all transuranic waste at the Rocky Flats Environmental Technology Site disposed by FY 2006. The disposal phase is followed by a five-year decommissioning and dismantlement phase.

The Carlsbad Field Office awarded a new management and operating contract for site operations in December 2000. The new contract for the Waste Isolation Pilot Plant facility is a five-year contract that includes both award fee and performance-based incentives to insure that maximum performance is obtained. The contractor is responsible for the protection of the employees, the public, and the environment at the Waste Isolation Pilot Plant and to pursue efficiencies in waste transportation and disposal. The contractor is also responsible for site-specific and intersite integration of transuranic waste activities leading to the integration of waste management and environmental activities. These activities include efficiencies in the Waste Isolation Pilot Plant disposal operations, infrastructure, the management of the National Transuranic Waste program, transportation management, as well as the pursuit of permit modifications that will result in complex-wide operational efficiencies. The Department believes that this new approach to contracting philosophies will lead to a more efficient and cost-effective transuranic waste program both at the Waste Isolation Pilot Plant as well as throughout the DOE complex.

The planned end state for the Waste Isolation Pilot Plant is to have all qualified Department of Energy transuranic waste disposed and to decommission and dismantle all surface facilities at the Waste Isolation Pilot Plant site. Total life-cycle costs are estimated to be $13 billion in escalated dollars. The key risk reduction factor that is addressed by the Waste Isolation Pilot Plant is the elimination of potential hazards to the public, workers, and environment by permanently disposing transuranic waste in a deep underground repository.

Program Objectives

During FY 2003, the Waste Isolation Pilot Plant will fully support contact-handled transuranic waste shipments from the Rocky Flats Environmental Technology Site and the Idaho National Engineering and Environmental Laboratory and will support limited shipments from other sites including the Los Alamos National Laboratory, the Richland Operations Office, and the Savannah River Site. Also, during FY 2003, the Waste Isolation Pilot Plant will initiate shipments of remote-handled transuranic waste from the Oak Ridge National Laboratory and Battelle Columbus Laboratories. The Waste Isolation Pilot Plant will meet transuranic waste disposal goals by maintaining a receipt rate of 25 contact-handled transuranic waste shipments per week during FY 2003. To meet these objectives will require significant increases in efficiencies and reprioritization of certain activities. The Department of Energy plans to pursue a combination of efficiencies in the Waste Isolation Pilot Plant operations and reductions in certain programs, including the following: 1) working with the Environmental Protection Agency, Nuclear Regulatory Commission, and the New Mexico Environment Department to develop a strategy that will reduce transuranic waste characterization and shipping costs; 2) scaled back support to Advisory groups and state organizations; and 3) eliminating the Southwest Border and transparency initiatives.

The Carlsbad Field Office vision is to serve as the model for public management of transuranic waste and to be perceived by stakeholders as setting new standards of excellence. The Carlsbad Field Office also funds a wide variety of institutional programs that provide economic assistance and operational oversight. Institutional support provides funding for Grants and Agreements other activities such as the Carlsbad Environmental Monitoring and Research Center, Western Governors' Association, Southern States Energy Board, the transportation corridor states, cooperative agreements with Indian Tribes, New Mexico Emergency Response, New Mexico economic assistance, and other activities.

An integrated schedule and baseline linking all the generator site activities with Carlsbad activities allows for planning and optimization of shipping and disposal.

Significant Accomplishments and Program Shifts

- Received waste from the transuranic waste generator sites at the rate of three shipments per week at the end of FY 2000, increases to approximately 17 shipments per week by the end of FY 2001, and maintains an estimated average level of 25 shipments per week during FY 2002 and FY 2003 (FY 2001/FY 2002/CBFO-1/CBFO-3).
- Provide annual payments to the State of New Mexico for economic assistance as authorized in the Waste Isolation Pilot Plant Land Withdrawal Amendment Act (FY 2001/FY 2002/CBFO-8).
- Awarded contract for the Waste Isolation Pilot Plant Site Management and Operating Contractor in December 2000 (FY 2001/CBFO-1).
- Maintain contact-handled transuranic waste receipt capability sufficient to dispose of transuranic waste from the Rocky Flats Environmental Technology Site, the Idaho National Engineering and Environmental Laboratory, the Savannah River Site, the Argonne National Laboratory - East, and limited shipments from other sites (FY 2002/CBFO-1).
- Continue the Waste Isolation Pilot Plant site activities necessary to comply with certification and permitting requirements (FY 2001/FY 2002/CBFO-1).
- Complete facility modification, receive regulatory approvals to initiate the receipt of remote-handled transuranic waste (FY 2002/CBFO-1).
- Complete system verification and sensitivity analysis to support the Environmental Protection Agency five-year facility recertification requirement (FY 2002/CBFO-2).
- Provide continuing experimental support necessary to meet recertification requirements for performance assessment (FY 2002/CBFO-2).
- Awarded contract for 12 contact-handled waste shipping containers on October 26, 1999 (FY 2000). Exercised options in FY 2000 and FY 2001 for a total of 67 units (58 TRUPACTs and 9 HalfPACTs) (FY 2001/CBFO-3).
- Provide the infrastructure for transportation services for transuranic waste shipments from the Rocky Flats Environmental Technology Site, the Idaho National Engineering and Environmental

Laboratory, the Savannah River Site and the Argonne National Laboratory-East (FY 2001/FY 2002/CBFO-3).

- # Provide hospital and emergency response training under cooperative agreements with the affected states and tribes to open or maintain the state transportation corridors to support the shipping routes (FY 2001/FY 2002/CBFO-3).
- # Complete annual transuranic waste site recertifications of the Rocky Flats Environmental Technology Site, the Idaho National Engineering and Environmental Laboratory, the Los Alamos National Laboratory, Hanford, the Savannah River Site (FY 2002/CBFO-4).
- # Deploy mobile vendors to provide waste characterization support to the Savannah River Site and the Argonne National Laboratories - East. Mobile vendor support at the Savannah River Site enables Mound to ship waste to the Savannah River Site to support Mound closure (FY 2001/FY 2002/CBFO-4).
- # Received the first shipment of contact-handled transuranic waste from the Savannah River Site in May 2001. Also, through the use of mobile vendors, increase the throughput of the Savannah River Site waste shipments to the Waste Isolation Pilot Plant to allow receipt of Mound transuranic waste into the Savannah River Site to support Mound site closure (FY 2001/FY 2002/CBFO-1/CBFO-3/CBFO-4).
- # Receive the first shipments of contact-handled transuranic waste from the Argonne National Laboratory - East and the Nevada Test Site through use of mobile vendors (FY 2002/CBFO-1/CBFO-3/CBFO-4).

Program Shifts

- # The Department of Energy will implement a program to facilitate shipments of transuranic waste from the small quantity sites. A revised Record of Decision to perform confirmation of transuranic waste characterization at the Waste Isolation Pilot Plant site was issued in December 2000. Permit modifications were submitted to the New Mexico Environment Department in June 2001. Facility operations are scheduled to begin in FY 2003 (FY 2001/FY 2002/CBFO-2/CBFO-4).
- # Mobile vendors were deployed at the Savannah River Site, the Argonne National Laboratory - East, and the Nevada Test Site to support characterization of transuranic waste and accelerated shipments off those sites (FY 2001/FY 2002/CBFO-4).

Funding Schedule

(dollars in thousands)

	FY 2001	FY 2002	FY 2003
CBFO-1 / WIPP Base Operations	67,496	78,501	84,156
CBFO-2 / WIPP Disposal Phase Certification and Experimental Program	26,208	19,834	19,834
CBFO-3 / WIPP Transportation	40,670	30,022	30,022
CBFO-4 / WIPP TRU Waste Sites Integration and Preparation	39,712	30,015	36,360
CBFO-7 / U.S. Mexico Border/Materials Partnership Initiative	3,000	3,000	0

CBFO-8 / Economic Assistance to State of New Mexico	20,800	22,065	22,856
Total, Carlsbad	197,886	183,437	193,228

Funding by Site

(dollars in thousands)

	FY 2001	FY 2002	FY 2003	$ Change	% Change
Waste Isolation Pilot Plant	197,886	183,437	193,228	9,791	5.3%
Total, Carlsbad	197,886	183,437	193,228	9,791	5.3%

Metrics Summary

	FY 2001	FY 2002	FY 2003
Transuranic Waste			
Received for Disposal at WIPP (m^3)	1,945	4,709	4,605

Site Description

Waste Isolation Pilot Plant

The Waste Isolation Pilot Plant facility is comprised of surface support buildings, a waste-handling building, four shafts, and the mined underground operations area. The facility is designed for deep geological disposal of defense-generated transuranic waste resulting from nuclear weapons production, dismantlement, and site cleanup. The repository is located in southeastern New Mexico near Carlsbad, 2,150 feet (655 meters) underground in bedded salt. The bedded salt where transuranic waste will be disposed has been stable for over 225 million years, and, through extensive computer modeling and experiments, the Department of Energy has successfully demonstrated to the Environmental Protection Agency that the salt will remain stable for at least the next 10,000 years. On March 26, 1999, the Waste Isolation Pilot Plant received its first shipment of non-mixed contact-handled transuranic waste from the Los Alamos National Laboratory. The Department of Energy received the final Resource Conservation and Recovery Act Part B Permit from the State of New Mexico on October 27, 1999, with an effective date of November 26, 1999.

Detailed Program Justification

(dollars in thousands)

FY 2001	FY 2002	FY 2003

The managing and operating contractor accounts for approximately 65 percent of the Carlsbad Field Office funding requirements. The remaining funding contracting vehicles are dependent upon existing contracting mechanisms, such as national laboratories, grants, and agreements in principle. The scope allows for limited continuation of the mobile and centralized characterization concept. There are no construction projects funded in FY 2003.

CBFO-1 / WIPP Base Operations 67,496 78,501 84,156

This project provides for all activities required to maintain waste receipt and disposal operations including: mining, waste handling, surface and underground facility operations; compliance with State and Federal laws related to safety and health and operational permits; and administrative infrastructure.

- # Maintain contact-handled transuranic waste receipt capability sufficient to dispose of transuranic waste from the Rocky Flats Environmental Technology Site, the Savannah River Site, the Argonne National Laboratory-East, the Idaho National Engineering and Environmental Laboratory, and limited shipments from other sites.
- # Maintain the Waste Isolation Pilot Plant site in compliance with non-waste related DOE Orders, Federal, State, and local requirements.
- # Continue the Waste Isolation Pilot Plant site activities necessary to comply with certification and permitting requirements.
- # Begin receipt of remote-handled transuranic waste.
- # Provide support for oversight and economic impact to local community.

Metrics			
Transuranic Waste			
Received for Disposal at the Waste Isolation Pilot Plant (m^3)	1,945	4,709	4,605

Key Milestones	
#	Begin Mining Panel 3 (January 2001).
#	Submit permit modification for digital radiography and computed tomography to regulators (February 2001).
#	Complete remote-handled equipment modifications (April 2001).
#	Submit permit modifications for waste characterization at the Waste Isolation Pilot Plant to regulators (April 2001).
#	Begin Panel 1 Closure construction (November 2002).

(dollars in thousands)

FY 2001	FY 2002	FY 2003

CBFO-2 / WIPP Disposal Phase Certification and Experimental Program 26,208 19,834 19,834

This project includes experimental and performance assessment work in support of the five-year Environmental Protection Agency recertification cycle and operational performance improvements for the Waste Isolation Pilot Plant site and the national transuranic waste system.

Prepare and submit documentation to the Environmental Protection Agency in accordance with the five-year recertification requirements.

Key Milestones

Submit Remote-Handled Compliance Program to regulators (May 2001).

Submit permit modification for data management to regulators (June 2001).

New Mexico Environmental Department approval of final Remote-Handled permit (August 2001).

Submit permit modification for waste characterization at the Waste Isolation Pilot Plant to regulators (September 2001).

Submit permit modification for Digital Radiography and Computed Tomography to regulators (September 2001).

Compliance certification application (March 2003).

CBFO-3 / WIPP Transportation 40,670 30,022 30,022

This project includes all activities related to transportation, such as emergency response training, establishing and opening transportation corridors; contact-handled and remote-handled packaging initiatives; carrier services; stakeholder interfaces with the Western Governors' Association, transportation corridor states, and Native American Tribes. Currently the transportation corridors from the Los Alamos National Laboratory, the Idaho National Engineering and Environmental Laboratory, the Rocky Flats Environmental Technology Site, the Savannah River Site, and Hanford are open. The Argonne National Laboratory - East shipping corridor is planned to be opened in September 2001. The Oak Ridge shipping corridor will be opened in December 2002. The lead time for opening additional corridors is approximately two years.

In October 1999, the Department awarded contracts to acquire 12 TRUPACT-IIs from two contractors (6 to be provided by each) with options for additional TRUPACT-IIs. Options for additional TRUPACTs were exercised in June 2000, September 2000, March 2001, and June 2001.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

The Department of Energy also awarded two fixed-price contracts for carrier services in August 2000, each for a five-year period. The carrier service contracts included transportation services for contact-handled and remote-handled transuranic waste from DOE sites to the Waste Isolation Pilot Plant, trailer fabrication and maintenance, and participation in emergency exercises and public awareness events. The fixed-price approach was selected for these contracts because detailed requirements could be specified, there was adequate price competition, and the risk was judged to be acceptable. This approach is expected to be significantly more cost effective than alternative contracting approaches.

- # Provide the infrastructure, shipping containers, and transportation services to support contact-handled transuranic waste shipments from the Rocky Flats Environmental Technology Site, the Idaho National Engineering and Environmental Laboratory, the Savannah River Site, the Argonne National Laboratory-East, and limited shipments from other sites at the combined rate for an average of 25 shipments per week.
- # Provide hospital and emergency response training under cooperative agreements with the affected states and tribes to open or maintain the State transportation corridors to support the shipping routes.
- # Implement a remote-handled transportation system.

Key Milestones

- # First Savannah River Site contact-handled shipment to the Waste Isolation Pilot Plant (May 2001).
- # Open the Nevada Test Site corridor (September 2001).
- # First Argonne National Laboratory - East contact-handled shipment to the Waste Isolation Pilot Plant (October 2001).
- # First Oak Ridge National Laboratory remote-handled shipment to the Waste Isolation Pilot Plant (May 2003).

CBFO-4 / WIPP Transuranic Waste Sites Integration and Preparation 39,712 30,015 36,360

This project includes program integration and infrastructure activities required to prepare the Department of Energy transuranic waste complex for waste shipments to the Waste Isolation Pilot Plant, including all auditing activities performed by the Carlsbad Field Office. This project also includes the Department's commitments to outside stakeholders such as: the Carlsbad Environmental Monitoring and Research Center, as well as oversight commitments to the National Academy of Sciences. Also, included are infrastructure support costs such as those in the Interagency Agreement with the Bureau of Land Management.

- # Complete annual transuranic waste site recertifications of the Rocky Flats Environmental Technology Site, the Savannah River Site, the Idaho National Engineering and Environmental Laboratory, and the Argonne National Laboratory-East.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

- # Provide integration and infrastructure to prepare sites for the shipment of remote-handled waste to the Waste Isolation Pilot Plant.
- # Deploy mobile vendors to provide waste characterization support to the Savannah River Site and the Argonne National Laboratory-East.
- # Provide mobile vendor support at the Savannah River Site to enable Mound to ship waste to the Savannah River Site to support Mound closure.

Key Milestones
Complete the Waste Isolation Pilot Plant Waste Information System modifications for remote-handled waste (August 2001).
Receive first Remote-Handled -72B Cask (September 2001).
Issue Optimization Plan (September 2001).

CBFO-7 / U.S. Mexico Border/Materials Partnership Initiative 3,000 3,000 0

This project provides for activities to support the U.S. Mexico Border Health Commission/Materials Corridor Partnership Initiative to identify and deploy mature innovative technological solutions to waste and energy problems that threaten public health and environmental security and help improve socio-economic conditions.

- # In FY 2003, the administration proposes to eliminate this project to permit EM to accelerate risk reduction elsewhere.

CBFO-8 / Economic Assistance to State of New Mexico 20,800 22,065 22,856

Public Law 102-579, as amended by Public Law 104-201, authorizes funds to be appropriated for payments to the State of New Mexico in the amount of $20,000,000, adjusted for inflation based on the Consumer Price Index, for each of the 14 fiscal years beginning with the fiscal year 1998. The FY 2003 amount for economic assistance will be $21,961,0000.

- # Provide payment to the State of New Mexico for economic assistance as authorized in the Waste Isolation Pilot Plant Land Withdrawal Act.
- # Provide an additional $895,000 to cover inflation underpayments in previous years. This is an inflation adjustment calculated using the statutorily required method and reflects the difference between the amount actually paid to the state in FY 2000-FY 2002 and the amount that would have been paid if the calculation had been done in accordance with the statutory method. Any inflation adjustment required in FY 2003 will be based on the year-end Consumer Price Index.

Total, Carlsbad Field Office 197,886 183,437 193,228

Explanation of Funding Changes

	FY 2003 vs. FY 2002 ($000)
CBFO-1 / WIPP Base Operations	
# Increase fully funds basic remote-handled waste disposal operations and completing Panel 1 closure.	5,655
CBFO-4 / WIPP Transuranic Waste Sites Integration and Preparation	
# Increase provides waste characterization activities in the Waste Isolation Pilot Plant Waste Confirmation Facility at 2,000 drums per year.	6,345
CBFO-7 / U.S. Mexico Border/Materials Partnership Initiative	
# In FY 2003, the administration proposes to eliminate this project to permit EM to accelerate risk reduction elsewhere.	-3,000
CBFO-8 / Economic Assistance to the State of New Mexico	
# Increase reflects adjustment for inflation, as authorized by the Waste Isolation Pilot Plant Land Withdrawal Act.	791
Total Funding Change, Carlsbad	9,791

Chicago

Mission Supporting Goals and Objectives

Program Mission

The mission of the Defense Environmental Restoration and Waste Management, Post 2006 Completion account, managed by the Chicago Operations Office, is to direct and manage EM activities at the Argonne National Laboratory-West in Idaho.

The primary mission of the facilities under the Chicago Operations Office is research, development, and demonstration for DOE's Office of Science and Nuclear Energy programs. This includes energy research and development; basic and applied research on the fundamental properties of matter, physics, life and environmental sciences; magnetic confinement fusion and high-energy physics. Environmental restoration activities managed by the Chicago Operations Office include the cleanup of groundwater, soil and debris contaminated with radionuclides and/or hazardous substances, and decontamination and decommissioning of facilities with radiological contamination.

Program Goal

The goal is to complete cleanup of all current baselined scope for Chicago managed sites and transfer long-term surveillance and maintenance activities to the landlord programs after completion of site cleanup activities.

Program Objectives

The objective is to manage the risks associated with sites contaminated with various hazardous and radioactive materials. This includes responsibility for the assessment and remediation of contaminated sites and facilities; environmental safety; and completion of decontamination and decommissioning of surplus facilities in the current EM baseline.

Operation and maintenance activities are continuing for soil remediation (phytoremediation activities of planting and harvesting), monitoring, and verification sampling will be performed at the Argonne National Laboratory-West under the Argonne National Laboratory-West Federal Facility Agreement Consent Order.

Significant Accomplishments and Program Shifts

Initiate and potentially complete the conceptual design report.

Funding Schedule

(dollars in thousands)

	FY 2001	FY 2002	FY 2003
CH-ANLWRTF / Argonne National Laboratory-West Remote-Handled Waste Treatment Facility	0	750	0
Total, Chicago	0	750	0

Funding by Site

(dollars in thousands)

	FY 2001	FY 2002	FY 2003	$ Change	% Change
Argonne National Laboratory-West	0	750	0	-750	-100.0%
Total, Chicago	0	750	0	-750	-100.0%

Site Description

Argonne National Laboratory-West

The Argonne National Laboratory-West site is located 35 miles west of Idaho Falls, Idaho, and is operated by the University of Chicago under the direction of the Chicago Operations Office. The site was constructed for the purpose of carrying out research and development for liquid metal fast breeder reactor technology. The current mission for the Argonne National Laboratory-West includes technology development for spent nuclear fuel and radioactive waste treatment, and reactor and fuel cycle safety.

Detailed Program Justification

(dollars in thousands)

FY 2001	FY 2002	FY 2003

The Chicago EM program makes extensive use of firm fixed-price management and integration subcontracts and other subcontracting mechanisms, such as basic ordering agreements and time and material subcontracts, to assure the most cost-effective services to the government.

(dollars in thousands)

	FY 2001	FY 2002	FY 2003
CH-ANLWRTF / Argonne National Laboratory-West Remote-Handled Waste Treatment Facility	**0**	**750**	**0**
This project was congressionally directed in the FY 2002 appropriation, to evaluate the need for a remote-handled transuranic waste facility at the Argonne National Laboratory-West and to initiate conceptual design if needed.			
# No further funding requested in FY 2003.			
Total, Chicago Operations Office	**0**	**750**	**0**

Explanation of Funding Changes

	FY 2003 vs. FY 2002 ($000)
CH-ANLWRTF / Argonne National Laboratory-West Remote-Handled Waste Treatment Facility	
# In FY 2003, the administration proposes to eliminate this activity to permit EM to accelerate risk reduction elsewhere.	-750
Total Funding Change, Chicago	-750

Idaho

Mission Supporting Goals and Objectives

Program Mission

The mission of the Defense Environmental Restoration and Waste Management, Post 2006 Completion account, carried out by the Idaho National Engineering and Environmental Laboratory is to safely manage and dispose of high-level radioactive waste, transuranic waste, and spent nuclear fuel, while maintaining the necessary infrastructure to meet the compliance challenges associated with applicable environmental requirements and agreements, particularly the Idaho Settlement Agreement, and completion of the environmental restoration activities under the Federal Facility Agreement and Consent Order.

Program Goal

The Environmental Management work is projected to continue at the Idaho National Engineering and Environmental Laboratory through 2070. The primary goal of the Post 2006 Completion Account is to meet the Idaho Settlement Agreement, which includes: treatment, storage, and disposal operations for transuranic waste, high-level waste, and mixed waste; dry storage and transfer of spent nuclear fuel; closure of remaining Comprehensive Environmental Response, Compensation, and Liability Act remediation sites; and surveillance and maintenance of contaminated facilities until deactivation, decontamination and decommissioning, or facility disposition can be accomplished and long-term stewardship requirements met. Necessary infrastructure upgrades will be performed to support these ongoing activities. The Idaho Settlement Agreement requires all spent nuclear fuel to be in dry storage by December 31, 2023, and removed from Idaho by January 1, 2035. Idaho is the “lead laboratory” for integrating DOE-owned spent nuclear fuel activities and is the interface with the DOE Office of Civilian Radioactive Waste Management. A key goal of this program is to assure that all DOE owned fuel will be acceptable for disposal in a geologic repository.

Program Objectives

The objective of this program is to complete all remediation efforts for the site under the Federal Facility Agreement and Consent Order. The program also will provide for interim storage and management of spent nuclear fuel produced by the Idaho National Engineering and Environmental Laboratory reactors, navy fuels, foreign and domestic research reactors, and other DOE site reactors, and in addition, manage small quantities of commercial spent nuclear fuel, including fuel at Ft. St. Vrain in Colorado. The objective is also to provide for safe storage, pretreatment, and disposal of high-level waste, low-level waste, mixed low-level waste, and mixed transuranic waste at the Idaho Nuclear Engineering and Environmental Laboratory. Legacy high-level waste has been pretreated and converted to a calcine, with sodium-bearing liquid waste remaining in the tank farm from decontamination, 2^{nd} and 3^{rd} cycle reprocessing, and waste treatment activities. The high-level waste project continued calcining approximately 80,000 gallons of liquid waste through the first half of FY 2000, and then placed the calciner in standby on May 31, 2000, pending an Environmental Impact Statement decision (planned for FY 2002) on upgrading it to meet regulatory requirements or the selection of an alternative treatment technology. The high-level waste project objective provides for continued management through safe storage, liquid evaporation, and continued decontamination activities (debris treatment and filter leaching).

In addition, the following objectives are governed by or support the Settlement Agreement (October 17, 1995) with the State of Idaho:

- The high-level waste activities will treat sodium-bearing waste by December 2012.
- The Department of Energy will cease use of the 11 high-level waste tanks by December 2012. Under a Consent Order modification signed in FY 1998, the Department of Energy will cease use of the five pillar and panel tanks by June 2003.
- Submitted a Resource Conservation and Recovery Act closure plan to the State of Idaho for at least one tank in December 2000. A revised plan was submitted in May 2001.
- By a target date of December 2035, all high-level waste at the Idaho National Engineering and Environmental Laboratory will be treated and road ready for shipment out of Idaho.
- Decision on future calciner operations by early FY 2002.
- The transfer of all spent fuel from wet storage facilities to dry interim storage will be completed by December 31, 2023.
- All spent fuel will be removed from Idaho by January 1, 2035.
- Shipment of 3,100 m^3 of stored transuranic waste out of Idaho will be completed by December 31, 2002.

- The December 1996 award of the Advanced Mixed Waste Treatment Project contract will enable the Idaho National Engineering and Environmental Laboratory to meet the Idaho Settlement Agreement; completing construction of the Advanced Mixed Waste Treatment Project by December 31, 2002; commencing operations by March 31, 2003; begin shipping a running average of at least 2,000 m^3 of transuranic waste out of the State of Idaho each year after January 1, 2003; and completing the shipment of 65,000 m^3 of transuranic waste to the Waste Isolation Pilot Plant, or another such facility designated by DOE, by a target date of December 31, 2015, but no later than December 31, 2018.

By FY 2006 the Idaho National Engineering and Environmental Laboratory plans to accomplish the following objectives:

- Over 25 percent of the Department of Energy's spent nuclear fuel in fuel handling units as counted in FY 1998 will be transferred to dry interim storage.
- Approximately 19,500 m^3 of stored transuranic and alpha low-level mixed waste will be treated by the Advanced Mixed Waste Treatment Project and shipped to the Waste Isolation Pilot Plant for disposal.
- All Federal Facilities Agreement/Consent Orders will be signed and all remedial action in progress.
- Newly generated mixed waste will be treated at other Department of Energy facilities or at commercial treatment facilities.
- A record of decision will be issued and activities in progress for treatment of sodium bearing waste, a path forward for high-level waste calcine treatment will be developed and tank closure and other high-level waste facilities disposition activities will be underway.
- Two high-level liquid waste tanks will be closed.

An objective of the Environmental Management Program at the Idaho National Engineering and Environmental Laboratory is to develop, demonstrate, and deploy technologies to assist site cleanup, accelerate schedule, and lower cost. Over forty technologies have been deployed since 1998 to support major site programs on environmental restoration of soil and groundwater, decontamination and decommissioning of facilities, and waste management including high-level, transuranic, and mixed low-level waste. Another major objective is to improve the science base for technologies, especially in areas of soil and groundwater remediation and long-term stewardship, to enable more effective cleanup to be achieved in the future than is possible today. Science and technology efforts are being aligned according to the performance and schedule needs of the operational programs. Examples of these efforts are:

- Emplacement of probe-tubes (including those of advanced design) in Pits 4, 6, 9, and 10 to support data collection for preparation of the Waste Area Group-7 Remedial Investigation/Feasibility Study report (FY 2001).
- Detailed testing and evaluation of preferred alternative and technologies to minimize uncertainties of planned stabilization of sodium bearing waste (FY 2001/FY 2002/FY 2003).

- Evaluate technologies to retrieve and stabilize High-Level Waste Tank heels and to immobilize any residual waste in the High-Level Waste Tank Farm to assist meeting site agreements to remove high-level waste from above Snake River Plain Aquifer (FY 2002).
- Evaluate off-gas treatment process and technologies for sodium bearing waste treatment (FY 2003).
- Evaluate high-level waste calcine retrieval, characterization, and separations processes and technologies (FY 2003).
- Evaluate long-lived in-situ sensor options to support future verification that residual in-ground contaminants remain immobilized in long-term stewardship (FY 2002).
- Continue to deploy innovative technologies in decontamination and decommissioning of spent nuclear fuel storage basins and ancillary facilities as scheduled by the Idaho National Engineering and Environmental Laboratory Comprehensive Facility and Land Use Plan (FY 2002).

Significant Accomplishments and Program Shifts

- Performed Interim Actions on five new Waste Area Group 2 sites (FY 2001/ID-ER-102).
- Implement long-term monitoring of new sites in Operable Unit 2-14 (FY 2002/ID-ER-102).
- Completed construction of the replacement Percolation Ponds; completed Title I (30 percent design) and initiated Title II (90 percent design) for initial dig and laying of clay test beds for the Idaho Comprehensive Environmental Response, Compensation, and Liability Act Waste Disposal Facility and initiate excavation of the disposal cell. Completed final Title I and draft Title II (30 percent and 90 percent designs) for the Staging, Storage, Stabilization, and Treatment Facility; continued Tank Farm Interim Actions; and worked on the Tank Farm Remedial Investigation/Feasibility Study (FY 2001/ID-ER-103).
- Complete Title II (90 percent design) and initiate Phase I construction for the Idaho Comprehensive Environmental, Response, and Liability Act Disposal Facility and Phase I construction on the Staging, Storage, Stabilization, and Treatment Facility. Complete and report perched water monitoring and tracer test . Continue work on the Tank Farm Remedial Investigation/Feasibility Study. Complete monitoring the Snake River Plain Aquifer (FY 2002/ID-ER-103).
- Inserted and logged probe holes to support preparation of Remedial Investigation/Feasibility Study; complete field-scale tests and develop reports for in-situ grouting studies; and issue final report for ex-situ soil treatability study for Operable Unit 7-13/14. Continued Pit 9 retrieval options and continue litigation support (FY 2001/ID-ER-107).
- Prepare final Remedial Investigation/Feasibility Study report; prepare draft Proposed Plan and draft Record of Decision; monitor perched water and groundwater for transuranic waste pits and trenches (FY 2002/ID-ER-107).
- Continue Vapor Vacuum Extraction and treatment operations, and vadose zone monitoring for Operable Unit 7-08, Organic Contamination in the Vadose Zone (FY 2002/ID-ER-107).

- Prepare Stage II Final Draft Remedial Design/Remedial Action Work Plan for selected remedy; and continue ongoing litigation activities for the original Pit 9 Project for Operable Unit 7-10, Staged Interim Action (FY 2002/ID-ER-107).
- Develop the Operable Unit 10-04 Record of Decision and Remedial Design/Remedial Action Scope of Work and complete the Operable Unit 10-08 Remedial Investigation/Feasibility Study Work Plan (FY 2002/ID-ER-108).
- Maintain the Idaho National Engineering and Environmental Laboratory Hydrogeologic Data Repository and the Integrated Groundwater Monitoring Program in support of Federal Facilities Agreement and Consent Order activities at all of the Idaho National Engineering and Environmental Laboratory Waste Area Groups (FY 2002/ID-ER-108).
- Maintain detailed work planning process to support evaluation of evolving programmatic risks and regulatory changes to environmental restoration program cost, scope, and schedule (FY 2002/ID-ER-109).
- Continue PBS baseline control/reporting, configuration management, safety/health/quality support, and field operations technical support required to meet enforceable milestones (FY 2002/ID-ER-109).
- Initiate and continue conceptual design on a project to provide new Resource Conservation and Recovery Act-compliant tanks to support future operations (FY 2001/FY 2002/ID-HLW-101).
- Operate the tank farm to store radioactive liquid waste, and safely store high-level waste calcine (FY 2001/FY 2002/ID-HLW-101).
- Operate the High-Level Liquid Waste Evaporator to reduce the volume stored in the tanks and allow cease use of the pillar/panel vaulted tanks by June 2003 (FY 2001/FY 2002/ID-HLW-101).
- Operate the Filter Leach and Debris Treatment processes to further reduce backlogs and meet regulatory commitments (FY 2002/ID-HLW-101).
- Perform waste characterization and analysis to support the Resource Conservation and Recovery Act permitting activities (FY 2002/ID-HLW-101).
- Continued to reduce generation of new liquid wastes (FY 2001/FY 2002/ID-HLW-101).
- Performed preconceptual design efforts in anticipation of initiating conceptual design for sodium bearing waste treatment facility in FY 2003 (FY 2001/ID-HLW-102).
- Complete the preconceptual planning activities necessary to support the preferred alternative and commence conceptual design for the sodium-bearing waste treatment project (FY 2002/ID-HLW-102).
- Submit incidental waste determination for sodium bearing waste and tank farm residuals to the Nuclear Regulatory Commission for review (FY 2002/ID-HLW-102).
- Plan to treat and dispose of high-level waste, sodium-bearing waste and mixed hazardous debris to meet the Department of Energy Idaho milestones in the Settlement Agreement, Consent Orders, and the Site Treatment Plan (FY 2002/ID-HLW-103).

- Developed and implemented a tank closure plan that addresses waste incidental to reprocessing, composite analysis, and performance assessment requirements. Began title design for tank closure project (FY 2001/ID-HLW-105).
- Complete decontamination for tanks WM-182 and WM-183 and the Tier II Closure Plan for these tanks (FY 2002/ID-HLW-105).
- Complete the acquisition and installation of replacement or new equipment critical to maintain existing operations in a safe and stable condition, including telecommunications, scientific and business computing, vehicles and heavy equipment, laboratory and calibration equipment, electronic measurement and security/safety and health equipment (FY 2001/FY 2002/ID-OIM-101).
- Disposed of non-nuclear surplus facilities according to the facility disposal initiative (FY 2001/ID-OIM-101).
- Support stakeholder activities. Continue general plant projects; continue planning, design, construction management for line-item projects, and equipment acquisitions, such as telecommunications, vehicles and heavy equipment and laboratory, calibration, and shop equipment (FY 2002/ID-OIM-101).
- Perform infrastructure operations (e.g., steam for 130 buildings, 147,000 kilowatt hours per day of electrical power, 1,000,000 gallons per day of water for complex needs). Perform building upkeep, completed construction of Reverse Osmosis System, and initiate planning for future general plant projects at the Idaho Nuclear Engineering and Technology Center, project management and planning radiation control, nuclear safety, industrial hygiene, and personnel health and safety (FY 2001/FY 2002/ID-OIM-102).
- Purchase commercial electrical power and provide Environmental, Safety, Health, and Quality Assurance activities to support high-level waste and spent nuclear fuel program (FY 2002/ID-OIM-102).
- Issued data package guidelines for DOE spent nuclear fuel acceptance in the repository to the DOE spent nuclear fuel sites (FY 2001/ID-SNF-101).
- Continue analysis of DOE spent nuclear fuel to demonstrate that it will be in compliance with the Office of Civilian Radioactive Waste Management repository license application submittal criteria and ultimately accepted at the repository (FY 2001/FY 2002/ID-SNF-101).
- Receive foreign research reactor fuel safely and without incident (FY 2002/ID-SNF-102).
- Begin receipt of spent nuclear fuel from the Oak Ridge Operations Office (FY 2002/ID-SNF-102).
- Continue support to the Privatized Spent Nuclear Fuel Dry Transfer and Storage Facility, including support for Phase 1B (licensing) of the project and preparation for transfer of fuel from the Idaho Nuclear Technology Engineering Center storage facilities (FY 2002/ID-SNF-102).
- Continue to improve overall program plans for interim dry storage, fuel receipts, and shipment to the repository (FY 2002/ID-SNF-102).

- Maintain the Criticality Safety Program for the Idaho National Engineering and Environmental Laboratory (FY 2002/ID-SNF-102).
- Completed moving TMI-2 fuel from wet to dry interim storage per Settlement Agreement milestone (FY 2001/ID-SNF-103).
- Receive spent nuclear fuel from the Navy and the Advanced Test Reactor (FY 2001/FY 2002/ID-SNF-103).
- Complete semiannual inventories of special nuclear material at the CPP-603 Irradiated Fuel Storage Facility and make shipments of material to the Oak Ridge Operations Office (FY 2002/ID-SNF-103).
- Start preparations for shipping Navy spent nuclear fuel back to the Naval Reactors Facility (FY 2002/ID-SNF-103).
- Begin removal of Loss of Fluid Test/commercial spent nuclear fuel from TAN-607 pool and place it into interim dry storage (FY 2002/ID-SNF-103).
- Met fourteen Voluntary Consent Order enforceable milestones (FY 2001/ID-VCO-101).
- At the Test Reactor Area, continue disposition of legacy waste items and closure of the TRA-730 catch tank system and the Engineering Test Reactor Sodium Loop; characterize items in the Materials Testing Reactor canal (FY 2002/ID-VCO-101).
- At the Power Burst Facility, continue characterization activities at Test Area North, and TAN-616 system (FY 2002/ID-VCO-101).
- For Site-wide Voluntary Consent Order tanks, complete hazardous waste determination/verification of empty for 15 percent of the tanks (FY 2002/ID-VCO-101).
- Provide Resource Conservation and Recovery Act-compliant storage for transuranic waste. Provide facility base operations support services to ensure safe, environmentally compliant operations, maintenance, environment, safety and health support, updates to safety and health documents, and required monitoring and inspections. Maintain certification authority for transuranic waste. Provide infrastructure support to maintain compliance with the authorization basis, maintain a qualified workforce, and perform maintenance of systems, structures, and components. Continue activities for transfer of facilities and equipment to the Advanced Mixed Waste Treatment Project (FY 2002/ID-WM-103).
- Continue to characterize and certify transuranic waste for shipment to the Waste Isolation Pilot Plant (FY 2002/ID-WM-103).
- Complete the Final Safety Analysis Report for retrieval for the Advanced Mixed Waste Treatment Project (FY 2002/ID-WM-105).
- Provided for project and technical support for the Advanced Mixed Waste Treatment Project for Phase II (facility construction) efforts (FY 2001/FY 2002/ID-WM-105).

- Submit the Wastewater Land Application Annual Report summarizing sample results and operational performance, National Pollution Discharge Elimination System Discharge Monitoring Report summarizing storm water discharges, the National Emission Standards for Hazardous Air Pollutants Annual Report compiling radiological air effluent releases, and the Site-wide Environmental Monitoring Report summarizing site-wide environmental monitoring activities, and drinking water reports. In addition, complete monitoring activities to support DOE Orders 5400.1 and 435.1 and begin required groundwater monitoring and associated support tasks for Wastewater Land Application Permit (FY 2001/FY 2002/ID-WM-106).
- Continue to collect, compile and interpret data for the publication of the following reports/plans: Annual Wastewater Land Application Site Performance Report for the Idaho National Engineering and Environmental Laboratory, Environmental Monitoring Program Report for the Idaho National Engineering and Environmental Laboratory, Permit Application for Well Construction, Water Use Report, Shallow Injection Well Report, National Emission Standards for Hazardous Air Pollutants Annual Report, Air Emission Inventory, Stormwater Pollution Prevention Plan, Stormwater Monitoring Report monthly drinking water reports and semi-annual reports to the City of Idaho Falls. Continue to serve as focal point for sitewide environmental monitor and environmental compliance (FY 2002/ID-WM-106).
- Establish, control, and report on waste management projects to meet the commitments set forth in the Federal Facility Compliance Act that mandated compliance with the Idaho National Engineering and Environmental Laboratory Site Treatment Plan, provide for assessment of programmatic compliance with environmental regulations, safety and protection, and quality. Also, provide funding for independent oversight activities (FY 2001/FY 2002/ID-WM-108).
- Inform stakeholders of mission plans and activities at the Idaho National Engineering and Environmental Laboratory, receive stakeholder input, and gain stakeholder acceptance for waste management projects (FY 2002/ID-WM-108).

Funding Schedule

(dollars in thousands)

	FY 2001	FY 2002	FY 2003
ID-ER-102 / Test Reactor Area Remediation	1,812	500	479
ID-ER-103 / Idaho Chemical Processing Plant Remediation	19,642	21,518	19,142
ID-ER-107 / Radioactive Waste Management Complex Remediation	32,168	46,891	32,730
ID-ER-108 / Sitewide Monitoring Area Remediation	4,413	6,182	4,201
ID-ER-109 / Remediation Operations	9,743	8,521	9,825
ID-HLW-101 / High-Level Waste Pretreatment	36,115	36,060	34,529
ID-HLW-102 / High-Level Waste Immobilization Facility	5,491	5,437	13,174
ID-HLW-103 / High-Level Waste Treatment and Storage	9,552	5,203	8,701
ID-HLW-105 / Closure and Stabilization Activities	2,794	6,135	7,908
ID-OIM-101 / Site Wide Landlord Operations	21,815	25,090	25,052
ID-OIM-102 / Idaho Chemical Processing Plant Non-Process Plant Operations	34,029	35,587	37,325
ID-SNF-101 / National Spent Nuclear Fuel Program	14,032	10,000	5,000
ID-SNF-102 / Integrated Spent Nuclear Fuel Program	9,438	15,585	12,352
ID-SNF-103 / Emptied Spent Nuclear Fuel Facilities	44,829	33,535	31,031
ID-SSI-101 / Subsurface Geoscience Laboratory	400	700	0
ID-SSR-101 / Subsurface Science Research Institute	0	3,800	0
ID-VCO-101 / Environmental Legacy Compliance (VCO)	9,694	10,003	7,849
ID-WM-103 / INEEL Transuranic Waste	0	78,206	23,619
ID-WM-105 / AMWTP Production Operations	1,034	1,056	9,204
ID-WM-106 / Idaho National Engineering and Environmental Laboratory Site-wide Environmental Protection	7,061	7,462	7,769
ID-WM-108 / Integrated Waste Operations Program	4,488	14,461	5,197
Total, Idaho	268,550	371,932	295,087

Funding by Site

(dollars in thousands)

	FY 2001	FY 2002	FY 2003	$ Change	% Change
Idaho National Engineering and Environmental Laboratory	268,550	371,932	295,087	-76,845	-20.7%
Total, Idaho	268,550	371,932	295,087	-76,845	-20.7%

Metrics Summary

	FY 2001	FY 2002	FY 2003
Release Site			
Cleanup	1	10	0
Transuranic Waste			
Shipped to WIPP for Disposal (m^3)	0	1,948	336
Spent Nuclear Fuel			
Moved to Dry Storage (MTHM)	79.0	4.0	4.0

Site Description

Idaho National Engineering and Environmental Laboratory

The Idaho National Engineering and Environmental Laboratory, established as the National Reactor Testing Station in 1949, occupies 890 square miles in the Snake River Plain of Southeastern Idaho.

Over the years, 52 reactors have been constructed and operated at the Idaho National Engineering and Environmental Laboratory. The Idaho National Engineering and Environmental Laboratory has nine primary facilities as well as administrative, engineering, and research laboratories in Idaho Falls, approximately 50 miles east of the site. Other activities at the Laboratory over the last five decades include nuclear technology research, defense programs, engineering testing and operations, as well as ongoing projects to develop, demonstrate, and transfer advanced engineering technology and systems to private industry. These activities have resulted in an inventory of high-level waste and an inventory and continued generation of mixed low-level and low-level waste. Waste storage, treatment, and disposal capabilities for these ongoing programs are provided through operations at the Waste Reduction Operations Complex, the Radioactive Waste Management Complex, Test Area North, and the Idaho Nuclear Technology Engineering Center (formerly the Idaho Chemical Processing Plant). The Idaho National Engineering and Environmental Laboratory is responsible for storing and dispositioning approximately 265 metric tons of spent nuclear fuel from a number of sources, including the Navy, foreign and domestic research reactors, and some commercial reactors, along with Department of Energy owned fuel. Environmental remediation activities are required at ten Waste Area Groups encompassing 50 different operable units, which are comprised of 468 total release sites and facilities. Five Waste Area Groups are part of this appropriation. Potential release sites include tanks, spills, disposal sites, wastewater disposal systems, leach pits, trenches, rubble piles, ponds, cooling towers, wells, landfills, storage areas, and surplus buildings.

Infrastructure projects (grounds, roads, general purpose buildings, utilities, communications, computers and information, fleet management, emergency services, analytical laboratories, and environmental test facilities) ensure the integrity of required facilities until all commitments are completed. Site-wide core support functions include integrated facility planning, emergency preparedness, seismic and environmental monitoring, and safety and health corrective actions. Other ongoing activities include regulatory affairs, nuclear safety, radiation protection, utility operations and maintenance, quality assurance, work control, document control, warehousing, and facility management. In addition, general plant projects and installation of general purpose capital equipment, line-item construction projects ensure the site facilities can support basic mission needs.

Infrastructure operations at the Idaho Nuclear Technology Engineering Center directly support the high-level waste, spent nuclear fuel, and deactivation programs. This program provides operations and maintenance of non-process services including utilities, facilities, roads/grounds, equipment/materials management, and custodial care. Crosscutting technical services at the Idaho Nuclear Technology Engineering Center, such as engineering, nuclear safety and management oversight, will also be provided.

Detail Program Justification

(dollars in thousands)

FY 2001	FY 2002	FY 2003

The Idaho National Engineering and Environmental Laboratory is managed through an incentivized management and operating contract, with fixed-price subcontracts, to ensure the most cost efficient service to the Government. Contract performance is driven and measured through the Performance Evaluation Management Plan process which updates, annually, the performance requirements by defining 5-year critical outcomes, 1 to 3-year performance objectives, and current year performance criteria. The scope planned for FY 2003 has been reviewed and is appropriate to meet the requirements of the Settlement Agreement with the State of Idaho and many of the other compliance challenges associated with applicable requirements, while also maintaining the capability of the Idaho National Engineering and Environmental Laboratory to meet the DOE mission objective. Estimates for the remediation work were derived from the “Idaho National Engineering and Environmental Laboratory Cost Estimating Handbook”, which uses approved rates based on historical work performed at the site.

ID-ER-102 / Test Reactor Area Remediation 1,812 500 479

This project provides for the remediation of the Test Reactor Area as required by the Federal Facilities Agreement/Consent Order and the Comprehensive Environmental Response, Compensation, and Liability Act at the Idaho National Engineering and Environmental Laboratory.

Funding supports the completion of the assessment of these five sites and groundwater monitoring until the year 2004 when all activities will be transferred to Waste Area Group-10.

Continue surveillance and institutional controls for Waste Area Group 2 sites including installed waste covers to minimize intrusion, protect human health, and the environment.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

Metrics			
Release Site			
Cleanup	1	0	0

ID-ER-103 / Idaho Chemical Processing Plant Remediation . . 19,642 21,518 19,142

This project is to complete assessment, remedial design/remedial action cleanup, and long-term monitoring and maintenance activities for the Idaho Nuclear Technology and Engineering Center (used for storage and reprocessing spent nuclear fuel). Waste Area Group 3 consists of five major activities: Operable Unit 3-13 remedial design/remedial action; Operable Unit 3-13 groundwater response; the Idaho National Engineering and Environmental Laboratory Comprehensive Environmental Response, Compensation, and Liability Act Disposal Facility; the Comprehensive Environmental Response, Compensation, and Liability Act waste management; and the Operable Unit 3-14 Remedial Investigation/Feasibility Study for tank farm soils. The first four are authorized pursuant to the Operable Unit 3-13 Comprehensive Record of Decision signed in 1999. Remedial actions for Operable Unit 3-13 are underway and the Operable Unit 3-14 Record of Decision is planned for FY 2009.

- # Install eleven additional groundwater monitoring wells.
- # Complete aquifer treatability studies.
- # Submit the Hot Waste Tank System remedial design/remedial action work plan.
- # Continue the Comprehensive Environmental Response, Compensation, and Liability Act waste management and institutional control activities.
- # Continue construction for the Idaho Nuclear Technology and Engineering Center Comprehensive Environmental, Response, and Liability Act Disposal Facility, and the Staging, Storage, Stabilization, and Treatment Facility.
- # Perform surveillance, maintenance piping evaluations, and initiate plans for remedial actions (contaminated soil removal and disposal).
- # Continue Operable Unit 3-14 remedial investigation/feasibility study.
- # Prepare Remedial Design/Remedial Action Work Plan and conduct Waste Area Group 3 soil removal to the Idaho Nuclear Technology and Engineering Center Comprehensive Environmental, Response, and Liability Act Disposal Facility (enforceable).

(dollars in thousands)

	FY 2001	FY 2002	FY 2003
Metrics			
Release Site			
Cleanup	0	1	0
Key Milestones			
# Operable Unit 3-13 Idaho National Engineering and Environmental Laboratory Comprehensive Environmental Response, Compensation, and Liability Act Disposal Facility draft Title I 30 percent preliminary design sent to DOE-Idaho Operations Office (April 2001).			
# Operable Unit 3-13 Staging, Storage, Stabilization, and Treatment Facility draft Title II Design/Remedial Action work plan sent by DOE-Idaho Operations Office to the Environmental Protection Agency/Idaho Department of Health and Welfare for review (August 2001).			
# Operable Unit 3-13 Idaho National Engineering and Environmental Laboratory Comprehensive Environmental Response, Compensation, and Liability Act Disposal Facility draft Title II design will be sent by DOE-Idaho Operations Office to the Environmental Protection Agency/Idaho Department of Health and Welfare for review (September 2002).			

ID-ER-107 / Radioactive Waste Management Complex

Remediation	**32,168**	**46,891**	**32,730**

This project is to complete assessment and remediation activities for the Radioactive Waste Management Complex, which was a 97-acre burial ground for transuranic, radioactive, and hazardous waste. The site was in operation from 1952 to 1970. Located within the Radioactive Waste Management Complex is the one acre Pit 9 Site. Pit 9 was selected to demonstrate the feasibility of retrieving and treating transuranic, radioactive, and hazardous waste. The focus of this project is cleanup of radioactive and hazardous contaminants in accordance with a 1993 Pit 9, 1994 Pad A, and 1995 Vadose Zone Organics Interim Record of Decisions; to continue work on the Comprehensive Remedial Investigation/Feasibility Study due March 2002; and to continue work on a final Record of Decision for all of Waste Area Group 7 due in December 2002. Discussions with the State are on-going and subject to change, which could result in scope or funding changes.

This project includes funding for the former Pit 9 project now known as Operable Unit 7-10, Staged Interim Action Project.

- # Operable Unit 7-08: (Organic Contamination in the Vadose Zone)
  - < Perform assessment; compliance management and vadose zone sampling.
  - < Support subcontract management.
- # Operable Unit 7-13/14: (Transuranic Waste Pits and Trenches)
  - < Monitor vadose zone, groundwater, and the Pad A cap.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

Operable Unit 7-10: (Staged Interim Action)

< Continue Stage 1 activities for the Staged Interim Action Program.

Key Milestones
Delivery of Stage II Record of Decision to Regulators (October 2002).

ID-ER-108 / Sitewide Monitoring Area Remediation 4,413 6,182 4,201

Waste Area Group 6/10 consists of 85 (47 new sites) potential release sites, which require assessment as stipulated in the Federal Facilities Agreement/Consent Order and Comprehensive Environmental Response, Compensation, and Liability Act. The Operable Unit 10-4 Draft Record of Decision, to be submitted in April 2002, will describe the final remedial actions which must be performed at these sites.

Waste Area Group 10 also includes the Idaho National Engineering and Environmental Laboratory sitewide groundwater analysis. This analysis will evaluate the cumulative impacts of groundwater contamination that has been released at the Idaho National Engineering and Environmental Laboratory. The analysis will be completed as part of the Operable Unit 10-08 Record of Decision scheduled to be developed by FY 2004.

Implement the Integrated Groundwater Monitoring Program.

Maintain the Hydrogeologic Data Repository.

Metrics			
Release Site			
Cleanup	0	9	0
Key Milestones			
# Operable Unit 10-04, Draft Remedial Investigation/Feasibility Study Record of Decision, sent by to the Environmental Protection Agency/Idaho Department of Health and Welfare for review (April 2002).			
# Operable Unit 10-04, Draft Record of Decision/Remedial Action Statement of Work, sent by DOE-Idaho Operations Office to the Environmental Protection Agency/Idaho Department of Health and Welfare for review (August 2002).			
# Operable Unit 10-08, Draft Remedial Investigation/Feasibility Study Work Plan, sent by DOE-Idaho Operations Office to the Environmental Protection Agency/Idaho Department of Health and Welfare for review (September 2002).			

(dollars in thousands)

FY 2001	FY 2002	FY 2003

ID-ER-109 / Remediation Operations 9,743 8,521 9,825

The Remediation Operations work scope provides program management and technical support for assessment and cleanup projects conducted under the Federal Facilities Agreement and Consent Order, the Decontamination and Decommissioning and Deactivation Program, and the Surplus Facilities Surveillance and Maintenance Project. The work scope for remediation operations provides for: baseline control/reporting/cost engineering; technical program integration; community relations/Administrative Record coordination; environmental/safety/health and quality support; configuration/data/records management; DOE-Headquarters interface; Field operations coordination; sample/risk management support; and the State of Idaho's Federal Facilities Agreement and Consent Order participation. Consolidation of these remediation operation activities reduces incremental costs, streamlines processes, and ensures consistency in the implementation of technical and administrative requirements.

- # Provide control and support to contracts and grants.
- # Provide program support for Waste Area Group 1, groundwater pump and treat operations and V-Tanks contents removal.
- # Provide PBS baseline control/reporting; configuration, records, data, and sample management; environment, safety, health, and quality general support; and project and field operations technical support required to meet the Federal Facilities Agreement and Consent Order enforceable milestones.

ID-HLW-101 / High-Level Waste Pretreatment 36,115 36,060 34,529

The mission of this project is to safely store and pretreat high-level waste and other waste stored or managed by the Idaho Nuclear Technology and Engineering Center High-Level Waste Program, including: sodium bearing waste; calcined solid waste; debris; and filters. Debris and filter waste from the Idaho Nuclear Technology and Engineering Center area is treated to remove the hazardous constituents such that it can be disposed as low-level waste.

Via a modification to a Consent Order on hazardous waste management with the State of Idaho, the Department of Energy agreed to place the calciner in standby, pending completion of an Environmental Impact Statement, which evaluates alternatives to calcination. The Environmental Impact Statement decision process has identified stabilization as the preferred alternative for treatment and disposal of the liquid sodium bearing waste and calcine, pending issuance of a record of decision (planned for FY 2002). Provides for Environmental, Safety, Health, and Quality Assurance, waste minimization and permitting of Resource Conservation and Recovery Act facilities.

- # Operate the tank farm to store radioactive liquid waste, and safely store high-level waste calcine.
- # Operate the process equipment waste evaporator and the liquid effluent treatment and disposal fractionator to process newly-generated liquid waste.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

- # Support Resource Conservation and Recovery Act permitting activities.
- # Complete Tank Farm Instrument Upgrade Project.
- # Meet Site Treatment Plan milestones; evaporate sodium bearing waste through the High-Level Liquid Waste Evaporator, and treat high-efficiency particulate air filters and debris.
- # Receive the Resource Conservation and Recovery Act Part B permit for the Process Equipment Waste and Liquid Effluent Treatment and Disposal facilities.
- # Perform equipment upgrades to meet the Resource Conservation and Recovery Act requirements (e.g., valve boxes).

Key Milestones

- # Emptied either pillar and panel vaulted waste tank WM-184 or WM-186 (May 2001).
- # Empty either pillar and panel vaulted waste tank WM-184 or WM-186 (January 2002).

ID-HLW-102 / High-Level Waste Immobilization Facility . . . 5,491 5,437 13,174

The purpose of the High-Level Waste Immobilization Project is to complete the design/construction and operations of those new facilities at the Idaho Nuclear Technology and Engineering Center which are required to treat the sodium bearing and possibly the high-level waste calcine. These new facilities are necessary to satisfy the State Agreement which requires that the Department of Energy treat/remove the sodium bearing waste, which is stored in the existing Idaho Nuclear Technology and Engineering Center Tank Farm Facility by December 2012 and make the sodium bearing waste and calcine waste ready for out of state disposal by December 2035. This PBS includes the technology development needed to support immobilization of sodium bearing waste.

- # Prepare the preliminary hazards analysis for the selected technology to immobilize sodium bearing waste.
- # Prepare documentation required to start conceptual design for sodium bearing waste treatment; perform related applied technology studies on the selected technology, off-gas, and secondary waste stream stabilization.

ID-HLW-103 / High-Level Waste Treatment and Storage 9,552 5,203 8,701

(dollars in thousands)

FY 2001	FY 2002	FY 2003

The High-Level Waste Treatment and Storage project provides strategy and long-range program planning for the Idaho National Engineering and Environmental Laboratory High-Level Waste Program. It includes: 1) feasibility studies for treatment of program wastes; 2) characterization of calcine and technology development for future calcine treatment and process improvements; 3) support of the High-Level Waste and Facilities Disposition Environmental Impact Statement; 4) Resource Conservation and Recovery Act delisting of high-level waste; 5) program oversight for management of radioactive liquids, calcine, and mixed debris; and 6) maintenance of technology development facilities.

- # Support work for the Environmental Impact Statement will be completed, as will specific feasibility studies for disposition of Newly Generated Liquid Waste.
- # Initiate calcine retrieval and characterization work and ramp up to include development of high-level waste calcine processing and disposal alternatives.
- # Plan to treat and dispose of high-level waste and mixed hazardous debris to meet the DOE Idaho milestones in the Settlement Agreement and the Site Treatment Plan.

Key Milestones	
#	Idaho High-Level Waste and Facility Disposition Final Environmental Impact Statement to Headquarters for review (February 2001).

ID-HLW-105 / Closure and Stabilization Activities 2,794 6,135 7,908

The purpose of this project is to close the high-level waste tanks after treatment operations are completed in accordance with the requirements of the Resource Conservation and Recovery Act, and prior to final Comprehensive Environmental Response, Compensation, and Liability Act closure. The project includes development and demonstration of the method to remove treat and/or immobilize any tank waste residuals to support tank closures. By 2005, the DOE will clean/flush the tanks heels, remove them and immobilize any residual waste remaining in the tanks for two of the eleven 300,000 gallon tanks in the high-level waste tank farm. This will be followed by closure of additional tanks as they are emptied. The current plan is to cease use by FY 2012 and to close by FY 2017. The New Waste Calcining Facility Closure project includes interim closure of the calcination's system portions of the New Waste Calcining Facility.

Technology development work on tank closure will also be accomplished and will include improving waste transfer pumping of solids, enhancing grout formulations to assist in tank closure heel solidification, improving tank integrity inspections and work on waste sampling at-tank analysis. Funding for these activities are included within the Office of Science and Technology budget.

- # Prepare and close high-level waste tank WM-182 (1st tank closure at the Idaho Nuclear Technology and Engineering Center) and complete flushing and pre-closure sampling and analysis for WM-182 and WM-183.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

The calciner unit will be flushed and isolated in accordance with the approved Resource Conservation and Recovery Act Closure Plan requirements.

Key Milestones
New Waste Calcining Facility closure plan response (March 2002).
Complete initial cleaning of Second Pillar and Panel Tank System (September 2003).
Complete final tank cleaning, sampling, and grouting of the first Pillar and Panel Tank System (September 2003).

ID-OIM-101 / Site-wide Landlord Operations 21,815 25,090 25,052

The Site Wide Landlord Operations consists of four projects which perform core functions required by multiple and varied EM program missions at the Idaho National Engineering and Environmental Laboratory. The projects are Site Wide Base Support, Facility Upgrades, Capital Acquisitions, and Facility Disposal Initiative. Through these activities this project provides base services; general plant project and line item project planning, design, and construction; acquisition and installation of general purpose capital equipment; and non-radioactive, surplus facility disposal.

This project is necessary for the EM mission to meet the requirements of the EM sites' baseline planning data in a safe and environmental compliant manner and to ensure the Idaho National Engineering and Environmental Laboratory cleanup completion.

Continue Site-Wide Base Support Project activities including integrated planning, emergency preparedness, and seismic monitoring. Also supports external and stakeholder activities.

Continue previously initiated general plant projects; continue planning, design, and construction management for line-item projects.

Continue capital equipment acquisitions involving the procurement and installation of equipment critical to maintain existing operations in a safe and stable condition. Replacements and upgrades include telecommunications, vehicles and heavy equipment, laboratory and calibration equipment, Environmental Safety and Health and shop equipment.

General plant capital equipment replacement laboratory standards and calibration equipment, vehicles, shop equipment.

Facility disposal initiative - characterize and dispose of three high hazard excess facilities.

General Plant Project EROB building switch and cable upgrades.

Sitewide land use plans and information system.

ID-OIM-102 / Idaho Chemical Processing Plant Non-Process Plant Operations 34,029 35,587 37,325

(dollars in thousands)

FY 2001	FY 2002	FY 2003

This project is to perform the Landlord/infrastructure functions required by multiple and varied programs at the Idaho Nuclear Technology and Engineering Center including: commercial electrical power payment; cross-cutting Environmental, Safety, Health, and Quality Assurance, training, nuclear safety, engineering, and document services; and maintenance of the plant facilities and roads and grounds. This PBS provides general plant projects and line-item control projects planning, design and construction. These core functions support other programs in meeting regulatory and the Idaho Settlement Agreement requirements relative to the High-Level Waste and Spent Nuclear Fuel Programs.

- # Perform commercial electrical power payment and cross-cutting Environmental, Safety, Health, and Quality Assurance, Nuclear Safety, Engineering, Document Services, and Training activities to support high-level waste and spent nuclear fuel.
- # Provides for operation and maintenance for the Idaho Nuclear Technology and Engineering Center Utility Systems (electric, water, steam, compressed in and sanitary waste) 24 hours/day, 365 days/year.
- # Provides for landlord and maintenance of the Idaho Nuclear Technology and Engineering Center Buildings, project management, radiation control, nuclear safety, industrial hygiene, personnel health and safety and questions and answers.
- # Complete annual General Plant Project and Line-Item Construction Project Five to Ten Year Plan update.

ID-SNF-101 / National Spent Nuclear Fuel Program 14,032 10,000 5,000

The objective of the National Spent Nuclear Fuel Program work scope is to define and ensure resolution of all associated issues for the characterization, safe interim storage, and proper final disposition of all U.S. Department of Energy spent nuclear fuel. The National Spent Nuclear Fuel Program provides technology solutions and guidance for safe, efficient management of DOE spent nuclear fuel operating sites. In addition, it supports the repository program managed by the Office of Civilian Radioactive Waste Management by providing the analyses and research needed to include all DOE spent nuclear fuel in the planned repository license application.

- # Continue work to finalize licensing and certification requirements; complete criticality analysis for High Integrity Cans in the standardized canister; support the repository license application; complete Total System Performance Analysis calculations to support input to the License Application, complete design basis event calculations; and continue technical liaison with Office of Civilian Radioactive Waste Management personnel.
- # Direct activities towards use of the standardized canister in the Idaho National Engineering and Environmental Laboratory Dry Storage Project and inclusion of the DOE standardized canister in the repository license application.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

Provide engineering and technical support to the office of Civilian Radioactive Waste Management for issuance of the request for proposal for shipment of DOE spent nuclear fuel to a geologic repository.

ID-SNF-102 / Integrated Spent Nuclear Fuel Program . . . . . 9,438 [a] 15,585 [a] 12,352 [a]

This project is to support on-site compliance with the Idaho Settlement Agreement through the DOE Spent Nuclear Fuel Dry Storage Project, program management, technology development, continued fuel receipts from foreign and domestic reactors and DOE sites, and fuel shipments to other Department of Energy sites.

Continue to improve overall program plans for interim dry storage, fuel receipts, and shipment to the repository.

Maintain the Criticality Safety Program for the Idaho National Engineering and Environmental Laboratory.

Provide full capability for receipt of domestic including the Oak Ridge Reservation's shipment and foreign research reactor spent nuclear fuel.

Develop historical data for Idaho spent nuclear fuel to support repository license application.

Key Milestones	
#	Received up to one shipment of Foreign Research Reactor Spent Nuclear Fuel (June 2001).
#	Receive one Oak Ridge spent nuclear fuel domestic receipt (September 2002).
#	Receive one foreign spent nuclear fuel receipt from Japan (September 2002).
#	Complete all Oak Ridge receipts (September 2003).

[a] In addition to this funding, the Department's Cost of Work for Others program includes $1,200,000 in FY 2001, $1,000,000 in FY 2002, and $0 in FY 2003 of revenues received for the Foreign Research Reactor receipts program at the Idaho Operations Office.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

ID-SNF-103 / Emptied Spent Nuclear Fuel Facilities 44,829 33,535 31,031

This project is to ensure on-site compliance with the Idaho Settlement Agreement through movement of the spent nuclear fuel from wet to dry storage by December 31, 2023, and removal of all spent nuclear fuel from the Idaho National Engineering and Environmental Laboratory by January 1, 2035. This includes safe operation and transition of the following spent fuel storage facilities to deactivation: 1) Idaho Nuclear Technology and Engineering Center - Chemical Processing Plant - 603 and 666, underwater storage basins; 2) Test Area North - 607, underwater storage basin and dry cask storage; 3) Idaho Nuclear Technology and Engineering Center - Chemical Processing Plant - 749, underground dry storage vault; 4) Idaho Nuclear Technology and Engineering Center - Chemical Processing Plant - 603, Irradiated Fuel Storage Facility dry storage vault; 5) Ft. St. Vrain (near Denver, Colorado) Nuclear Regulatory Commission-licensed dry storage Independent Spent Fuel Storage Installation; and 6) Idaho Nuclear Technology and Engineering Center - Chemical Processing Plant - 1774, Nuclear Regulatory Commission-licensed Independent Spent Fuel Storage Installation.

- # Receive Advanced Test Reactor spent nuclear fuel shipments at Chemical Processing Plant - 666 and commence the transfer for shipping Navy spent nuclear fuel back to the Naval Reactors Facility.
- # Provide routine maintenance and equipment for spent nuclear fuel facilities to enable fuel receipt and transfers.
- # Continue to perform surveillance and monitoring of the dry stored spent nuclear fuel at Fort St. Vrain.
- # Continue surveillance and monitoring of Idaho spent nuclear fuel facilities.
- # Complete semiannual inventories of spent nuclear fuel and make shipment of spent nuclear fuel to the Oak Ridge Operations Office.
- # Complete removal of Loss of Fluid Test/commercial spent nuclear fuel from the Test Area North - 607 pool and place it into interim dry storage.
- # Implement corrective maintenance activities at spent nuclear fuel facilities needed to receive and transfer spent nuclear fuel.
- # Provide for Chemical Processing Plant-666 general plant project and capital equipment projects and upgrade spent nuclear fuel configuration management.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

Metrics			
Spent Nuclear Fuel			
Moved to Dry Storage (MTHM)	79.0	4.0	4.0
Key Milestones			
# Completed transfer of Three-Mile-Island spent nuclear fuel from Test Area North to the Dry Storage Facility (April 2001).			
# Remove all Loft of Fluid Test/Commercial/epoxied spent nuclear fuel from Test Area North 607 (September 2002).			

ID-SSI-101 / Subsurface Geoscience Laboratory 400 700 0

Construct a Subsurface Geosciences Laboratory to improve the understanding of subsurface contaminant fate and transport through an enhanced linkage between laboratory results and field observations. Meso-scale (pilot-scale) experiments will study and quantify biological, geochemical and fluid transport processes, and the coupling among these processes, that control the movement and transformation of contaminants in the subsurface. The meso-scale experiments will be linked on the one hand with the results of laboratory studies, and on the other hand with field-scale experiments, and will result in new and improved technology for cleanup, monitoring and long-term, reliable predictions.

In FY 2003, the administration proposes to eliminate this project to permit EM to accelerate risk reduction elsewhere.

ID-SSR-101 / Subsurface Science Research Institute 0 3,800 0

The Subsurface Science Research Institute supports research in the inland Northwest and will complement the on-going INRA-funded collaborative research projects in subsurface science at the Idaho National Engineering and Environmental Laboratory. Scientists and engineers will provide a scientific understanding of the biogeochemical phenomena that dictate subsurface reactive transport in order to solve pressing environmental challenges.

In FY 2003, the administration proposes to eliminate this project to permit EM to accelerate risk reduction elsewhere.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

ID-VCO-101 / Environmental Legacy Compliance (VCO) . . . 9,649 10,003 7,849

The Department of Energy and the State of Idaho Division of Environmental Quality signed the June 2000 Consent Order (known as the Voluntary Consent Order) on June 14, 2000. The Voluntary Consent Order covers various matters where the Idaho National Engineering and Environmental Laboratory is not in regulatory compliance with the Resource Conservation and Recovery Act. For each covered matter, the issue description, action summary, and milestones have been discussed with the Idaho Division of Environmental Quality to identify an acceptable path forward to bring the matter into regulatory compliance. If a milestone is not met, stipulated penalties of $1,000/day/violation will be assessed.

- Base management and integrated services required to maintain ready-to-proceed condition for Environmental Legacy Compliance actions.
- At the Idaho Nuclear Test Engineering Center, the Resource Conservation Recovery Act Closure Plan for tanks at Chemical Processing Plant-603 will be submitted to the Idaho Department of Environmental Quality and once approved, the Resource Conservation and Recovery Act Closure activities will begin.
- At the Test Reactor Area, continue disposition of second 25 percent of items on the legacy waste list and initiate characterization of third 25 percent; continue the Resource Conservation and Recover Act Closure activities for the Test Reactor Area-730 catch tank system; and continue the Resource Conservation Recovery Act Closure activities for the Engineering Test Reactor Sodium Loop.
- At the Power Burst Facility, continue characterization activities for items on the equipment list.
- At the Test Area North, characterize the Test Area North-616 system and prepare the hazardous waste determinations.
- For Site-wide Voluntary Consent Order tanks, continue hazardous waste determination/verification determinations will be completed for multiple tanks.
- Complete Phase II (Resource Conservation and Recovery Act Closure) of tanks identified in the Voluntary Consent Order and closure of tanks that contain hazardous waste.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

Key Milestones

- # New Chemical Processing Plant-020-1 (February 2001).
- # New Chemical Processing Plant-016-2 (February 2001).
- # New Test Area North-008-1 (February 2001).
- # Site Tank 005-2 (March 2001).
- # Site Tank-005-3 (March 2001).
- # New Test Area North-008-2 (March 2001).
- # New Chemical Processing Plant-016-1 (June 2001).
- # Site Tank-005-4 (March 2002).
- # New Test Reactor Area-001-2 (April 2002).
- # VCO-5.1.ll(a)-1 (September 2002).
- # New Test area North-008-3 (December 2002).
- # New Test Reactor Area-001-3 (June 2003).
- # New Chemical Processing Plant-016 Draft Resource Conservation and Recovery Act Plan (June 2003).
- # Site Tank-005-5 (September 2003).

ID-WM-103 / INEEL Transuranic Waste 0 78,206 23,619

The mission of the Transuranic Waste Project is to provide environmentally safe and compliant management of contact-handled and remote-handled transuranic and mixed transuranic waste retrievably stored at the Radioactive Waste Management Complex Resource Conservation and Recovery Act storage modules. This includes the characterization, certification, and loading for transportation of at least 3,100 m^3 of stored transuranic waste out of Idaho by December 31, 2002, to meet an enforceable agreement milestone under PBS ID-WM-103. The remainder of the stored transuranic waste will be processed for shipment out of Idaho in the Advanced Mixed Waste Treatment Project (PBSs ID-WM-104 and ID-WM-105). Capabilities to retrieve and achieve disposition of remote-handled transuranic waste will be developed. Infrastructure support for Radioactive Waste Management Complex is provided to ensure compliance with authorization basis requirements necessary to accomplish project mission and maintain facility systems, structures, and components.

- # Provide Resource Conservation and Recovery Act-compliant storage for transuranic waste.
- # Provide facility base operations support services to ensure safe, environmentally compliant operations, maintenance, environment, safety and health support, updates to safety and health documents, and required monitoring and inspections.
- # Maintain certification authority for transuranic waste.
- # Provide infrastructure support to maintain compliance with the authorization basis, maintain a qualified workforce, and perform maintenance of systems, structures, and components.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

- # Complete activities for transfer of facilities and equipment to the Advanced Mixed Waste Treatment Project.
- # Complete characterization, certification, and shipment of 3,100 m^3 of transuranic waste to the Waste Isolation Pilot Plant and complete closeout activities.

Metrics			
Volume of Transuranic Waste			
Shipped to WIPP for Disposal (m^3)	0	1,948	336

Key Milestones

- # Complete shipment of 3,100 m^3 of contact-handled transuranic waste to the Waste Isolation Pilot Plant per settlement agreement (December 2002).

ID-WM-105 / AMWTP Production Operations 1,103 1,056 9,204

The purpose of the Advanced Mixed Waste Treatment Project is to procure, construct, and operate a facility to retrieve, treat and prepare for shipment 65,000 m3 of transuranic and alpha -contaminated mixed waste, currently stored at the Idaho National Engineering and Environmental Laboratory's Radioactive Waste Management Complex, for final disposal at the Waste Isolation Pilot Plant. The Advanced Mixed Waste Treatment Project is divided into three phases: Phase I provides for licensing, permitting, preliminary design, and a National Environmental Policy Act evaluation; Phase II provides for construction of the facility and transition of the Radioactive Waste Management Complex retrieval and storage operations from the current Management and Operating contractor to BNFL Inc.; Phase III provides for facility operations, closure and decontamination and decommissioning.

- # Support the turnover of facilities and equipment of the Advanced Mixed Waste Treatment Facility to BNFL Inc. on the schedule listed in the Memorandum of Agreement.
- # Provide monthly radiation surveys; permit reviews as listed in the Memorandum of Agreement, and periodic updates of the waste-tracking database.
- # Complete Site Verification Plans, sampling and analysis for property turnover required to support the Memorandum of Agreement.

Key Milestones

- # BNFL commence operations of the Advanced Mixed Waste Treatment Project (March 2003).

(dollars in thousands)

FY 2001	FY 2002	FY 2003

ID-WM-106 / Idaho National Engineering and Environmental Site-wide Environmental Protection 7,061 7,462 7,769

This project is responsible for implementing programs that are mandatory for environmental compliance at the Idaho National Engineering and Environmental Laboratory. This project provides and interprets data needed to ensure protection of human health and the environment. Compliance with regulations is achieved by: interpreting the regulations and their impact on the Idaho National Engineering and Environmental Laboratory; providing site-wide guidance; preparing permit applications for well drilling activities, ponds, storm water, air; establishing monitoring/surveillance programs for air, water, soils, and biota; preparing the required reports and maintaining project files according to Quality Assurance Management System.

- # Continue to collect, compile and interpret data for the publication of the following reports/plans: Annual Wastewater Land Application Site Performance Report for the Idaho National Engineering and Environmental Laboratory, Environmental Monitoring Program Report for the Idaho National Engineering and Environmental Laboratory, Permit Application for Well Construction, Water Use Report, Emergency Planning and Community Right-to-Know Act Toxic Release, National Emission Standards for Hazardous Air Pollutants Annual Report, Air Emission Inventory, Stormwater Pollution Prevention Plan, Stormwater Monitoring Report, monthly drinking water reports and semi-annual reports to the City of Idaho Falls.
- # Continue to serve as focal point for sitewide environmental monitoring and environmental compliance.

ID-WM-108 / Integrated Waste Operations Program 4,488 14,461 5,197

Establish, control, and report on waste management projects to meet the commitments of the Idaho National Engineering and Environmental Laboratory Site Treatment Plan (provide for base program management control, execution, and reporting systems along with financial management systems). Pursue waste management related activities that support the objectives of the Idaho National Engineering and Environmental Laboratory's Institutional Plan. Inform stakeholders of mission plans and activities at the Idaho National Engineering and Environmental Laboratory, receive input, and gain acceptance for waste management projects from stakeholders. Provide and assess programmatic compliance with applicable environmental regulations, safety and health protection, and evaluate ecological risk assessment issues.

- # Continue validation work of updated life-cycle baselines for all Waste Management projects.
- # Measure project performance and report results to DOE project management in support of best business practices and the Environmental Liability audit.
- # Guide and control development of the Waste Management Detailed Work Plans and Life-Cycle Baseline updates.

(dollars in thousands)

	FY 2001	FY 2002	FY 2003
Total, Idaho	**268,550**	**371,932**	**297,194**

Explanation of Funding Changes

	FY 2003 vs. FY 2002 ($000)
ID-ER-102 / Test Reactor Area Remediation	
# No significant change.	-21
ID-ER-103 / Idaho Chemical Processing Plant Remediation	
# Decrease reflects completion of perched water monitoring and tracer tests and aquifer monitoring.	-2,376
ID-ER-107 / Radioactive Waste Management Complex Remediation	
# Decrease reflects the administration proposal to reduce this activity to permit EM to accelerate risk reduction elsewhere.	-14,161
ID-ER-108 / Sitewide Monitoring Area Remediation	
# Decrease reflects deferral of the Integrated Soils Monitoring program.	-1,981
ID-ER-109 / Remediation Operations	
# Increase reflects support for document control activities to the benefitting waste area groups.	1,304
ID-HLW-101 / High-Level Waste Pretreatment	
# Decrease reflects completion of the Liquid Effluent Treatment and Disposal project to reconfigure off-gas line to main stack to minimize generation of condensates.	-1,531
ID-HLW-102 / High-Level Waste Immobilization Facility	
# Increase reflects sodium bearing waste treatment technology development and facility analyzes per the Settlement Agreement.	7,737
ID-HLW-103 / High-Level Waste Treatment and Storage	
# Increase reflects calcine characterization ramp up to meet aggressive schedule requirements to meet settlement and consent order milestones.	3,498
ID-HLW-105 / Closure and Stabilization Activities	
# Increase reflects closure of Tank 182.	1,773
ID-OIM-101 / Site-wide Landlord Operations	
# No significant decrease.	-38

	FY 2003 vs. FY 2002 ($000)
ID-OIM-102 / Idaho Chemical Processing Plant Non-Process Plant Operations	
# Increase reflects additional funding for general plant projects.	1,738
ID-SNF-101 / National Spent Nuclear Fuel Program	
# Decrease reflects the transfer of the development and procurement of the transportation system for movement of DOE spent nuclear fuel to the proposed Yucca Mountain repository to the Office of Civilian Radioactive Waste Management.	-5,000
ID-SNF-102 / Integrated Spent Nuclear Fuel Program	
# Decrease reflects preparation completion of West Valley spent nuclear fuel receipts and completion of basin scanning in the Chemical Processing Plant-603 with technologies developed and deployed by the Spent Nuclear Fuel program.	-3,233
ID-SNF-103 / Emptied Spent Nuclear Fuel Facilities	
# Decrease reflects performing transition activities at the Test Area North 607.	-2,504
ID-SSI-101 / Subsurface Geoscience Laboratory	
# Decrease reflects the administrations proposal to eliminate this project to permit EM to accelerate risk reduction elsewhere.	-700
ID-SSR-101 / Subsurface Science Research Institute	
# Decrease reflects the administrations proposal to eliminate this project to permit EM to accelerate risk reduction elsewhere.	-3,800
ID-VCO-101 / Environmental Legacy Compliance (VCO)	
# Decrease reflects the completion of the Engineering Test Reactor Sodium Loop and the calcine handling tool disposition.	-2,154
ID-WM-103 / INEEL Transuranic Waste	
# Decrease reflects completion of shipment of 3,100 m^3 of transuranic waste to the Waste Isolation Pilot Plant in FY 2003.	-54,587
ID-WM-105 / AMWTP Production Operations	
# Increase in funding reflects the Advanced Mixed Waste Treatment project in full production.	8,148
ID-WM-106 / INEEL Site-wide Environmental Protection	
# No significant increase.	307
ID-WM-108 / Integrated Waste Operations Program	
# Decrease reflects the administrations proposal to reduce this activity to permit EM to accelerate risk reduction elsewhere.	-9,264
Total Funding Change, Idaho	-76,845

Nevada

Mission Supporting Goals and Objectives

Program Mission

The mission of the Defense Environmental Restoration and Waste Management, Post 2006 Completion account, carried out by the Nevada Operations Office, is to characterize and perform corrective actions, as applicable, at inactive sites and facilities contaminated as the result of historic nuclear testing activities conducted at the Nevada Test Site, Tonopah Test Range and Nellis Air Force Range in Nevada, and eight other locations in five states: Amchitka Island in Alaska; Rulison and Rio Blanco in Colorado; Salmon in Mississippi; Central Nevada Test Area and Project Shoal in Nevada; and Gasbuggy and Gnome Coach in New Mexico. The mission at the Nevada Test Site also includes the characterization, treatment, storage, and/or disposal of radioactive low-level waste, mixed low-level waste, transuranic waste, mixed transuranic waste, hazardous legacy wastes, and wastes generated as the result of the Department's activities across the complex.

Program Goal

The Nevada Operations Office is committed to ensuring its site and activities pose no undue risk to the public and worker safety and to maintain compliance with applicable environmental and other requirements. Planned actions are designed to reduce the Department's environmental mortgage by characterizing and performing applicable corrective actions at the Nevada Test Site and associated off-site locations, enhancing strategies to safely accept and dispose of low-level waste, removing stored transuranic and mixed waste for disposition, and closing on-site disposal areas in compliance with regulatory requirements. For contaminated surface sites outside the Nevada Test Site, Nellis Air Force Range, and the Tonopah Test Range boundaries, the goal is to characterize, perform applicable corrective actions, and restore the surface areas for alternative uses. Institutional control of the subsurfaces will be retained by the Department of Energy and the groundwater is anticipated to be monitored for up to 100 years to ensure there is no risk to the public.

Program Objectives

The key objective of the Nevada Operations Office Environmental Management Program is to address the legacy of contamination resulting from 1,054 above and below-ground nuclear tests, of which 928 occurred at the Nevada Test Site. The test site will be remediated consistent with an end state which incorporates cleanup standards developed for an institutional land use scenario, with the expectation that the land will remain under the control of the government.

The environmental restoration program includes four projects. The Underground Test Area Project, which addresses subsurface contamination and groundwater protection, remains the highest priority activity within the Nevada Operations Office Environmental Management Program. The Underground Test Area Project end state is the implementation of a comprehensive groundwater model and monitoring network to assure that groundwater protection is achieved. The Soils Project addresses contamination in the surface soils from nuclear detonations and safety experiments involving chemical detonation of plutonium-bearing devices. The Industrial Sites Project addresses contamination resulting from use of test support facilities such as leach fields, muck piles, sumps, and injection wells. Decontamination and decommissioning activities, conducted as part of the Industrial Sites Project, will be completed within ten years. The Off-sites Project addresses contamination resulting from historic testing activities which occurred off the Nevada Test Site at eight sites in five states (Alaska, Colorado, Mississippi, New Mexico, and Nevada).

The waste management program will continue to characterize, segregate, and repackage the transuranic/mixed transuranic waste at the Waste Examination Facility in anticipation of shipping the waste to the Waste Isolation Pilot Plant for disposal. Transuranic waste shipments are scheduled to begin in FY 2002. The balance of the Waste Management Program addresses the treatment, storage, and/or disposal of mixed low-level and low-level wastes. Nevada will continue to accept and dispose of low-level waste from off-site and on-site generators.

Program Integration includes those activities common to all projects including quality assurance, health and safety, project planning and control, technical and regulatory support, and contractual support. Agreements-in-Principle/Grants provide funding for state oversight activities and support of Department initiatives.

To achieve one of the highest priority goals, the disposal of transuranic waste at the Waste Isolation Pilot Plant, the Nevada Operations Office plans to use the Oversize Transuranic Waste Laser-Cutting technology now being used at the Los Alamos National Laboratory. It uses an existing laser-cutting system to size-reduce glove boxes and other large metal objects. This technology was selected because it provides a disposition path for oversize transuranic waste from the Nevada Test Site and other sites. Robotics and remote operation minimize worker accidents and exposure to contamination.

Significant Accomplishments and Program Shifts

- Closed Amchitka Island mud pits in place (FY 2001).
- Continued funding to support the Nevada Environmental Research Park Program (FY 2001).
- Provided support to local community emergency response and preparedness training (FY 2001).
- Provided support for development, implementation, and maintenance of the Federal Facility Agreement and Consent Order and the Federal Facility Compliance Act and related action plans and amendments between DOE/Nevada and the State of Nevada (FY 2001).
- Complete the draft revised geologic model for Frenchman Flat (FY 2002).

- # Continue support of Agreements-in-Principle with Alaska, Mississippi, and Nevada for monitoring of the Nevada Operations Office assessment and characterization activities at sites for which the Nevada Operations Office is responsible (FY 2002).
- # Continue work conducted by the Harry Reid Center for Environmental Studies and the Nevada Risk Assessment Management Program (FY 2002).
- # Complete 22 Industrial Site Project release site assessments and three remedial actions (FY 2002).
- # Complete the Closure Report for Amchitka Island Surface Areas (FY 2002).
- # Complete remedial action at five off-sites project release sites (FY 2002).
- # Obtain transuranic waste stream certification (FY 2002).
- # Maintain the capability to safely accept and manage Nevada generated mixed low-level waste (FY 2002).
- # Complete the Federal Facilities Compliance Act Site Treatment Plan Annual Update (FY 2002).
- # Complete Mutual Consent Agreement Treatment and Disposal Plans as required (FY 2002).
- # Modify the Resource Conservation and Recovery Act Part B Permit as required (FY 2002).
- # Maintain adequate disposal capability at the Area 3 and Area 5 Radioactive Waste Management Sites (FY 2002).
- # Provide support for development, implementation, and maintenance of the Federal Facility Agreement and Consent Order and the Federal Facility Compliance Act and related action plans and amendments between DOE/Nevada and the State of Nevada. Provide independent cost estimates (FY 2002).

Funding Schedule

(dollars in thousands)

	FY 2001	FY 2002	FY 2003
NV202 / Agreements in Principle/Grants	4,199	5,538	2,285
NV211 / Soils	128	207	0
NV212 / Underground Test Area (UGTA)	26,022	25,813	23,916
NV214 / Industrial Sites	15,671	22,855	15,154
NV240 / Off-sites	16,587	8,138	3,622
NV350 / Transuranic Waste/Mixed Transuranic Waste	8,074	6,038	3,305
NV360 / Mixed Low-Level Waste	1,010	763	851
NV370 / Low-Level Waste	4,076	4,947	4,066
NV400 / Program Integration	11,436	10,668	4,661
Total, Nevada	87,203	84,967	57,860

Funding by Site

(dollars in thousands)

	FY 2001	FY 2002	FY 2003	$ Change	% Change
Nevada Test Site	70,616	76,829	54,238	-22,591	-29.4%
Nevada Operations Office	16,587	8,138	3,622	-4,516	-55.5%
Total, Nevada	87,203	84,967	57,860	-27,107	-31.9%

Metrics Summary

	FY 2001	FY 2002	FY 2003
Release Site			
Cleanup	51	11	42
Transuranic Waste			
Shipped to WIPP for Disposal (m^3)	0	7	128
Mixed Low-Level Waste			
Disposal (m^3)	0	246	0
Low-Level Waste			
Disposal (m^3)	34,870	64,428	65,513

Site Description

Nevada Test Site

The Nevada Test Site is located 65 miles northwest of the city of Las Vegas and encompasses 1,573 square miles, an area roughly the size of Rhode Island. The activities are wide-spread, geographically diverse, and are the result of 928 historical above-ground and below-ground nuclear tests, conducted at the Nevada Test Site. In addition to surface cleanup, the regional groundwater model indicates a potential for migration of underground contaminants toward public receptors.

The Nevada Test Site mission also includes safe storage and disposal of low-level radioactive wastes generated by Department of Energy activities throughout the complex. Storage of transuranic waste and disposal of low-level waste, the low-level wastes that are received from the on-site and off-site generators, are conducted according to the current Nevada Test Site Environmental Impact Statement Record of Decision and other regulatory requirements. Only 16 currently approved generators are permitted to dispose of waste at the Nevada Test Site.

Nevada Operations Office

The Nevada Operations Office manages, coordinates, tracks, and assists in the implementation of the Environmental Management Program at the Nevada Test Site, Tonopah Test Range, and eight off-site locations. Activities include project planning control, budget formulation, quality assurance, and health and safety.

Detail Program Justification

(dollars in thousands)

FY 2001	FY 2002	FY 2003

The Nevada Operations Office Environmental Management Program is managed through a performance-based management and operating contract for Nevada Test Site activities, administered by the landlord (National Nuclear Security Administration) and a cost-plus incentive fee architect-engineer Environmental Management services contract to assure the most cost efficient service to the Government. All supporting subcontracts are subject to an internal "make/buy" review process and have a fixed cost ceiling, requirements for safety and health, well-developed performance criteria, and specific quality standards.

Cost estimating, project planning and baseline methods, and project scope for the Environmental Restoration Program were independently validated by the Army Corps of Engineers and the Department of Energy's Core Technical Group in 1997. The Department of Energy's Core Technical Group completed similar activities for the waste management program in 1998. These validations include 100 percent of the projects described in this section.

NV202 / Agreements in Principle/Grants 4,199 5,538 2,285

This project provides support for various agreements and grants with states where the Department of Energy - Nevada Operations Office's environmental management activities are occurring or are scheduled as the result of previous historical testing activities. Funding supports regulator oversight of the Nevada Operations Office activities within the states including surveillance and monitoring activities, and supports the outreach program, which includes community involvement mechanisms, educational endeavors, and various research and development projects.

- **#** Continue funding the State of Nevada fees for oversight as directed by the Federal Facility Agreement and Consent Order.
- **#** Continue funding of Agreements-in-Principle with Alaska, Mississippi, and Nevada which provide support for monitoring of Nevada activities.
- **#** Continue funding for the Harry Reid Center for Environmental Studies.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

NV211 / Soils 128 207 0

The Soils Project addresses contaminated surface and shallow subsurface soils of the Nevada Test Site, the Tonopah Test Range, and the Nellis Air Force Range complex. Contamination is the result of historic DOE/Nevada aboveground and near-surface nuclear testing activities that released radioactive contamination to the surface. Contaminant concern are primarily transuranics, plutonium and uranium, as well as fission and fusion products. There are also potential sites where metals, particularly lead, and other contaminants may be of concern. The Soils Project will complete characterization and remediation at sites that are off the Nevada Test Site or where the contaminant plumes extend beyond the Nevada Test Site boundary. For Soils sites on the Nevada Test Site, characterization will be performed however, remediation is not planned.

No activity is planned for FY 2003.

NV212 / Underground Test Area 26,022 25,813 23,916

The Underground Test Area Project focuses on evaluating the extent of contamination to the groundwater due to past underground nuclear testing. During the 35 years of underground testing from 1957 to 1992, the Department of Energy conducted 908 nuclear detonations in shafts and tunnels on the Nevada Test Site. These detonations deposited 300 million curies of radioactivity in the subsurface under approximately 500 square miles of the Nevada Test Site. Approximately one-third of these tests were conducted near or below the water table (800-2000 feet below surface) and have contaminated the groundwater. The 908 detonations are categorized into 878 Corrective Actions Sites, which are grouped into six Corrective Action Units. These six Corrective Action Units are geographically distinct with different hydrogeologic characteristics related to each. Tritium is the contaminant of primary concern for the next 100 years because it is the most mobile. Corrective action activities are required under terms of a Federal Facility Agreement and Consent Order negotiated by the Department of Energy and the Department of Defense with the State of Nevada. This agreement outlines the approach for identifying, prioritizing, investigating, and remediating the sites.

The Underground Test Area Project consists of field work involving the drilling and testing of multiple boreholes, laboratory analysis of groundwater and rock samples, and the development of hydrologic and risk models in the Corrective Action Units. Of the budget for the project, approximately 50 percent is spent on the installation of wells, 30 percent is spent on laboratory studies, and 20 percent is spent on modeling. The installation of groundwater wells in remote desert and mountain locations at depths ranging from 800 to 5,600 feet can result in costs ranging from $1,500,000 to $4,000,000 per well. The project has established an internal advisory group consisting of experts in geology, hydrology, modeling, geochemistry, radiochemistry, engineering, and risk assessment to provide technical guidance and review of project activities. In addition, all hydrologic models are peer reviewed by an external group of national experts.

Drill four wells in Yucca Flat.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

- # Conduct Frenchman Flat acquifer testing.
- # Begin Yucca Flat well development and testing.
- # Initiate Pahute Mesa Flow Modeling.

Key Milestones
Conduct geophysical surveys in Frenchman Flat (September 2001).
Drill two wells in Frenchman Flat (September 2001).
Initiate Pahute Mesa Flow and Transport Modeling (October 2001).
Drill one well in Frenchman Flat (September 2002).
Submit Pahute Mesa Transport Parameter Documentation Package to the State of Nevada (September 2002).
Complete Pahute Mesa Phase I hydrology data analysis (May 2003).
Drill four wells in Yucca Flat (September 2003).

NV214 / Industrial Sites 15,671 22,855 15,154

The Industrial Sites Project includes buildings, structures, equipment, and areas used in support of past nuclear testing activities. Of the 1,400 sites within the Industrial Sites Project, there are approximately 487 remaining Corrective Action Sites that require some level of investigation--some Corrective Action Sites may require remediation. The Corrective Action Sites have been organized into 72 similar groups or Corrective Action Units. The majority of the sites are located on the Nevada Test Site and some are located on the Tonopah Test Range. Site contaminants include chemicals, lead, explosives, unexploded ordnance items, and radioactive and mixed waste. The Project will complete characterization and required remedial actions and implement required monitoring activities at all sites.

- # Complete 48 release site assessments and 42 remedial actions.

Metrics			
Release Site			
Cleanup	17	4	42

Key Milestones
Complete Corrective Action Unit 321 Closure Report (April 2001).
Complete Corrective Action Unit 407 Closure Report (April 2001).
Complete Corrective Action Unit 135 Closure Report (April 2001).
Complete Corrective Action Unit 486 Closure Report (April 2001).
Complete Corrective Action Unit 490 Corrective Action Decision Document (July 2001).
Complete Corrective Action Unit 428 Closure Report (July 2001).
Complete Corrective Action Unit 240 Closure Report (July 2001).

(dollars in thousands)

FY 2001	FY 2002	FY 2003

- # Complete Corrective Action Unit 110 Closure Report (August 2001).
- # Complete Corrective Action Unit 261 Closure Report (August 2001).
- # Complete Corrective Action Unit 409 Corrective Action Decision Document (September 2001).
- # Complete Corrective Action Unit 230 Closure Report (September 2001).
- # Complete Corrective Action Unit 320 Closure Report (September 2001).
- # Complete Corrective Action Unit 262 Corrective Action Decision Document (September 2001).
- # Complete Corrective Action Unit 487 Corrective Action Decision Documents (January 2002).
- # Submit Corrective Action Unit 254 Closure Report (March 2002).
- # Complete Corrective Action Unit 143 Closure Report (April 2002).
- # Complete Corrective Action Unit 405 Corrective action Decision Documents (April 2002).
- # Submit Corrective Action Unit 499 Closure Report (August 2002).
- # Complete Corrective Action Unit 271 Corrective Action Decision Documents (September 2002).
- # Submit corrective action investigation plan for Corrective Action Unit 527 (December 2002).
- # Submit Corrective Action Unit 398 Closure Report (December 2002).
- # Submit closure report for Corrective Action Unit 262 (January 2003).
- # Submit corrective action decision document for Corrective Action Unit 165 (April 2003).
- # Submit closure report for Corrective Action Unit 113 (April 2003).
- # Submit Corrective Action Unit 425 Closure Report (April 2003).
- # Submit Corrective Action Unit 176 Closure Report (April 2003).
- # Submit Corrective Action Unit 490 Closure Report (April 2003).
- # Submit closure report for Corrective Action Unit 262 (April 2003).
- # Submit corrective action decision document for Corrective Action Unit 168 (August 2003).
- # Submit Corrective Action Unit 405 Closure Report (August 2003).

(dollars in thousands)

FY 2001	FY 2002	FY 2003

NV240 / Off-Sites 16,587 8,138 3,622

Underground nuclear testing activities have been conducted at the Nevada Test Site and eight sites in five states as part of Nuclear Weapons Testing, Vela Uniform, and Plowshare Programs. Characterization will be conducted to minimize risk to the public and environment. If needed, remediation activities will be conducted to allow release of the surface areas. Subsurface restrictions will remain to prohibit access and monitoring is assumed for 100 years. Corrective actions at off-site locations in Nevada are required under terms of an agreement with the state. Parameters of corrective activities are identified in the Corrective Action strategy appeal to the agreement. Corrective measures not yet established with other States are expected to parallel those for Nevada. Cleanup levels at each site will be negotiated individually.

- # Complete monitoring wells for the Central Nevada Test Area.
- # Complete closure activities for Amchitka Subsurface Areas.
- # Complete Corrective Action Plan for Rio Blanco Subsurface Areas.
- # Complete radiation risk and Gas Reservoir Analyses for Rio Blanco Subsurface.
- # Complete assessment of Gasbuggy Surface.
- # Complete assessment of Gnome-Coach Subsurface.
- # Complete assessment of Project Shoal Subsurface.

Metrics			
Release Site			
Cleanup	34	7	0
Key Milestones			
# Complete Central Nevada Test Area (Corrective Action Unit 417) closure report (August 2001).			
# Close Amchitka mud pits in place (September 2001).			
# Complete Corrective Action Plan (Proposed Plan) for Amchitka Island Surface Areas (November 2001).			
# Complete Gasbuggy Field Characterization (December 2001).			
# Complete closure report for Amchitka Island Surface Areas (May 2002).			
# Plug and abandon wells at Salmon Site (May 2002).			
# Complete Rio Blanco Surface Corrective Action Decision Document (June 2002).			
# Complete assessment of project Shoal Subsurface (March 2003).			
# Complete assessment of Gasbuggy Surface (September 2003).			
# Complete corrective action plan for the Rio Blanco Subsurface Areas (May 2003).			

(dollars in thousands)

FY 2001	FY 2002	FY 2003

#	Complete radiation risk and gas reservoir analysis for the Rio Blanco Subsurface (September 2003).

NV350 / Transuranic Waste/Mixed Transuranic Waste 8,074 6,038 3,305

Activities in the Transuranic/Mixed Transuranic Waste Project include storing, characterizing, segregating, repackaging, certifying, and shipping transuranic and mixed transuranic waste for disposal at the Waste Isolation Pilot Plant. The classified transuranic material stored at the Nevada Test Site must be declassified before it can be shipped to the Waste Isolation Pilot Plant for disposal. Shipments of transuranic waste to the Waste Isolation Pilot Plant are scheduled to begin in FY 2002. Previously disposed transuranic/mixed transuranic waste in the Greater Confinement Disposal bore hole and a classified trench at the Nevada Test Site will be addressed in a Performance Assessment to determine the potential for future environmental and health risks. Planned activities include data collection and analysis related to the Performance Assessment.

- # Obtain transuranic waste stream certification.
- # Ship 128 cubic meters of transuranic/mixed transuranic waste drums to the Waste Isolation Pilot Plant for disposal.
- # Receive approval of Greater Confinement Disposal/Composite Analysis Document Part B.

Metrics			
Transuranic Waste			
Shipped to Waste Isolation Pilot Plant for Disposal (m^3)	0	7	128

Key Milestones

- # Submit oversize transuranic/mixed transuranic shipping schedule to Nevada Division of Environmental Protection (April 2001).
- # Repack 240 drums of transuranic/mixed transuranic waste (September 2001).
- # Transuranic/mixed transuranic waste - storage 735 m^3 (September 2001).
- # Initiate transuranic/mixed transuranic waste shipments to the Waste Isolation Pilot Plant (January 2002).
- # Continue to characterize transuranic/mixed transuranic waste (September 2003).
- # Complete oversize transuranic/mixed transuranic waste shipments to an off-site facility (September 2003).

(dollars in thousands)

FY 2001	FY 2002	FY 2003

NV360 / Mixed Low-Level Waste 1,010 763 851

This project manages the Nevada Test Site's mixed low-level waste according to the Resource Conservation and Recovery Act, Federal Facility Compliance Act Consent Order, and Mutual Consent Agreement and protects against potential risks to human health and the environment. The mixed low-level waste management includes identifying treatment options, selecting preferred and alternative treatment methods, verifying that waste meets waste acceptance criteria required by treatment and disposal sites, shipping waste to the selected site, and tracking the waste through disposal. The newly generated mixed low-level waste is temporarily stored pending treatment and/or disposal in accordance with the Mutual Consent Agreement. This project also includes the update and maintenance of the Nevada Test Site Resource Conservation and Recovery Act Part B Permit.

- **#** Maintain the Resource Conservation and Recovery Act Part B Permit for the Nevada Test Site.
- **#** Maintain a mixed low-level waste generator service for the Nevada Test Site generators.
- **#** Maintain the Resource Conservation and Recovery Act storage capability for the mixed low-level waste.
- **#** Dispose off-site generator's mixed low-level waste (volumes are undetermined at this time).

Metrics			
Mixed Low-Level Waste			
Disposal (m^3)	0	246	0
Key Milestones			
# Submit final Site Treatment Plan Annual update to the State of Nevada (April 2001).			
# Submit Resource Conservation and Recovery Act Part B Permit modifications/revisions to the State of Nevada (September 2001).			
# Complete two permit modifications (September 2001).			
# Complete one permit application revision (September 2001).			
# Complete two permit modifications (September 2002).			
# Complete two permit application revisions (September 2002).			
# Complete two permit modifications (September 2003).			
# Complete two permit application revisions (September 2003).			

(dollars in thousands)

FY 2001	FY 2002	FY 2003

NV370 / Low-Level Waste 4,076 4,947 4,066

The Waste Management Division operates and maintains low-level waste disposal facilities. The major activity is disposal of the low-level waste generated at the Nevada Test Site and other DOE sites into two disposal sites; other tasks include: maintenance and capability tasks such as work authorization and safety basis documents; on-site waste generated program; integrated waste disposal units closure; environmental monitoring; performance assessments; and the waste acceptance program. The Low-Level Waste Project is expected to continue until FY 2030; the Long-Term Surveillance and Maintenance will be conducted for at least 30 years after closure. Waste Disposal Operations include waste receipt, burial and on-going facility maintenance activities, which are funded by the disposal fees collected from the waste generators; therefore, funds for these disposal activities are not included.

- # Provide technical and regulatory support for low-level waste facilities.
- # Maintain a waste characterization and certification program.
- # Maintain a Radioactive Waste Acceptance Program.
- # Perform Performance Assessment, Closure, and Environmental Management activities of disposal facilities located in Areas 3 and 5.

Metrics			
Low-Level Waste			
Disposal (m^3)	34,870	64,428	65,513
Key Milestone			
# Submit Asbestiform Low-Level Waste Disposal Annual Report to State of Nevada (March 2001).			
# Submit Area 5 Annual Groundwater Monitoring Report to State of Nevada (March 2001).			
# Maintain capability to dispose both on-site and off-site low-level waste (September 2001).			
# Submit Asbestiform Low-Level Waste Disposal Annual Report to State of Nevada (February 2002).			
# Submit Area 5 Annual Groundwater Monitoring Report to State of Nevada (February 2002).			
# Maintain capability to dispose both on-site and off-site low-level waste (September 2002).			
# Submit Nevada Test Site Solid Waste Disposal Report for Asbestiform low-level waste to the Nevada Division of Environmental Protection (March 2003).			
# Submit Final Groundwater Monitoring Report to the Nevada Division of Environmental Protection (March 2003).			
# Maintain capability to dispose both on-site and off-site low-level waste (September 2003).			

(dollars in thousands)

FY 2001	FY 2002	FY 2003

NV400 / Program Integration 11,436 10,668 4,661

Provide integrated project management support and contractual support to Nevada Operations Office EM project activities. Provide crosscutting support in technical and nontechnical capacities for environmental management activities at the Nevada Test Site, Tonopah Test Range eight off-site locations in Alaska, Colorado, Mississippi, Nevada, and New Mexico. Provide planning, budgeting, project control, performance reporting and technical and regulatory information systems and processes. Maintain/update the Nevada EM baselines. Provide support of stakeholder initiatives as we development, implementation, maintenance, and management support of regulatory-mandated and administrative functions for EM activities.

Continue support of architect/engineer contract as required by contract (65 percent of budget).

Continue support of quality assurance, health and safety, and technical and regulatory initiatives including Integrated Safety Management and regulatory agreements.

Key Milestones

Complete upgrade to Waste Management Division baseline (February 2001).

Complete final Site Treatment Plan update (March 2001).

Complete update of project baselines (March 2002).

Submit required Integrated Planning, Accountability, and Budgeting System/Information Systems data to Headquarters (April 2002).

Complete the Integrated Planning, Accountability, and Budgeting System/Information Systems budget activities (April 2003).

Total, Nevada 87,203 84,967 57,860

Explanation of Funding Changes

	FY 2003 vs. FY 2002 ($000)
NV202 / Agreements in Principle/Grants	
# In FY 2003, the administration proposes to reduce this project to permit EM to accelerate risk reduction elsewhere.	-3,253
NV211 / Soils	
# Decrease reflects no activities planned in FY 2003.	-207

	FY 2003 vs. FY 2002 ($000)
NV212 / Underground Test Area	
# In FY 2003, the administration proposes to reduce this project to permit EM to accelerate risk reduction elsewhere.	-1,897
NV214 / Industrial Sites	
# In FY 2003, the administration proposes to reduce this project to permit EM to accelerate risk reduction elsewhere.	-7,701
NV240 / Off-sites	
# In FY 2003, the administration proposes to reduce this project to permit EM to accelerate risk reduction elsewhere.	-4,516
NV350 / Transuranic Waste/Mixed Transuranic Waste	
# In FY 2003, the administration proposes to reduce this project to permit EM to accelerate risk reduction elsewhere.	-2,733
NV360 / Mixed Low-Level Waste	
# Increase will provide for completion of activities required to develop disposal capacity to receive mixed low-level waste from off-site generators.	88
NV370 / Low-Level Waste	
# Decrease in funding reflects the revised schedule for implementing real-time radiographic inspection of low-level waste packages.	-881
NV400 / Program Integration	
# In FY 2003, the administration proposes to reduce this project to permit EM to accelerate risk reduction elsewhere.	-6,007
Total Funding Change, Nevada	-27,107

Oak Ridge

Mission Supporting Goals and Objectives

Program Mission

The mission of the Defense Environmental Restoration and Waste Management, Post 2006 Completion account, carried out by the Oak Ridge Operations Office is to direct and monitor environmental restoration, waste management operations, and materials stabilization activities on the Oak Ridge Reservation in Tennessee and at several off-site properties. The legacy waste at the Oak Ridge Reservation includes 75 percent of the total Department of Energy complex low-level waste storage inventory, 61 percent of the complex-wide mixed low-level waste inventory, and 82 percent of the Department's total complex remote-handled transuranic waste inventory in storage at the three Oak Ridge sites. These large volumes, as well as all of the hazardous, sanitary, and industrial waste annually generated from mission activities, are safely stored, treated, and disposed in compliance with regulations. Spent nuclear fuel containing 0.25 metric tons of heavy metal is currently in storage at the Oak Ridge National Laboratory, awaiting transfer to the Idaho National Engineering and Environmental Laboratory and the Savannah River Site. Environmental restoration of the Oak Ridge Reservation will be conducted using a comprehensive watershed decision-making strategy. A combination of near-term removal actions and long-term remedial actions will assure that health and environmental risks are appropriately addressed. Future land use assumptions, made in collaboration with the regulators and other affected stakeholders, provide the basis for establishing protective and cost-effective cleanup levels.

Key to achieving this mission is the implementation of project management and contracting strategies. Project management activities are focused on multi-year planning and maintaining project controls to meet EM's goals for safe, cost-effective and timely site closure. Project management cost savings result, in part, from integrating multiple projects through sequencing based on programmatic focus, critical path considerations, execution logic, mortgage reduction, resource leveling and subcontracting strategy. Emphasis is placed on subcontracting the largest portion of the work to best-in-class subcontractors through competitively bid fixed-price and fixed-unit price subcontracts with performance specifications.

Program Goal

The Oak Ridge Operations Office is committed to having all spent nuclear fuel shipped to the Idaho National Engineering and Environmental Laboratory and the Savannah River Site for long-term storage; all legacy transuranic waste treated and disposed; all legacy mixed waste treated and disposed; all remedial action sites completed; all currently scheduled buildings decommissioned; and all legacy low-level waste disposed. Significant cost efficiencies are being realized from the Oak Ridge Reservation sub-contracting strategy and from re-prioritization of disposition for wastes that are in the way of critical path remediation activities. The Oak Ridge Operations Office is committed to ensuring its sites and activities pose no undue risk to the public and worker safety and maintain compliance with applicable environmental and other requirements. Aggressive contract management initiatives have been implemented to provide incentives for accelerating the program and to reduce cost. The management and integration contracting approach utilizes competitively bid fixed-price and fixed-unit cost contracts to reduce project costs. Additionally, resequencing the disposition of waste to avoid impact on critical path remediation has resulted in acceleration of the low-level waste program. These actions focus on managing the contract for results and place emphasis on cost control, risk management, and measuring and analyzing earned value. Using innovative approaches and "out of the box" thinking on this contract, will result in cost savings, cost avoidance, and accelerated clean up.

Program Objectives

By FY 2008, all of Oak Ridge's legacy transuranic waste will be treated and disposed, all legacy mixed waste will be treated and disposed, and 70 percent of all legacy low-level waste will be disposed. Remedial actions will be completed, including the Oak Ridge National Laboratory gunite tanks and an 85 percent reduction in the Environmental Management footprint of the Oak Ridge Reservation. These activities assume an enhanced performance efficiency, which will be achieved through the implementation of project management, contracting, and technology strategies described in the Program Mission section above.

Significant Accomplishments and Program Shifts

- Mixed low-level waste inventory was reduced by approximately 2,154 cubic meters at the Oak Ridge Reservation (FY 2001).
- Environmental Management Waste Management Facility design was completed including classified facility updates (FY 2001); operations to begin in FY 2002.
- 1.2 million kgs of Resource Conservation and Recovery Act listed sludge was treated at Y-12 and shipped off-site for disposal, exceeding the Site Treatment Plan milestone by 33 percent (FY 2001).
- Landfill VII became operational at Y-12 to receive construction and demolition materials (FY 2001).

- Completed construction of a hydraulic isolation system to support future excavation of the Boneyard/Burnyard and completed off-site disposal of oil land farm soils and demolition of containment pad at Y-12 (FY 2001).
- The Oak Ridge National Laboratory waste operations facilities supported significant EM activities, including transfer of liquids and sludges from eight large gunite tanks and 24 additional inactive tanks (FY 2001).
- Eight large gunite tanks were grouted in place as a removal action resulting in schedule acceleration and a cost avoidance (FY 2001).
- Demolition of three small facilities within the proposed Solid Waste Storage Area 4 cap footprint was completed to facilitate future cap construction (FY 2001).
- At the Oak Ridge National Laboratory 33 wells were plugged and abandoned, almost twice the amount originally scheduled (FY 2001).
- The U-233 uranium deposits were removed and installation of the fuel salt removal equipment was completed at the Molten Salt Reactor Experiment (FY 2001).
- Excavated 230 cubic yards of contaminated soil from a classified burial ground and treated onsite via low temperature thermal desorption at the East Tennessee Technology Park (FY 2001).
- Continued surveillance and maintenance on the Atomic City Auto Parts and the two David Witherspoon sites (FY 2001).
- The mixed low-level waste inventory will be reduced an additional 2,658 cubic meters at the Oak Ridge Reservation (FY 2002).
- Pilot testing of a new waste information system will be initiated and evaluated at the Oak Ridge Reservation (FY 2002).
- Continue operational readiness reviews and other support activities to the Environmental Management Waste Management Facility (FY 2002).
- Construction and demolition of Landfill VI at Y-12 is scheduled for closure in FY 2002.
- Excavation to begin on the Boneyard/Burnyard at Y-12 (FY 2002).
- Final regulatory approval of the Upper East Fork Poplar Creek Phase I Record of Decision is expected (FY 2002).
- Continue waste treatment systems at the Oak Ridge National Laboratory (FY 2002).
- At the Oak Ridge National Laboratory, hydraulically isolate subsurface contaminants using cap and diversion trenches to reduce the potential for groundwater contamination. Installation of diversion and collection trenches in Solid Waste Storage Area 4 will be initiated (FY 2002).
- At the East Tennessee Technology Park, the compressed gas recontainerization skid is expected to process gas cylinders in support of excavation of the K-1070-A burial ground, a major remedial action underway (FY 2002).

Continue activities at the East Tennessee Technology Park in support of the disposition of the Transportable Vitrification System and the Soil Washing Facility (FY 2002).

Continue to support Federal Facility Agreements and Agreements-In-Principles with the State of Tennessee (FY 2001/FY 2002).

Funding Schedule

(dollars in thousands)

	FY 2001	FY 2002	FY 2003
OR-151 / ORR Waste Disposition Project	82,574	97,934	90,346
OR-171 / Environmental Management Waste Management Facility	8,405	12,326	6,916
OR-191 / Long-Term Contractor Liabilities - Defense	9,533	7,851	9,182
OR-211 / Y-12 Waste Operations	22,925	22,403	20,642
OR-221 / Y-12 Remedial Action	3,311	5,617	2,802
OR-241 / Y-12 Surveillance and Maintenance	5,773	8,199	9,684
OR-311 / ORNL Waste Operations - Defense	16,828	17,067	12,200
OR-321 / ORNL Remedial Action - Defense	26,889	16,548	18,531
OR-331 / ORNL Decontamination and Decommissioning - Defense	45,967	18,263	25,603
OR-341 / ORNL Surveillance and Maintenance - Defense	8,924	12,276	23,425
OR-411 / ETTP Waste Operations - Defense	30,909	34,055	29,563
OR-441 / ETTP Surveillance and Maintenance - Defense	9,660	4,037	4,585
OR-821 / Off-site Projects - Defense	1,322	0	4,242
OR-891 / Directed Support - Defense	4,337	4,393	1,594
Total, Oak Ridge	277,357	260,969	259,315

Funding by Site

(dollars in thousands)

	FY 2001	FY 2002	FY 2003	$ Change	% Change
East Tennessee Technology Park	40,569	38,092	34,148	-3,944	-10.4%
Oak Ridge National Laboratory	98,608	64,154	79,759	15,605	24.3%
Oak Ridge Off-site Locations	1,322	0	4,242	4,242	0.0%
Oak Ridge Operations Office	4,337	4,393	1,594	-2,799	-63.7%
Oak Ridge Reservation	100,512	118,111	106,444	-11,667	-9.9%
Y-12 Plant	32,009	36,219	33,128	-3,091	-8.5%
Total, Oak Ridge	277,357	260,969	259,315	-1,654	-0.6%

Metrics Summary

	FY 2001	FY 2002	FY 2003
Release Site			
Cleanup	43	15	3
Facilities Decommissioning			
Cleanup	0	2	0
Transuranic Waste			
Shipped to Waste Isolation Pilot Plant	0	0	78
Mixed Low-Level Waste			
Treatment (m^3)	3,445	2,192	774
Disposal (m^3)	2,154	2,658	842
Low-Level Waste			
Disposal (m^3)	3,509	528	1,068

Site Description

Oak Ridge Reservation

The Oak Ridge Reservation encompasses about 37,000 acres and is comprised of three facilities: the Y-12 Plant; the East Tennessee Technology Park; and the Oak Ridge National Laboratory.

These facilities are described in detail below. However, there are specific activities covered by this site description: the Oak Ridge Reservation Waste Disposition Project; the Environmental Management Waste Management Facility; and Long-Term Contractor Liabilities. Because these are cross-cutting activities among the sites, they have been categorized in this way.

Oak Ridge National Laboratory

Activities carried out at the Oak Ridge National Laboratory historically have supported both the defense production operations and civilian energy research effort. This group of facilities requires cleanup resulting from a variety of research and development activities, which were supported by multiple DOE programs over a long period of time.

The Oak Ridge National Laboratory currently conducts applied and basic research in energy technologies and the physical and life sciences. Transuranic, low-level, mixed low-level, hazardous, sanitary, and industrial waste are generated from these operations.

Oak Ridge Operations Office

The Oak Ridge Operations Office manages, coordinates, tracks, and assists in the implementation of the Environmental Management program among the various sites. Oak Ridge is the lead site for the National Metal Recycle Program and supports crosscutting integration efforts related to the Oak Ridge sites. In addition, the Oak Ridge Operations Office manages oversight agreements with the State of Tennessee, Ohio, and Kentucky and provides funding for all off-site projects.

Off-site

The Off-Site Project addresses the cleanup of properties that are not located on the Oak Ridge Reservation and includes the Atomic City Auto Parts Site and the David Witherspoon Sites.

East Tennessee Technology Park

The East Tennessee Technology Park site occupies 1,500 acres adjacent to the Clinch River, some 13 miles west of Oak Ridge, Tennessee. It was originally built as an uranium enrichment facility using uranium hexafluoride for Defense Programs. The majority of the 125 major buildings on the site have been inactive since uranium enrichment production ceased in 1985. The site is being transitioned to the private sector through reindustrialization. Most Oak Ridge legacy waste is stored at the East Tennessee Technology Park and the Toxic Substances Control Act incinerator is the key operating waste treatment facility. All waste types are stored, treated, and disposed in compliance with regulations.

Y-12

The Y-12 site is approximately 811 acres and is located about two miles southwest of Oak Ridge, Tennessee. The Y-12 site originally was a uranium processing facility and now dismantles nuclear weapons components and serves as one of the nation’s store house for special nuclear materials. The Y-12 site has 15 operable units within three areas; Chestnut Ridge, Upper East Fork Poplar Creek, and Bear Creek Valley. The types of contamination include radioactive, hazardous, and mixed wastes. The West End Treatment Facility treats organic liquid waste produced by Defense Programs. The sanitary landfills for all of the Oak Ridge Reservation operate at Y-12.

Detail Program Justification

(dollars in thousands)

FY 2001	FY 2002	FY 2003

The Oak Ridge Operations Office is managed through an incentivized Management and Integration contract, with fixed-price subcontracts, to assure the most cost efficient service to the Government.

OR-151 / ORR Waste Disposition Project 82,574 97,934 90,346

This project collects, stores, and disposes of legacy and newly-generated low-level, mixed low-level, hazardous, and transuranic waste. The Site Treatment Plan for mixed low-level waste and mixed transuranic waste has enforceable agreement milestones for disposition. Most legacy low-level wastes are in storage locations that are on the critical paths for priority remedial actions and decontamination and decommissioning efforts requiring timely disposition. Characterization of these legacy wastes are needed for treatment and/or disposition. Both newly generated radioactive wastes (per DOE Order 435.1) and hazardous waste per the Resource Conservation and Recovery Act require disposal within one year of generation. The Waste Disposition Project is important for risk and mortgage reduction.

- **#** Continue treatment and disposal of the remaining inventory.
- **#** Newly generated waste from the Oak Ridge National Laboratory, Y-12, and other DOE primes will continue to be managed to maintain steady state conditions.
- **#** Resume disposition of legacy low-level waste; continue to store remaining legacy low-level waste in a safe, compliant manner.
- **#** Continue the management and integration technical support during construction of the Privatized Transuranic Waste Treatment Facility (PBS OR-364).

Metrics			
Transuranic Waste			
Shipped to WIPP (m3)	0	0	78
Mixed Low-Level Waste			
Treatment (m^3)	1,305	375	0
Disposal (m^3)	777	1,081	212
Low-Level Waste			
Disposal (m^3)	3,234	121	799

Key Milestones

- **#** Approve the Final Safety Analysis Report (June 2002).
- **#** Confirm chemical stabilization of 570 potential shock sensitive chemicals in inventory (June 2002).
- **#** Ship for treatment 1.0 m kg. of characterized Site Treatment Plan Table 3.4 mixed low-level waste (September 2002).
- **#** Approve readiness to operate the Transuranic Waste Treatment Facility (November 2002).

(dollars in thousands)

FY 2001	FY 2002	FY 2003

OR-171 / Environmental Management Waste Management Facility 8,405 12,326 6,916

This project covers management and integration activities necessary to support the design, construction, operation and closure of the Environmental Management Waste Management Facility. The Environment Management Waste Management Facility is the on-site facility that will provide disposal capacity for up to 2.8 million cubic yards of waste for various cleanup projects on the Oak Ridge Reservation conducted under the Comprehensive Environmental Response, Compensation, and Liability Act for disposal through the life of the Oak Ridge Reservation. Support activities include activities such as project management, technical support, procurement, construction quality assurance, health and safety oversight and site investigation activities.

- # Continue to provide daily operations, environmental monitoring, radiological support, and roads and grounds maintenance within the area of the Privatized Environmental Management Waste Management Facility (PBS OR-174).
- # Provide annual payment to the State of Tennessee for perpetual care fund, which began in FY 2000.

Key Milestones
Approve the Environmental Management Waste Management Facility Waste Acceptance Criteria Attainment plan (December 2001).
Approve Performance Based Incentive Completion form for start of operations of the Environmental Management Waste Management Facility (April 2002).

OR-191 / Long-Term Contractor Liabilities - Defense 9,533 7,851 9,182

Non-recurring Contractor Transition includes work activities associated with transitioning from the management and operating contractor, Lockheed Martin Energy Systems, Inc., to the management and integration contractor, Bethel Jacobs Company, LLC. Also included are subprojects that are associated with on-going, long-term obligations, and central programs necessary to support the contractor activities. Activities include Post Retirement Medical Benefits for grandfathered employees, severance/Reduction in Force costs from workforce transition subcontractors, Information Technology, and the Sample Management Office.

- # Activities that are associated with on-going, long-term obligations and central programs necessary to support the contractor activities will continue to be funded in this PBS and the Uranium Enrichment D&D Fund PBS OR-193.
- # The Sample Management Office will maintain subcontractors with support laboratories, operate and maintain the Performance Evaluation laboratory; and provide support to the DOE National Analytical Management Program laboratory-auditing program.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

OR-211 / Y-12 Waste Operations 22,925 22,403 20,642

Waste management operations at Y-12 include treatment, storage, and disposal activities in support of the DOE mission. The Y-12 plant waste treatment and disposal facilities include: West End Treatment Facility (treats nitric acid waste, nitrate waters, mixed sludge and caustic wastewater); Central Pollution Control Facility (treats concentrated acidic/caustic waste contaminated with oils, metals, and radionuclides); Groundwater Treatment Facility; four landfills; and the Uranium Chip Oxidation Facility (reduces the volume of depleted uranium), the East End Mercury Treatment System, the Central Mercury Treatment System, and the East End Plume Treatment System.

- # Continue to receive and treat industrial process water, mercury-contaminated groundwater, uranium chip oxidation waste coolants.
- # Treat West End Treatment Facility sludge for shipment and disposal at Envirocare.
- # Continue receipt and disposal of waste at landfills.

Metrics			
Low-Level Waste			
Disposal (m^3)	178	77	70
Mixed Low-Level Waste			
Disposal (m^3)	1,329	1,426	599
Treatment (m^3)	1,563	1,405	583

OR-221 / Y-12 Remedial Action 3,311 5,617 2,802

This project remediates contaminated sites at the two major watersheds, Upper East Fork Poplar Creek and Bear Creek Valley, at the Y-12 Plant. The Upper East Fork Poplar Creek Watershed contains the Y-12 Main Plant Area and has extensive soil, surface water, and groundwater contamination. Primary contaminants are uranium and mercury. The Bear Creek Valley lies west of the main Y-12 Plant and has been historically used for waste disposal. A variety of contaminants, (e.g., uranium, polychlorinated biphenyls, and heavy metals) have impacted soil, surface water, and groundwater. A Phase I record of decision for the Bear Creek Valley was approved in FY 2000. In addition to the major remedial actions scheduled, removal actions will be executed to reduce/minimize risks.

- # The Remedial Design Report/Remedial Action Work Plan and associated Request for Proposal for the Upper East Fork Poplar Creek Building 9201-2 Water Treatment System will be initiated.
- # Upper East Fork Poplar Creek Record of Decision - Phase I will be approved as will the associated Remedial Design Work Plan.
- # Bear Creek Valley Boneyard/Burnyard waste excavation and disposal will be completed.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

Bear Creek Valley Record of Decision - Phase I, the mitigation plan will be prepared and submitted for regulator approval. Stream restoration design will be completed and restoration construction will begin.

Metrics			
Release Site			
Cleanup	2	1	2

Key Milestones
Upper East Fork Poplar Creek Record-of-Decision Phase 1 - Submit draft record-of-decision to regulators for review (June 2001).
Sign Upper East Fork Poplar Creek Record-of-Decision Phase 1 - Submit remedial design/ work plan to regulators (November 2001).
Approve Performance Based Incentives form for the Sediment Basin Construction for scrap yard removal (July 2002).

OR-241 / Y-12 Surveillance and Maintenance 5,773 8,199 9,684

The Y-12 Surveillance and Maintenance project implements routine actions to ensure sites remain in compliance with established criteria and regulations that protect human health, the environment, and DOE assets as well as to ensure that requirements of Resource Conservation and Recovery Act permits and Comprehensive Environmental Response, Compensation, and Liability Act decision documents are met. Three major activities are conducted to meet these objectives: surveillance and maintenance, environmental monitoring, and pollution prevention. Surveillance and maintenance activities are conducted throughout the Y-12 plant. In addition to specific Y-12 activities, the Water Resource Restoration Program for the Oak Ridge Reservation is included in this project. Its objectives are to provide data necessary for decision-making and effectiveness monitoring of remedial actions and to report all monitoring required by the Comprehensive Environmental Response, Compensation, and Liability Act.

Conduct groundwater monitoring and reporting and annual comprehensive inspections and maintenance, in support of the Resource Conservation and Recovery Act post-closure permits.

Complete evaluation and update of surveillance and maintenance plans and facility safety basis documentation for Building 9204-3.

Issue annual remediation effectiveness reports.

Prepare annual sampling and analysis plans, and perform monitoring (groundwater, surface water, sediments, and biological).

(dollars in thousands)

FY 2001	FY 2002	FY 2003

OR-311 / ORNL Waste Operations - Defense 16,828 17,067 12,200

The Oak Ridge National Laboratory currently has 750-1,000 generating sources, resulting in a diverse array of waste streams requiring management. Waste includes radioactive wastes generated by research operations in nuclear reactors, hot cells, and radioisotope production, as well as chemical, industrial, and sanitary wastes. The Oak Ridge National Laboratory treatment and disposal facilities manage both legacy and newly generated wastes in solid, liquid, and gaseous forms, as well as all the transuranic waste generated on the Oak Ridge Reservation. The waste treatment facilities include the Liquid Low-Level Waste System, the Process Waste Collection System, and the Off-gas Collection and Treatment System. The Interim Waste Management Facility operations provides an on-site disposal option for some low-level waste streams.

Provide compliant operation of waste treatment facilities.

Metrics			
Low-Level Waste			
Disposal (m^3)	97	260	199

OR-321 / ORNL Remedial Action - Defense 26,889 16,548 18,531

This project remediates contaminated areas in Bethel and Melton Valleys at the Oak Ridge National Laboratory. As a result of research activities at the Oak Ridge National Laboratory for the past 57 years, the environment became contaminated as a result of leaks, spills, and past waste disposal practices. The presence of creeks, impoundments and shallow groundwater provide a transport mechanism of contaminants into the White Oak Creek, which flows to the Clinch River, a public drinking water source. This project includes the remediation of burial grounds, inactive tanks, pipelines, contaminated soils, sediments, impoundments, surface water, liquid seepage pits and trenches.

Complete the retrieval, treatment, and disposal of sediments at the Nevada Test Site, from the Oak Ridge National Laboratory Main Plant Surface Impoundments projects.

Continue the remedial action at the Solid Waste Storage Area 4 Burial Ground.

Dispose of remaining secondary waste resulting from Gunite and Associated Tanks and the Federal Facilities Agreement Tanks stabilization projects.

At the Oak Ridge National Laboratory Burial Grounds project, the remaining 22 acres of borrow area will be developed and plugging and abandonment of unneeded monitoring wells will be completed.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

Metrics			
Release Site			
Cleanups	41	8	1
Key Milestones			
# Bethel Valley Record of Decision - Submit draft Record of Decision to regulators for review (October 2000).			
# Melton Valley Burial Grounds - Remedial Design Report/Remedial Action Work Plan - Submit draft to regulators for comment, D1 (May 2001).			
# Bethel Valley Federal Facility Agreement Inactive Tanks - Complete radioactive sludge removal at the Federal Facility Agreement inactive tanks (September 2001).			
# Sign Bethel Valley Record of Decision (November 2001).			

OR-331 / ORNL Decontamination and Decommissioning - Defense 45,967 18,263 25,603

This activity addresses inactive facilities at the Oak Ridge National Laboratory that are contaminated with radioactive and/or hazardous material. These facilities will generally be demolished to grade. The loose contamination will be removed from below-grade areas prior to being backfilled with clean material. This will prevent the release of contamination to the environment, and exposure to individuals. In some cases facilities may be decontaminated for reuse.

- # Molten Salt Reactor Experiment Decontamination and Decommissioning activities include: completing equipment installation and readiness assessment for fuel salt removal and continuing conversion of uranium captured in the sodium flouride traps to a stable oxide for storage.
- # The New Hydrofracture Facility will be demolished and disposed.
- # Complete the Melton Valley Hydrofracture Well plug and abandon activities and complete closure reports.

Metrics			
Release Sites			
Cleanup	0	6	0
Facilities Decommissioning			
Cleanup	0	2	0
Key Milestones			
# OR-1 - Safe progress to Molten Salt Reactor Experiment uranium removal and stable oxide - Complete Performance Based Incentive milestones by September 30, 2001 (September 2001).			

#	Complete DOE independent readiness review for the Molten Salt Reactor Experiment Conversion (September 2002).

OR-341 / ORNL Surveillance and Maintenance - Defense . . . 8,924 12,276 23,425

Implement routine actions to ensure contaminated sites and facilities remain in a safe and protective state before and after cleanup. Surveillance and maintenance provides integration at sites and facilities to ensure compliance with the appropriate federal regulations. Long-Term Surveillance and Maintenance is responsible for remedial action site after remediation and for the operation and maintenance of the active remediation systems, along with sites where waste is left in place. The Water Quality Program monitors releases from contaminated sites to support cleanup strategies and monitors water quality to evaluate remediation system effectiveness. Non-routine maintenance (i.e., roof repair, disposition of source materials) is performed to reduce risk and overall mortgage.

- # Prepare sampling and analysis plan, covering environmental monitoring of groundwater, surface water, and sediment throughout the Bethel Valley and Melton Valley watersheds.
- # Prepare/issue annual Solid Waste Area Group 6 Groundwater Quality Report, required by the Resource Conservation and Recovery Act.
- # Complete disposal of waste from 7841 scrap yard.
- # Complete remediation and disposal liquid waste holding tank at the well driller's steam cleaning area.
- # Perform routine surveillance and maintenance of remedial action sites after remediation and operation/maintenance of active remediation systems.
- # Prepare annual surveillance and maintenance reports.

OR-411 / ETTP Waste Operations - Defense 30,909 34,055 29,563

Waste Operations at the East Tennessee Technology Park consist of waste treatment facilities, including the Toxic Substance Control Act Incinerator, Central Neutralization Facility, Transportable Compressed Gas Recontainerization Skid, and Transportable Vitrification System. These facilities are essential to successful accomplishment of multiple DOE programs. The Toxic Substance Control Act Incinerator treats hazardous, low-level radioactive and poly-chlorinated biphenyls contaminated wastes. The Central Neutralization Facility treats both hazardous and nonhazardous waste water received from multiple plant sources. The Transportable Compressed Gas Recontainerization processes waste cylinders.

- # Continue to provide safe, compliant, and cost efficient treatment of the East Tennessee Technology Park wastes.
- # Treat liquid and solid waste at the Toxic Substance Control Act Incinerator from Tennessee and out-of-state DOE sites.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

Complete the Toxic Substance Control Act Incinerator and Compressed Gas Recontainerization Skid the Resource Conservation and Recovery Act closure plan and prepare the Requests for Proposals.

Metrics			
Low-Level Waste			
Disposal (m^3)	0	70	0
Mixed Low-Level Waste			
Disposal	48	151	30
Treatment (m^3)	577	412	190
Key Milestones			
# Toxic Substances Control Act Incinerator Operations - Complete treatment of wastes for the Toxic Substances Control Act mini-test and trial burns (September 2001).			

OR-441 / ETTP Surveillance and Maintenance - Defense 9,660 4,037 4,585

The East Tennessee Technology Park surveillance and maintenance project ensures adequate containment and site controls at shutdown facilities waiting decommissioning or reuse through reindustrialization. The facilities (approximately 200,000sf) include buildings used in the gas centrifuge enrichment process. To ensure the health and safety of the public, site workers, and the environment, a systematic program of inspections, surveillances, instrumentation calibration and building maintenance is performed in a graded approach based on residual facility hazards, building condition and health/safety/environmental risks. Reindustrialization Support provides support to the DOE Reindustrialization program by supplying personnel to work with DOE and the Community Reuse Organization of East Tennessee.

The Centrifuge Facility Surveillance and Maintenance Program will perform annual facility inspections, consisting of a graded condition assessment survey on all surveillance and maintenance facilities and full condition assessment survey assessments of selected facilities.

The East Tennessee Technology Park Infrastructure Services will provide optimum annual level of services to maintain infrastructure facilities for reuse or decontamination and decommissioning.

Effectively support DOE and the Community Reuse Organization of East Tennessee Reindustrialization Program efforts.

OR-821 / Off-site Projects - Defense 1,322 0 4,242

(dollars in thousands)

FY 2001	FY 2002	FY 2003

This project remediates privately owned properties that were contaminated due to the sale of contaminated materials from the Oak Ridge Reservation to private property owners. The Department of Energy is responsible for the cleanup of these sites under the Tennessee Superfund law. The primary contaminants at these sites are uranium, polychlorinated biphenyls, and heavy metals. The remedial actions at these sites will consist of removing and managing (treatment and/or disposal) contaminated materials, equipment, soil, and sediment and treating groundwater as needed.

- # Continue surveillance and maintenance at the Atomic City Auto Parts site and the two David Witherspoon Sites (901 and 1630).
- # Continue the Phase III Removal Action at the Atomic City Auto Parts, which includes the excavation of the top 12 inches of soil.
- # Complete the Record of Decision on the two David Witherspoon Sites.
- # Provide technical and administrative support for the Cost Recovery Actions being pursued by DOE in conjunction with the Department of Justice.

OR-891 / Directed Support - Defense 4,337 4,393 1,594

This project consists of subprojects that are DOE directly managed such as DOE-Oak Ridge Operations Office Program Management. The Agreements-in-Principle grants to the State of Tennessee provide independent support of environmental programs at the Oak Ridge Reservation. The intent of the Agreements-in-Principle grants is to provide for the administrative support necessary to oversee the requirements for the interagency agreements under the Comprehensive Environmental Response Compensation and Liability Act. The National Center of Excellence for Metals Recycle facilities the cost-effective recycle of clean and decontaminated metals and equipment at DOE sites across the country. The Lockheed Martin Energy Systems Contract Closeout provides funds for the termination of the Lockheed Martin Energy Systems contract. PBS OR-893 also funds these activities.

- # Provide funding for the Agreements in Principle with the State of Tennessee.
- # Continue management support of the Oak Ridge Operations Office.
- # Continue closeout of the Lockheed Martin Energy Systems contract.
- # Continue closing subcontracts, supporting litigation activities, etc.
- # Provide support for the National Center of Excellence for Metal Recycle.

Total, Oak Ridge 277,357 260,969 258,761

Explanation of Funding Changes

	FY 2003 vs. FY 2002 ($000)
OR-151 / ORR Waste Disposition Project	
# Decrease reflects mixed low-level waste disposition site treatment plan milestone completions in FY 2002.	-7,588
OR-171 / Environmental Management Waste Management Facility	
# Decrease reflects the Environmental Management Waste Management Facility startup in FY 2002; FY 2003 will be first year of normal operations.	-5,410
OR-191 / Long-Term Contractor Liabilities - Defense	
# Increase needed for legacy documents and litigation.	1,331
OR-211 / Y-12 Waste Operations	
# Decrease reflects less mixed low-level waste to be treated and disposed.	-1,761
OR-221 / Y-12 Remedial Action	
# Decrease reflects reduced remedial actions costs at the Bear Creek Valley Boneyard/Burnyard.	-2,815
OR-241 / Y-12 Surveillance and Maintenance	
# Increase reflects required maintenance activities at Y-12.	1,485
OR-311 / ORNL Waste Operations	
# Decrease reflects completion in FY 2002 of Safety Analysis Report on the liquid low-level waste operations.	-4,867
OR-321 / ORNL Remedial Action	
# Increase reflects work on Solid Waste Storage Area 4 Burial Ground Cap and the Bethel Valley groundwater engineering study.	1,983
OR-331 / ORNL Decontamination and Decommissioning	
# Increase reflects increased work on the Molten Salt Reactor Experimental fuel salt disposition and hydrofracture well plugging and abandonment.	7,340
OR-341 / ORNL Surveillance and Maintenance	
# Increase because of needed deactivation and non-routine decontamination and decommissioning surveillance and maintenance activities, some inventory and characterization at the remedial action sites and additional groundwater monitoring wells.	11,149
OR-411 / ETTP Waste Operations	
# Decrease reflects performing less waste treatment.	-4,492
OR–441 / ETTP Surveillance and Maintenance	
# Increase reflects FY 2002 being funded with carryover.	548

	FY 2003 vs. FY 2002 ($000)
OR-821 / Off-site Projects	
# Increase reflects the re-start of the off-site projects in FY 2003.	4,242
OR-891 / Directed Support	
# Decrease reflects funding for fewer program management support subcontracts; fewer special projects are planned.	-2,799
Total Funding Change, Oak Ridge	-1,654

Oakland

Mission Supporting Goals and Objectives

Program Mission

The mission of the Defense Environmental Restoration and Waste Management, Post 2006 Completion account, managed through the Oakland Operations Office, is to plan and implement remediation and waste treatment, storage, and disposal activities at three sites, two in California and one in New York. The sites are the Lawrence Livermore National Laboratory, consisting of the Livermore Site and Site 300, and the Separations Process Research Unit at the Knolls Atomic Power Laboratory in Schenectady, New York. Other DOE programs such as Defense Programs, Science, and Nuclear Energy's Naval Reactor Program continue to have operating facilities at these sites. Also, the Oakland Operations Office is responsible for program management, contracts in support of multiple sites, and the administration of State and educational grants.

Program Goal

Environmental Management's programmatic goals are to ensure operating facilities and contaminated sites pose no undue risk to the public, worker health and safety; maintain compliance with applicable environmental laws; and manage risks associated with current and prior DOE operations.

Program Objectives

The program objective is to: assess, remediate, decontaminate and decommission contaminated sites and facilities; characterize, treat, minimize, store, and dispose of hazardous and radioactive waste. These program activities use an integrated approach to assess work and meet schedules; while also balancing risk, mortgage reduction, compliance, cost efficiencies, stakeholder input and implementation of enhanced performance mechanisms. At Lawrence Livermore National Laboratory all legacy waste will be characterized and shipped off-site. Long-term surveillance and maintenance of implemented remedial actions (e.g., pump and treat facilities) will be assumed by the landlord programs or included in a long-term surveillance and maintenance project. The Separations Process Research Unit will be cleaned up and all legacy waste will be characterized and shipped off-site.

Significant Accomplishments and Program Shifts

- Continued operation and maintenance of 25 groundwater and 2 soil vapor treatment facilities; continued use of electro-osmosis technology at multiple source areas by using a commercial partner; and began operation of Treatment Facility E-West mini Portable Treatment Unit Treatment Facility

5475 Catalytic Dehalogenation Unit (Phase 3) for operation at the Lawrence Livermore National Laboratory, Livermore Site (FY 2001).

- Continued operation and maintenance of ten groundwater and three soil vapor extraction treatment systems; prepared and submitted site-wide Final Interim Record of Decision to regulators; completed characterization field work for Building 854; and prepared for Building 834 Draft Remedial Design report and site-wide Draft Final Design Work Plan at the Lawrence Livermore National Laboratory Site 300 (FY 2001).
- Continued storage, treatment, and some off-site disposal of low-level, mixed low-level, and transuranic waste at the Lawrence Livermore National Laboratory (FY 2001).
- Began pilot scale processing of DOE mixed low-level waste at a commercial facility (FY 2001).
- Prepared Community Relation Plan and the Resource Conservation and Recovery Act Facility Investigation Work Plan for the Separation Process Research Unit (FY 2001).
- Conducted reporting, tracking, and waste minimization program activities required by the Resource Conservation and Recovery Act at the Department of Energy sites that generate, treat, or store hazardous/mixed wastes (FY 2001).
- Continue operation and maintenance of essential groundwater treatment systems to contain plume and control off-site migration at the Western Site boundary and if possible, southern boundary of the Lawrence Livermore National Laboratory, Livermore Site (FY 2002).
- Continue operation and maintenance of groundwater and soil vapor extraction treatment systems necessary to control off-site plume migration, prepare and submit several Federal Facility Agreement milestone documents to regulators, and prepare a final Five-Year Review report on the effectiveness of the selected remedial alternative at the General Services Area Operable Unit 1 (FY 2002).
- Continue storage, treatment, and off-site disposal of low-level, mixed low-level, and transuranic waste at the Lawrence Livermore National Laboratory (FY 2002).
- Complete Operational Readiness Review and transition into the Decontamination and Waste Treatment Facility at the Lawrence Livermore National Laboratory (FY 2002).
- Continue to process integrated cost-saving support and waste treatment and disposal contracts and pay for state grants (FY 2002).
- Complete upgrades to increase treatment capacity of the Molten Salt Oxidation system (FY 2002).

Funding Schedule

(dollars in thousands)

	FY 2001	FY 2002	FY 2003
OK-001 / Lawrence Livermore National Laboratory Main Site Remediation	10,649	10,195	7,535
OK-002 / Lawrence Livermore National Laboratory Site 300 Remedial Action	10,833	9,345	7,250
OK-021 / Lawrence Livermore National Laboratory Base Program	21,162	20,313	14,806
OK-026 / Lawrence Livermore National Laboratory General Plant Projects	0	331	222
OK-040-D / Program Management and State Grants (Defense)	1,616	400	200
OK-041 / Accelerated Waste Treatment and Environmental Technologies	114	819	0
OK-043 / Separations Process Research Unit	3,123	1,000	739
Total, Oakland	47,497	42,403	30,752

Funding by Site

(dollars in thousands)

	FY 2001	FY 2002	FY 2003	$ Change	% Change
Lawrence Livermore National Laboratory (CA)	42,644	40,184	29,813	-10,371	-25.8%
Oakland Operations Office	1,730	1,219	200	-1,019	-83.6%
Separations Process Research Unit	3,123	1,000	739	-261	-26.1%
Total, Oakland	47,497	42,403	30,752	-11,651	-27.5%

Metrics Summary

	FY 2001	FY 2002	FY 2003
Release Site			
Cleanup	17	3	3
Mixed Low-Level Waste			
Treatment (m^3)	75	80	43
Disposal (m^3)	85	25	21
Transuranic Waste			
Shipped to WIPP (m^3)	0	0	126

Site Description

Lawrence Livermore National Laboratory

The Lawrence Livermore National Laboratory is a multi-disciplinary research and development laboratory focused on national defense, which has two geographic locations in northern California. The Livermore Site is approximately one square mile and is located 40 miles east of San Francisco, near the City of Livermore. Site 300 is comprised of about 11 square miles and is located 15 miles southeast of the Livermore Site. Both the Livermore Site and Site 300 are on the Environmental Protection Agency's National Priorities List. Environmental Restoration activities at the Lawrence Livermore National Laboratory are focused on identifying contaminated groundwater and soil from past operations and implementing appropriate cleanup actions. The environmental restoration activities at the Lawrence Livermore National Laboratory are divided into nine Operable Units, one at the Livermore Site, eight at Site 300, with a total of 193 release sites. Waste management activities are directed at compliant storage, treatment, and off-site shipment for disposal of both legacy and currently generated hazardous and radioactive waste. Completion of the Decontamination and Waste Treatment Facility construction in FY 2001 will provide new, centralized, and integrated facilities for the treatment of all Lawrence Livermore National Laboratory waste.

Oakland Operations Office

Based on an Oakland Operations Office and State of California developed statement of work, the Oakland Operations Office awards and manages grants provided to the State for oversight activities which include, participation in scoping meetings, review of documents, and involvement with the public. The Oakland Operations Office also provides funds and grants to support various activities, such as tribal colleges and universities, independent reviews, and Hispanic scholarships. In addition, the operations office is responsible for the management and funding of contracts that provide the multiple-sites with overall: program management support; waste management treatment and disposal; and technological support to accelerate program mission and completion.

Separations Process Research Unit

The Separations Process Research Unit located in Schenectady, New York is an inactive complex that requires facility decontamination and decommissioning and cleanup. To date, no decontamination and decommissioning has been performed and the facilities have been placed in safe shutdown with the Office of Naval Reactor Program maintaining landlord responsibilities. Environmental Management signed a contract in FY 2000 to begin characterization activities.

Detail Program Justification

(dollars in thousands)

FY 2001	FY 2002	FY 2003

The Lawrence Livermore National Laboratory Livermore Site and Site 300 are managed through a performance based management and operating contract with the University of California to assure the most cost-effective services to the government. These activities have had an independent cost review of the scope by the Corps of Engineers.

OK-001 / Lawrence Livermore National Laboratory Main Site Remediation 10,649 10,195 7,535

The mission of this project is to identify existing contamination from past operations, control contaminated groundwater migration, and effectively remediate soil and groundwater where contaminants exceed regulatory limits at the Livermore Site. This project consists of one operable unit and 120 release sites.

- # Maintain control of the off-site plumes and some of the on-site plumes by operating Treatment Facilities at four locations along the site boundary.
- # Minimal support of essential activities related to the site groundwater monitoring/well maintenance such as: sampling monitoring wells; laboratory sample analysis; and data tracking and reporting.
- # Maintain operation of required groundwater and soil vapor extraction treatment facilities, including electro osmosis and catalytic reductive dehalogenation units.
- # Supports partial control of off-site plumes at the southern site boundary and contaminant removal in high concentration source areas on-site.
- # Supports control of some of the on-site plumes.

Metrics			
Release Sites			
Cleanup	15	0	0

OK-002 / Lawrence Livermore National Laboratory Site 300 Remedial Action 10,833 9,345 7,250

The Site 300 Remedial Action project will identify existing contamination from past operations, control contaminated ground water migration, and effectively remediate soil and ground water where contaminants exceed regulatory limits to protect human health, the environment, and beneficial uses of natural resources by conducting cost-effective, science-based, state-of-the-art environmental restoration. This project consists of eight operable units and seventy-three release sites.

- # Continue to operate treatment facilities along southern site boundary to focus on preventing off-site lateral plume migration.
- # Continue operation of soil vapor extraction units to remove contamination from vadose zone.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

- Support of essential activities related to the site groundwater monitoring/well maintenance such as: sampling monitoring wells; laboratory sampling analysis; and data trucking and reporting.
- Continued operation of all existing ground water treatment and soil vapor extraction units in specified operable units to control plumes and remove source area contamination.

Metrics			
Release Sites			
Cleanup	2	3	3
Key Milestones			
# Site Wide (Operable Unit 8) Draft Final Remedial Design Work Plan (September 2001).			
# Draft Pit 7 complex remedial investigation/feasibility study (March 2003).			
# Building 830 Source Treatment Facility (September 2003).			
# Building 815 Proximal Treatment Facility (September 2003).			

OK-021 / Lawrence Livermore National Laboratory Base

Program 21,162 20,313 14,806

This project formulates a centralized waste management program at Lawrence Livermore National Laboratory to ensure waste handling practices from the generating source through final disposition are consistent with safe and compliant operations at the treatment, storage and disposal facilities. Waste types managed under this project include low-level waste, mixed low-level waste, transuranic waste, mixed transuranic waste and hazardous waste, and includes treatment and disposal at the Department of Energy commercial facilities.

- Ensure safe and compliant operations to receive, store, treat, and dispose of Lawrence Livermore National Laboratory generated wastes.
- Optimize operations at the Decontamination and Waste Treatment Facility under approved Safety Basis.
- Begin coordination and shipment of transuranic waste shipments to the Waste Isolation Pilot Plant.
- Begin shutdown of operations at Area 514 Facility.

Metrics			
Mixed Low-Level Waste			
Treatment (m^3)	75	80	43
Disposal (m^3)	85	25	21
Transuranic Waste			
Shipped to WIPP (m^3)	0	0	126

(dollars in thousands)

FY 2001	FY 2002	FY 2003

OK-026 / Lawrence Livermore National Laboratory General Plant Projects 0 331 222

General Plant Projects supports waste management operations to provide small capital improvements to property, purchase new/improved technology equipment, perform coded compliance updates, and/or upgrade existing buildings and utilities to meet current or new regulations and requirements.

Install Safety Basis (10CFR830) required sprinkler system for the Hazardous Waste Management Building 513.

OK-040-D / Program Management and State Grants (Defense) 1,616 400 200

The purpose of the project is to provide funding to support grants for State regulatory agencies who have oversight of the Resource Conservation and Recovery Act and Comprehensive Environmental Response, Compensation, and Liability Act programs for DOE. A Memorandum of Agreement between the Department and Indian Nations allows for grants to support tribal universities and colleges. This project also supports the Oakland program management and integrated waste treatment and disposal contracts.

Award funds to the Department of Toxic Substance Control and to the San Francisco Regional Water Quality Control Board for the Lawrence Livermore National Laboratory Main Site.

Award funds to the Central Valley Regional Water Quality Control Board for the Lawrence Livermore National Laboratory Site 300 grant.

OK-041 / Accelerated Waste Treatment and Environmental Technologies 114 819 0

Activities performed under this project are to implement advanced technologies for both waste treatment and environmental restoration. Currently, the major activity involves the Lawrence Livermore National Laboratory developed Molten Salt Oxidation Technology being commercialized by a waste treatment firm to treat DOE mixed low-level waste. Previously funded technologies as well as new technologies are always being evaluated for their potential and possible application and funding under this project.

No activities planned in FY 2003.

OK-043 / Separations Process Research Unit 3,123 1,000 739

(dollars in thousands)

FY 2001	FY 2002	FY 2003

This project funds activities to characterize and if necessary remove radiological and chemical contamination from the Separations Process Research Unit portion of the Knolls Atomic Power Laboratory leading to regulatory release of the Separations Process Research Unit site to the Office of Naval Reactors Program for future use.

Submit a Resource Conservation and Recovery Act Facility Investigation Work Plan and Schedule to the Regulators for Approval.

Key Milestones	
#	Prepare and issue the draft Health and Safety Document for Phase 1 (December 2000).
#	Issue draft Separations Process Research Unit project phase I baseline document to DOE for review and comment (February 2001).
#	Issue draft Outside Area Characterization Plan to DOE for review and comment (March 2001).
#	Issue draft Inside Area Characterization Plan to DOE for review and comment (March 2001).
#	Submit draft Resource Conservation and Recovery Act Facility Assessment Sampling Visit Report to DOE/Knolls Atomic Power Laboratory within 60 days of data validation (May 2001).

Total, Oakland	**47,497**	**42,403**	**30,752**

Explanation of Funding Changes

	FY 2003 vs. FY 2002 ($000)
OK-001 / Lawrence Livermore National Laboratory Main Site Remediation	
# In FY 2003, the administration proposes to reduce this activity to permit EM to accelerate risk reduction elsewhere.	-2,660
OK-002 / Lawrence Livermore National Laboratory Site 300 Remedial Action	
# In FY 2003, the administration proposes to reduce this activity to permit EM to accelerate risk reduction elsewhere.	-2,095
OK-021 / Lawrence Livermore National Laboratory Base Program	
# In FY 2003, the administration proposes to reduce this activity to permit EM to accelerate risk reduction elsewhere.	-5,507
OK-026 / Lawrence Livermore National Laboratory General Plant Projects	

	FY 2003 vs. FY 2002 ($000)
# Decrease funding will delay the installation of a sprinkler system.	-109
OK-040-D / Program Management and State Grants (Defense)	
# Decrease reflects the Oakland Contractor Support effort being reduced.	-200
OK-041 / Accelerated Waste Treatment and Environmental Technologies	
# Decrease in funding reflects no activities planned in FY 2003.	-819
OK-043 / SPRU	
# Decrease in funding will eliminate the planned radiological baseline surveys inside buildings G2 and H2.	-261
Total Funding Change, Oakland	-11,651

Hanford Site - Richland Operations Office

Mission Supporting Goals and Objectives

Program Mission

The mission of the Defense Environmental Restoration and Waste Management, Post 2006 Completion account, is the treatment, storage, and disposal of the legacy wastes and materials, and the decontamination and decommissioning of facilities associated with the production of nuclear materials during the Cold War. This program will carry out its mission in a manner which provides for the health and safety of its workers and the general public, is cost effective, and is protective of the environment.

The Department of Energy, Richland Operations Office has formulated an expansive outcome based vision of the Hanford's Site's future that embraces priorities of regulators, stakeholders, and area Tribal Nations, while recognizing the need to make visible progress sooner, rather than later. The three elements of that vision are: 1) to restore the Columbia River corridor; 2) complete the transition of the 200 Area on the Central Plateau to long-term waste management; and 3) prepare the remainder of the site to contribute to the future welfare and well-being of its neighboring communities.

This focus on outcomes required changing the contracting strategy and restructuring of work to more effectively align Richland and its contractors to an outcome driven approach for planning and implementing cleanup work. These changes became effective beginning in FY 2002.

Successful cleanup of the River Corridor will allow more than 500 square kilometers (200 square miles) of Hanford land to be made available for other uses; provide opportunities for public access to key recreational areas; protect cultural resources; and shrink the footprint for active Hanford cleanup operations to approximately 200 square kilometers (75 square miles).

The Department is also transitioning the Central Plateau from primarily inactive storage to active waste treatment, storage, and disposal operations. New, state-of-the-art, environmentally compliant facilities will be used to support completion of the Hanford cleanup, as well as foster the DOE Office of River Protection tank waste mission. Some of these Central Plateau facilities, including the Canister Storage Building and Waste Receiving and Processing Facility, have already begun operation.

The Department of Energy is in the process of competing a follow-on contract for the River Corridor. The Department is pursuing an aggressive approach whereby a significant amount of cleanup could be completed by 2012. The Richland strategy for restoring the Columbia River Corridor is to expedite the work associated with remediating sources of radiological and chemical contamination. The "end point" might be as follows:

- Completion of environmental restoration cleanup activity for 75 kilometers (45 miles) of riverfront and 550 square kilometers (215 square miles) of land;
- Place eight production reactors in interim safe storage (except N Reactor);
- Maintain option for converting B Reactor into a museum;

- Place all 323 surplus facilities in the River Corridor Decontamination and Decommissioning Program; and
- Remediate all 551 accessible waste sites (excludes 618-10 and 618-11 burial grounds).

Program Goal

The program goal is to protect the public and the environment from radioactive and hazardous contamination. This program addresses the risks associated with the Richland strategic mission outcomes: 1) cleanup of soil contamination along the Columbia River for safe disposal in the central area of the site; 2) decontamination and decommissioning of surface facilities; and 3) monitoring, mitigation, and remediation of chemical and radioactive contaminants that have migrated into the vadose zone and groundwater beneath the site. The efforts described above are governed by the Hanford Federal Facility Agreement and Consent Order, commonly referred to as the Tri-Party Agreement, which was negotiated among the Department of Energy, State of Washington, and the Environmental Protection Agency.

The contaminated soil and buildings will be cleaned up to levels reflective of anticipated use and/or to cleanup specifications as prescribed by the Comprehensive Environmental Response, Compensation, and Liability Act/Resource Conservation and Recovery Act decisions. Remediation waste will be disposed of in the on-site Environmental Restoration Disposal Facility. Hanford currently has over 1,500 release sites awaiting remediation and over 770 buildings and facilities awaiting decommissioning. Remediation actions will protect the Columbia River and near shore environment, reduce contamination entering the groundwater, and control the migration of plumes that threaten groundwater quality.

Program Objectives

The near-term program objective is to continue decontamination and decommissioning of surplus facilities, including interim safe storage and final disposition of the 100 Area reactors, consistent with the river corridor outcome. Contaminated material will continue to be excavated in the 100 and 300 Areas and disposed in the Environmental Restoration Disposal Facility. The program implemented the science and technology roadmap for the Groundwater/Vadose Zone Integration Project to support site assessment and remediation, and system assessment capability development.

Significant Accomplishments and Program Shifts

- Completed removal of nine Plutonium contaminated hood vessels at 233-S Facility; completed first transuranic waste shipment from the Environmental Restoration contractor to the Central Waste Complex; and completed Canyon Disposal Initiative feasibility studies (FY 2001/RL-CP01).
- Complete removal of seven remaining process hood vessels; complete hood decontamination and decommissioning; and ship to approved location in accordance with the waste acceptance criteria (FY 2002/RL-CP01).

- Initiated Interim Safe Storage at the D- and H-Reactors; completed backfill on 24 waste sites; completed excavation of 17 waste sites and continued excavation on four other waste sites; operated 100-HR-3, 100-KR-4, and 100-NR-2 groundwater pump and treat systems; completed fuel storage basin demolition at the F-Reactor; complete Phase II In Situ Redox Manipulation Project barrier injections; and completed DR-Reactor Interim Safe Storage (FY 2001/RL-RC01).
- Conduct as-built seismic evaluations for all reactors; complete demolition of three areas associated with the D-Reactor; complete debris removal and the weather tight enclosure including roof installation around the DR-Reactor; complete hazardous material removal from the H-Reactor as part of the Interim Safe Storage; complete stage one demolition and asbestos removal; and complete backfill on three waste sites, complete excavation of 11 waste sites and continue excavations on two other waste sites (FY 2002/RL-RC01).
- Received regulator approval of 300-FF-2 Record of Decision; initiated uranium leachability study; and completed sampling and analysis and shipped 57 drums of uranium oxide from the 618-4 burial ground (FY 2001/RL-RC02).
- Award contract for remediation of burial grounds 618-4 and 618-5 (FY 2002/RL-RC02).
- The Environmental Restoration Disposal Facility received over 553,000 metric tons (610,000 tons) of contaminated soil and debris for disposal. Began disposal activities in the Environmental Restoration Disposal Facility Cell #3 in June 2001. The 300 Area Treated Effluent Disposal Facility processed approximately 58,000,000 gallons of industrial wastewater. Logged over 8.7 million kilometers (5.5 million miles) transporting contaminated waste to the Environmental Restoration Disposal Facility without a lost day injury (FY 2001/RL-RC05).
- Will receive 437,000 metric tons (482,000 tons) of contaminated soil and debris for disposal at the Environmental Restoration Disposal Facility and will process up to 58,000,000 gallons of industrial wastewater at the 300 Area Treated Effluent Disposal Facility (FY 2002/RL-RC05).
- Drafted resource management plans for implementing the Final Hanford Comprehensive Land Use Plan Environmental Impact Statement Record of Decision. Conducted feasibility studies for transferring 40 percent of the Hanford Site to the Department of Interior, and the operating commercial power generating site to the Bonneville Power Administration, in accordance with recommendations of the Office of Inspector General (FY 2001/RL-SC01).
- Completed the closeout of the Westinghouse Hanford contract; and provided mandated support to communities and public activities, including payments to state and local governments, support to downwinder litigation, medical records, emergency preparedness activities, and liquid and air effluent monitoring (FY 2001/RL-SS01).
- Managed and integrated groundwater well installation, maintenance, refurbishment and abandonment; completed installation of 21 new monitoring wells in calendar year 2001 (M-24 Tri-Party Agreement milestone); and completed decommissioning of 90 wells, as required, in calendar year 2001 (FY 2001/FY 2002/RL-SS03).

Initiated biological fate and transport experiments to determine impacts of technetium-99 and completed three expert panel reviews focusing on the Columbia River issues, integration project status/transition strategies; and the System Assessment Capability initial assessment rollout (FY 2001/RL-SS04).

Funding Schedule

(dollars in thousands)

	FY 2001	FY 2002	FY 2003
RL-CP01 / 200 Area Remediation	29,620	36,708	32,972
RL-RC01 / 100 Area Cleanup	52,403	68,790	50,844
RL-RC02 / 300 Area Cleanup	6,679	10,261	7,935
RL-RC04 / Central Core Area Cleanup	4,781	0	0
RL-RC05 / River Corridor Waste Management	26,277	26,828	19,829
RL-RS01 / South Hanford Industrial Area Cleanup	4,565	492	894
RL-SC01 / Near Term Stewardship	7,618	7,110	6,962
RL-SS01 / Site Integration	57,456	77,042	54,826
RL-SS03 / Groundwater Management and Monitoring	21,861	14,500	14,501
RL-SS04 / Groundwater/Vadose Zone Integration	9,537	9,424	9,424
RL-SS05 / HAMMER	5,614	5,183	0
Total, Richland Operations Office	226,411	256,338	198,187

Funding by Site

(dollars in thousands)

	FY2001	FY2002	FY 2003	$ Change	% Change
Hanford Site	226,411	256,338	198,187	-58,151	-22.7%
Total, Richland Operations Office	226,411	256,338	198,187	-58,151	-22.7%

Metrics Summary

	FY 2001	FY 2002	FY 2003
Release Site			
Cleanup	16	12	3
Facilities Deactivation			
During Period	19	3	1
Facilities Decommissioning			
Cleanup	9	0	0

Site Description

Richland Operations Office -- Hanford Site

The United States Department of Energy's Richland Operations Office manages the Department's Hanford Site, except for the High-Level Waste Tank Farms, in Southeastern Washington State. The 1,465 square kilometer (560 square mile) site is bounded on the north by over 80 kilometers (50 miles) of the Columbia River, and to the south by Rattlesnake Ridge. The flat plateau containing the Hanford Site is the only section of the mid-Columbia River that is not confined by gorges, and is known as the Hanford Reach. The Department leases some of Hanford's land to the State of Washington, which in turn leases it to US Ecology and Energy Northwest (formally Washington Public Power Supply System).

Hanford was established in secrecy during World War II to produce plutonium for the nation’s nuclear weapons. Peak production years were reached in the 1960's when nine production reactors were in operation along the river. The last to be decommissioned was the N-Reactor and its fuel in the K-Basins is now being relocated to higher ground in the central plateau, known as the 200 Area. The Plutonium Finishing Plant is one of the last production facilities that remains operational -- but only to process remaining plutonium materials; research and development activities by Pacific Northwest National Laboratories in the 300 Area; and support facilities in the 1100 Area, most of which have been turned over to the local community.

The Hanford mission is now site cleanup and environmental restoration to protect the Columbia River. The cleanup is covered by commitments initially in a 1989 consent agreement among the Department of Energy, the Environmental Protection Agency, and the Washington State Department of Ecology. This Tri-Party Agreement contains enforceable milestones to bring Hanford into compliance with the Comprehensive Environmental Response, Compensation, and Liability Act and the Resource Conservation and Recovery Act. The Hanford budget is directed at compliance with these milestones as well as providing for essential services and coverage of all minimum safety requirements. Additionally, the Defense Nuclear Facilities Safety Board takes great interest in safety at Hanford and has issued recommendations, which are the basis for the Defense Nuclear Facilities Safety Board commitments that are also high priority budget items.

Detail Program Justification

(dollars in thousands)

FY 2001	FY 2002	FY 2003

To support the site's missions, EM negotiated an extension of the current site operations contract through FY 2006 for transition work in the Central Plateau and the Spent Nuclear Fuel Project. The contract extension is performance based with 80 percent of the fee applied to the completion of specific cleanup activities and 20 percent of the fee applied to a comprehensive performance incentive. During the six-year performance period, the contractor is paid more fee for meeting multi-year performance objectives. Incremental progress and provisional fee payments will be provided to the contractor toward final completion of contract goals. A significant portion of the available fee is for stretch performance incentives, which requires the contractor to accelerate work by achieving cost and schedule efficiencies. For the restoration of the River Corridor, a closure contract is planned with attributes similar to the Rocky Flats and Fernald contracts.

RL-CP01 / 200 Area Remediation 29,620 36,708 32,972

This project's mission is to accomplish remediation, groundwater management, surveillance and maintenance, facility deactivation, decontamination and decommissioning activities in the Hanford Central Plateau. In the 200 Area there are over 750 remaining waste sites located and adjacent to the 200 West Areas. The waste sites are primarily a result of spent fuel reprocessing activities. The soil and underlying groundwater are contaminated due to the disposal of liquid wastes in cribs, trenches, and ponds. Additionally, some of the high-level waste tanks located in the 200 Areas have leaked. Contaminated solid wastes have also been disposed of in numerous burial grounds in the 200 Areas.

- Complete 233-S Facility decontamination and decommissioning and initiate site completion/restoration activities.
- Operate soil and groundwater remediation systems.
- Complete regulatory required FY 2003 Comprehensive Environmental Response, Cleanup, Liability Act work plans and a reduced level of field characterization, risk assessment, and alternative analyses to reduce schedule and costs.
- Perform surveillance and maintenance of excess contaminated facilities in the 200 Area.
- Complete Record of Decision process.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

Metrics			
Facilities Deactivation			
During Period	19	0	1
Facilities Decommission			
Cleanups	9	0	0

Key Milestones

- # Submit Plutonium/organic-Rich Process Waste Group Work Plan (June 2001).
- # Submit three 200 Area National Priorities List Remedial Investigation/Feasibility Study (Resource Conservation and Recovery Act Facility Investigation/Corrective Measures Study) work plans (December 2001).
- # Submit Draft A Gable Mountain Pond/B Pond and Ditch Cooling Water Group Feasibility Study (March 2003).

RL-RC01 / 100 Area Cleanup 52,403 68,790 50,844

The 100 Area Cleanup Project mission includes remediation of over 550 past practice waste sites and decontamination and decommissioning of facilities associated with six reactor areas (including nine reactors) located along the Columbia River in the northern portion of the Hanford Site. The project continues remediation of contaminated groundwater adjacent to the Columbia River. The project remediates waste sites in accordance with Records of Decision, decontamination and decommissioning of ancillary facilities, placement of reactor blocks in interim safe storage, and the conduct of ongoing surveillance and maintenance activities through completion of remedial actions.

- # Complete excavation of four waste sites; complete backfill of waste sites; and continue excavation of B/C Pipelines.
- # Continue work on 100-NR-1 operable unit source sites remedial actions.
- # Continue D and F Reactor Interim Safe Storage projects.
- # Continue to operate pump and treatment systems in the 100-HR-3, 100-KR-4, and 100-NR-2 Areas.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

Metrics			
Release Site			
Cleanup	14	12	3
Key Milestones			
# Complete 100-HR-3 Phase II In-Situ Redox Manipulation Barrier Emplacement (December 2001).			
# Establish date for completion of all 100 Area remedial actions (December 2001).			
# Complete 100-HR-3 Phase III In-Situ Redox Manipulation Barrier Emplacement (December 2002).			

RL-RC02 / 300 Area Cleanup 6,679 10,261 7,935

The 300 Area Cleanup Project mission includes the remediation of over 100 waste sites in and adjacent to the 300 Area and the decontamination and decommissioning of excess facilities located within the 300 Area. The 300 Area is located immediately north of the City of Richland and adjacent to the Columbia River. The project also includes surveillance and maintenance of 300 Area facilities after completion of deactivation and decontamination and decommissioning of Landlord Facilities.

Continue surveillance and maintenance program to assure minimum safe conditions for deactivated 300 Area facilities including the 340 Waste Handling Facility.

Completion of 618-4 burial grounds including uranium/oil filled drum removal treatment and disposal.

Metrics			
Release Site			
Cleanup	2	0	0
Key Milestones			
# Complete Bowling Ball Cask Waste removal (September 2001).			
# Establish date for completion of the 300 Area remedial actions (June 2002).			

RL-RC04 / Central Core Area Cleanup 4,781 0 0

(dollars in thousands)

FY 2001	FY 2002	FY 2003

The Central Core Cleanup project consists of remedial actions at waste sites located in the Columbia River Corridor's central sub-segment. This project covers that portion of the Hanford site (excluding the 100 and 200 Areas and associated buffer zone) lying north of the Energy Northwest Site and the Laser Interferometer Gravitational Wave Observatory, also referred to as the 600 Area. The area is outside primary facilities used at Hanford for waste operations and disposal. Workscope covers the source remedial action in this area and will be grouped into geographic zones based on the operable unit designations for these areas and the characteristics of the waste sites and remedial actions proposed.

No activity planned in FY 2003.

RL-RC05 / River Corridor Waste Management 26,277 26,828 19,829

This project's primary mission is to provide for the long-term Comprehensive Environmental Response, Compensation and Liability Act waste disposal needs. The Hanford Site's Environmental Restoration Disposal Facility operation/transportation activities support the Comprehensive Environmental Response, Compensation, and Liability Act remedial action from the 100, 200, and 300 Areas (soils excavation) and the decontamination and decommissioning (debris) activities. In addition, the project includes operating a liquid effluent disposal facility, as well as maintenance of the 340 Waste Handling Facility (300 Area Treated Effluent Disposal Facility) until deactivation is achieved.

Receive contaminated soil and debris for disposal at the Environmental Restoration Disposal Facility.

Support transportation and disposal of contaminated soil and debris from the 100 Area (river corridor) and 300 Area remedial action waste sites.

Process industrial wastewater at the 300 Area Treated Effluent Disposal Facility.

Continue surveillance and maintenance of the 300 Area Treated Effluent Disposal Facility.

RL-RS01 / South Hanford Industrial Area Cleanup 4,565 492 894

The project includes the surveillance, maintenance, deactivation, and decommissioning of facilities located in the Columbia River corridor's southern sub-segment (excluding the river corridor and the 300 Area) lying south of the Central Plateau, and adjacent to the 300 Area, and includes the 400 Area, the Energy Northwest Site, and Laser Interferometer Gravitational Wave Observatory; and specifically including the remediation of the 618-10 and 618-11 Burial Grounds starting in FY 2013. The project also covers surveillance and maintenance of facilities pending final disposition. The deactivation and decontamination and decommissioning of the remaining facilities in the 300 Area after completion of the 300 Area Clean up (PBSs RL-RC02 and RL-RC06) is also covered within this PBS.

Continue safety surveillance and maintenance.

Continue radiation area remedial actions.

Initiate remedial action investigations for two high hazard burial grounds (618-10/11).

(dollars in thousands)

FY 2001	FY 2002	FY 2003

Metrics			
Facility Deactivation			
During Period	0	3	0

RL-SC01 / Near Term Stewardship 7,618 7,110 6,962

Resource Conservation/Utilization includes the earlier aspects of long-term stewardship activities prior to complete site closure. This includes activities necessary to plan, preserve and protect human, ecological, natural, and cultural resources during the current period out through FY 2046, and activities that establish the foundation for long-term (post-closure) residual risk management. These activities include the application of necessary institutional and engineered controls, as well as providing localized weather information for routine safety operations and emergency response, performing sitewide and off-site environmental monitoring, and determining radiological exposures to the public and environment and publishing the results in the Hanford Site Annual Environmental Report.

- # Prepare the National Environmental Policy Act documentation for supporting the project mission.
- # Finalize Hanford Institutional Controls Manual related to the Comprehensive Environmental Response, Cleanup, Liability Act.
- # Provide weather forecasts for emergency preparedness.
- # Perform radiological review, analyze results, identify steps required to transfer properties to the Department of Interior.

Key Milestones	
#	Complete FY 2001 Hanford Cultural Resources Laboratory annual report (December 2001).
#	Conduct Bi-Annual Baseline Surveys for Ecological Compliance (June 2002).
#	Provide CY 2001 Annual Site Environmental Report to Richland/Public (September 2002).

RL-SS01 / Site Integration 57,456 77,042 54,826

This PBS includes the Richland site-wide requirements such as: site planning and integration, environmental compliance, site systems engineering, Richland Directed, information resource management, contractor training administration, the Pacific Northwest National Laboratory Waste Management, and Hanford Environmental Health Foundation activities.

- # Perform site integrated budgeting and performance analysis; strategic planning and reporting; Environmental Compliance cross cutting services; System Engineering of technical requirement for integrating workscope; Information Resource Management; and Training Administration.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

- Richland directed support covers fee and permit payments to state and local governments, ongoing litigation, Payments in Lieu of Taxes to Benton, Franklin and Grant counties and support to the environmental restoration project. Pacific Northwest National Laboratory Waste Management provides minimum safety facility surveillance and maintenance, hazardous waste management infrastructure and management of liquid and air effluents.
- Hanford Environmental Health Foundation provide medical records, job task analysis and emergency preparedness activities.
- Pacific Northwest National Laboratory Radioactive Waste Disposition - Maintain infrastructure capability that manages the consolidation, packaging, and transportation of both currently generated and legacy DOE radiological wastes at the Laboratory for treatment and disposal.

Key Milestones

- Complete Pacific Northwest National Laboratory Phase II Special Case Waste Disposition (September 2002).

RL-SS03 / Groundwater Management and Monitoring 21,861 14,500 14,501

This project provides for the groundwater management and monitoring activities that occur irrespective of the geographic location (includes all 560 square miles). This will also include groundwater post closure surveillance and maintenance activities required prior to site closure. The Columbia River crosses the northern portion of the Hanford Site and essentially forms the eastern boundary. Groundwater under the Hanford Site has been contaminated through discharge of waste liquids to cribs, ditches, trenches, and ponds. Currently approximately 220 square kilometers of groundwater exceed drinking water standards and portions of this contaminated groundwater have reached the Columbia River.

- Install the Resource Conservation and Recovery Act monitoring wells, as required.
- Perform groundwater, seismic and vadose zone monitoring, well maintenance, database management and groundwater sampling and analysis for the Resource Conservation and Recovery Act and the Comprehensive Environmental Response, Cleanup, Liability Act requirements.

Key Milestones

- Issue Hanford Site Groundwater monitoring results for FY 2000 (February 2001).
- Install four additional wells at the Single-Shell Tanks Waste Management Area S-SX (April 2001).
- Install one additional well at the Single-Shell Tank Waste Management Area TX-TY (April 2001).
- Install Resource Conservation and Recovery Act groundwater monitoring wells at rate up to 50 wells in CY 2001 (December 2001).

(dollars in thousands)

FY 2001	FY 2002	FY 2003

RL-SS04 / Groundwater/Vadose Zone Integration 9,537 9,424 9,424

The project mission is to integrate ongoing groundwater treatment projects and ongoing studies on the vadose zone across the Hanford Site, determine the cumulative impacts of all Hanford Site wastes on the region and its people, apply sound science and technology, and partner with regulators, stakeholders, and Tribal Nations.

Continue site-wide integration of vadose zone characterization, assessments, modeling and monitoring to support interim and final remediation and closure decisions for the Central Plateau.

Continue development of the capability to assess the cumulative impacts of Hanford derived contaminants at the buffer zone boundary for the Central Plateau and at the Columbia River boundary.

Continue public meetings and expert panel reviews.

RL-SS05 / HAMMER 5,614 5,183 0

The Hazardous Materials Management and Emergency Response (HAMMER) Training and Education Center's main site is a one-of-a-kind, 120-acre, worker safety training facility featuring the most extensive number of training props currently available at one location. HAMMER is a national hands-on training and education center designed to prepare workers and emergency responders to safely perform tasks, especially those that are high-risk and use new technology. HAMMER and its partners host, broker and provide regulatory-required health and safety training involving the hands-on use of realistic props and settings in order to save lives, reduce injuries and increase worker productivity.

No direct funding provided for training activities in FY 2003.

Total, Hanford Site - Richland 226,411 256,338 198,187

Explanation of Funding Changes

	FY 2003 vs. FY 2002 ($000)
RL-CP01 / 200 Area Remediation	
# In FY 2003, the administration proposes to reduce this project to permit EM to accelerate risk reduction elsewhere.	-3,736
RL-RC01 / 100 Area Cleanup	
# Decrease reflects completion of two reactor stabilizations	-17,946

	FY 2003 vs. FY 2002 ($000)
RL-RC02 / 300 Area Closure	
# Decrease reflects completion of drum-waste excavation at the 618-4 burial ground	-2,326
RL-RC05 / River Corridor Waste Management	
# In FY 2003, the administration proposes to reduce this project to permit EM to accelerate risk reduction elsewhere.	-6,999
RL-RS01 / South Hanford Industrial Area Cleanup	
# Increase initiates 618-11 plume studies.	402
RL-SC01 / Near Term Stewardship	
# No significant change.	-148
RL-SS01 / Site Integration	
# In FY 2003, the administration proposes to reduce this project to permit EM to accelerate risk reduction elsewhere.	-22,216
RL-SS03 / Groundwater Management and Monitoring	
# No significant change.	1
RL-SS05 / HAMMER	
# In FY 2003, the administration proposes to reduce this project to permit EM to accelerate risk reduction elsewhere.	-5,183
Total Funding Change, Hanford Site - Richland	-58,151

Savannah River

Mission Supporting Goals and Objectives

Program Mission

The Defense Environmental Restoration and Waste Management, Post 2006 Completion account, Savannah River cleanup program has as its mission the treatment and disposal of wastes and the stabilization and preparation for disposal of legacy materials that resulted from the production of nuclear materials during the Cold War. This legacy includes contaminated facilities and land areas, many of which still contain nuclear materials and wastes. The Savannah River Site, located near Aiken, South Carolina, covers over 300 square miles and includes five inactive nuclear reactors, two chemical separations facilities, fuel and target fabrication facilities, tritium processing facilities, a heavy water facility, two high-level waste tank farms, low-level waste storage and disposal facilities, a high-level waste treatment facility, the Savannah River Technology Center, and numerous administrative and technical support facilities. Additionally these facilities have varying degrees of environmental contamination (soil and groundwater); the majority of which will require some remedial action to address environmental and health risks.

The Savannah River Cleanup Program is composed of the following major elements: spent nuclear fuel management, nuclear materials stabilization and storage, waste management (high-level, transuranic, hazardous, mixed low-level, and other), deactivation, remediation, and supporting landlord requirements. This account funds 48 projects whose life-cycle will be completed after FY 2006.

Program Goal

The Savannah River Site is committed to managing the spent nuclear fuel, stabilizing and storing nuclear materials, and managing all types of wastes using currently available (or near-term) technology and facilities. Eventually, the nuclear materials will be dispositioned and the remaining spent nuclear fuel and wastes will be sent to disposal repositories. To the extent possible (to be determined through technical analyses, National Environmental Policy Act review, and the regulatory process) Savannah River Site is assisting other sites in elimination of their Cold War "legacy" materials. Foreign Research Reactor spent nuclear fuel and Domestic Research Reactor spent nuclear fuel receipts will continue at the Savannah River Site. On-site spent nuclear fuel will be stored in existing water-filled basins, pending stabilization, if determined necessary, or treated for disposition via development and construction of a Spent Nuclear Fuel Treatment and Storage Facility to prepare spent nuclear fuel for shipment to a geologic repository. Approximately nineteen hundred canisters of high-level waste, representing 33 percent of inventoried high-level waste, will be vitrified by FY 2006. Some of the major inactive processing facilities will be deactivated after FY 2006 and most high-risk release sites will be remediated by that time.

Due to the variety and amounts of nuclear materials and wastes on-site, the extent of facility and land contamination, and its role in solving cleanup issues at other "legacy" sites in the Department of Energy complex, the Savannah River Site will have a "long-term" cleanup mission extending beyond FY 2006. After FY 2006, the focus will be on receiving a small amount of foreign research reactor fuel and a continuing quantity of domestic research reactor spent nuclear fuel; managing the high-level, transuranic, hazardous, mixed low-level, and other wastes through about FY 2035; deactivating facilities as missions are completed and the facilities become excess; and remediating the remaining low risk sites.

Program Objectives

The objective of the Spent Nuclear Fuel program is to support the U.S. nonproliferation policy through implementing the Foreign Research Reactor Spent Fuel Acceptance program and to manage the spent nuclear fuel currently at the site (foreign and domestic research reactor spent nuclear fuel, as well as the Savannah River Site production reactor spent nuclear fuel) by stabilizing the fuel, if necessary, or preparing it for long-term disposition in a Federal repository. Some of the spent nuclear fuel currently on-site (aluminum based or declad spent nuclear fuel in a degraded condition) is considered to be "at-risk" and is being shipped to H-Canyon for processing (SR-SF01, SR-SF02, SR-SF03, SR-SF06).

Spent nuclear fuel that does not require stabilization for health and safety reasons will require additional treatment or packaging to prepare it for disposal in a geologic repository. The Alternative Technology project is evaluating a melt and dilute treatment technology that would provide a suitable form for disposal without separating the fissile elements (primarily highly enriched uranium) from fission products through the construction and use of the L-Area Experimental Facility (SR-SF06).

The Savannah River Site waste management activities encompass all types of waste generated and stored at the Savannah River Site. The High-Level Waste program integrates management of existing and new facilities to reduce volume, treat and vitrify high-level waste for final disposal, and to empty storage tanks so they can be closed. The Savannah River Site has an estimated 143,653 m^3 (approximately 38,000,000 gallons) of high-level waste in the form of liquid, sludge and salt cake. This volume represents about 410,000,000 curies of radioactivity and is stored in 49 active tanks in two "tank farms" and related high-level waste facilities. Included are operation of three high-level waste evaporators to provide space in the tank farms to handle waste generated by the stabilization of nuclear materials. Other high-level waste facilities provide for the continued safe storage of existing and newly generated high-level waste, operation of the Defense Waste Processing Facility, the Extended Sludge Processing facilities, and operation of the Glass Waste Storage Building to store "road ready" vitrified high-level waste. The operation of the Saltstone Facility has been curtailed until an alternative for salt processing is implemented.

In FY 2002, 34 MTHM of spent nuclear fuel will continue to be managed in existing wet-basin storage at the Savannah River Site. Approximately 78,125 m^3 of waste will be treated at the Effluent Treatment Facility. No facilities will be deactivated in order to avail funding for higher priority activities, although 13 release sites (about 3 percent of the release sites) were remediated in FY 2001.

The In-Tank Precipitation and Late Wash facilities were expected to pretreat the salt portion of the high-level waste. Due to technical issues concerning the degradation of the product materials and the generation of larger than anticipated amounts of benzene, all activities for pre-treatment of the salt feed have been suspended. A salt processing systems engineering evaluation has been completed. All known salt processing options have been evaluated against the high-level waste system requirements resulting in alternatives to be considered. Research and development activities were completed in June 2001 for selection of an alternative process and will continue to support pilot demonstration of that technology in FY 2002. A supplemental Environmental Impact Statement was prepared to assist in the decision making process and to support the Record of Decision in late FY 2001 (SR-HL01, SR-HL02, SR-HL03, SR-HL04, SR-HL05, SR-HL06, SR-HL07, SR-HL08, SR-HL12, and SR-HL13).

The Savannah River Site also manages varying amounts of other waste types. Efforts to reduce the legacy volume of waste at the site have been most effective in the low-level waste and hazardous waste areas. Major activities in solid waste management include: off-site shipment of hazardous waste and polychlorinated biphenyl waste, and other wastes identified in the Site Treatment Plan, safe storage of transuranic waste and shipment of transuranic waste to the Waste Isolation Pilot Plant, operation of mixed low-level waste, low-level waste facilities, the Effluent Treatment Facility, sanitary waste, and pollution prevention/waste minimization operations. Receipt of transuranic waste from Mound will occur in FY 2002, and twice the volume received will be shipped off of the Savannah River Site to the Waste Isolation Pilot Plant (SR-SW01 and SR-SW08).

In FY 2003, a new PBS SR-SW08, Waste Stream Management, will replace and consolidate activities previously covered in PBS SR-SW02 through SR-SW07.

The Savannah River Site has identified over 700 currently inactive legacy facilities to be deactivated. Facility assessments are being undertaken to provide condition / hazard characterization, and to establish documented surveillance and maintenance plans. However, full development and implementation of facility disposition plans have been deferred for these facilities in order to provide funding for higher priority activities. This budget does not include any significant activity related to facility deactivation (SR-FA02, SR-FA16, SR-FA18, SR-FA19, SR-FA20, SR-FA23, SR-FA26, SR-FA27, SR-FA28, SR-FA31, SR-FA35).

Deactivation will begin once the bulk nuclear materials are stabilized/removed from a facility and consists of activities such as removal of hazardous chemicals, flushing and cleanout of systems and equipment to the point that little contamination or safety risk to workers, the public, and the environment exists. As this is achieved, the attributes of an operating nuclear facility(security, radiation protection, material control and accountability, etc.) can be eliminated or substantially curtailed resulting in major reductions in surveillance and maintenance costs. Extensive deactivation of the reactors (C-, P-, and R-Areas), heavy water production (D-Area), and fuel fabrication facilities (M-Area) has resulted in major reductions in the annual surveillance and maintenance costs for these facilities. Deactivation is yet to be substantially undertaken in K- and L-Areas, Separations (F- and H-Areas), and the waste management facilities in F-, H-, and S-Areas since these facilities are operating and/or still contain substantial quantities of nuclear materials or wastes.

The environmental restoration activities encompass all aspects of assessment and remediation of facilities and release sites (including associated groundwater) that are no longer a part of active operations at the Savannah River Site. There are currently 515 release sites at Savannah River. These release sites are grouped into six watershed areas: Flood Plain Swamp, Fourmile Branch, Lower Three Runs, Pen Branch, Steel Creek, and Upper Three Runs. Primary on-site contaminants include various radionuclides (including plutonium, tritium, and uranium), volatile organic compounds, heavy metals, and solvents. Restoration activities are conducted at the Savannah River Site pursuant to the Resource Conservation and Recovery Act, Comprehensive Environmental Response, Compensation, and Liability Act, the site Federal Facilities Agreement (August 1993), several settlement agreements, and a consent decree. Through FY 2000, 289 release sites were completed. In FY 2001, 17 release sites were completed, in FY 2002 completion of an additional eight release sites is planned and in FY 2003 an additional six. The Savannah River Site's objective for environmental restoration remediation activities is to have most high-risk release sites in remediation by FY 2006 (SR-ER01, SR-ER02, SR-ER03, SR-ER04, SR-ER05, SR-ER06, SR-ER07).

Landlord activities are directed toward the management of general purpose infrastructure and site-wide program support that are essential for accomplishing essential missions at the Savannah River Site and maintaining the viability of the site for potential new missions in areas such as non-proliferation. Specific examples of infrastructure and support systems include: grounds, roads, general purpose buildings, utilities, communications, computers and information management, fleet management, maintenance and fabrication, emergency services, safeguards and security, land management, analytical laboratories, and environmental test facilities. Other examples include grants to two states for emergency management purposes; to three counties for payment-in-lieu-of-taxes; and to several universities for research in support of site missions. Interagency agreements are also funded (SR-DO03, SR-DO04, SR-DO05, SR-DO07, SR-IN11, SR-IN12).

Significant Accomplishments and Program Shifts

- Achieved space gain of 2,900,000 gallons in FY 2001, 3,000,000 gallons in FY 2002, and will achieve 3,000,000 gallons in FY 2003 in the tank farm through evaporation (SR-HL01/SR-HL02).
- Produced 227 canisters in FY 2001, plan to produce 200 canisters in FY 2002, and 100 canisters in FY 2003 of vitrified high-level waste at the Defense Waste Processing Facility (SR-HL05).
- Complete 19 release site assessments in FY 2001, 21 in FY 2002, and two in FY 2003.
- Received the Waste Isolation Pilot Plant certification to ship transuranic waste (FY 2001).
- Prepared four shipments of disposal-ready transuranic waste for shipment to the Waste Isolation Pilot Plant (FY 2001/SR-SW02).
- Received 29 casks of foreign research reactor spent nuclear fuel and 20 casks of domestic research reactor spent nuclear fuel (FY 2001).
- Receive 33 casks of foreign research reactor spent nuclear fuel and 21 casks of domestic research spent nuclear fuel (FY 2002).

- Completed construction of L-Area Experimental Facility (FY 2001/SR-SF06-LT).
- Remediate portions of the D-Area Oil Seepage Basin, Old TNX Seepage Basin, 488 D Ash Basin, and TNX Outfall Delta (FY 2001/FY 2002/SR-ER01).
- Begin remedial action at the C-Area Reactor Seepage Basin (FY 2001/FY 2002/SR-ER02).
- Activate six waste site operable units for assessment or remediation (FY 2002/SR-03).
- Continued Phase I Remedial Action construction activities at A-Area Burning rubble pits (FY 2001/SR-ER06).
- Demolished the F-Area powerhouse (FY 2001/SR-FA23).
- Perform risk mitigation in inactive facilities including the evaporation of the R-Reactor Basin water; continue the Memorandum of Understanding process for the transfer of facilities (FY 2002/SR-FA23).
- Evaporate liquid high-level waste via the Replacement High-Level Waste Evaporator (3H) and the existing evaporator (2H) (FY 2002/SR-HL01).
- Evaporate liquid high-level waste via the 2-F evaporator (FY 2002/SR-HL-02).
- Initiate feeding Sludge Batch 2 to the Defense Waste Processing Facility. Continue safe management of existing inventory including storage and transfer (FY 2002/SR-HL04).
- Complete installation of waste removal equipment on Tank 7 (FY 2001/SR-HL01).
- Store all canisters produced in FY 2002 and previous years in the Glass Waste Storage Building #1 (FY 2002/SR-HL06).
- Issued final request for proposal for the Salt Processing Pilot Plant and start conceptual design (FY 2002/SR-HL13).
- Process up to approximately 18,000,000 gallons of waste water (FY 2002/SR-HL07).
- Completed remaining pre-conceptual activities associated with target line-items such as infrastructure restoration, electrical maintenance and technical area ventilation, using prior year funds (FY 2001/SR-IN11).
- Procure and install capital equipment/general plant projects for landlord facilities and operations (FY 2001/FY 2002/SR-IN12).
- Complete preparation for plutonium receipts from Rocky Flats to the K-Area Nuclear Material Storage Modification Facility (FY 2002/SR-SF01).
- Complete shipments of Sterling Forest Oxide to the H-Canyon (FY 2001/FY 2002/SR-SF03).
- Begin packaging stainless steel and zironium clad fuels for shipment from the Receiving Basin for Off-site Fuel to the L-Basin (FY 2002/SR-SF03).
- Commenced operation of Mixed Waste Processing Facility to prepare legacy waste for treatment (FY 2001/SR-SW03).

Completed shipment of incinerable radioactive polychlorinated biphenyl waste to the Oak Ridge Operations Office for treatment (FY 2001/SR-SW03).

Completed characterization of land disposal restrictions hazardous legacy waste awaiting radiological characterization, (i.e. make determination if waste is mixed or non-rad hazardous) (FY 2001/SR-SW05).

Funding Schedule

(dollars in thousands)

	FY 2001	FY 2002	FY 2003
SR-DO03 / Savannah River Natural Resource Management and Research Institute	6,500	5,000	5,000
SR-DO05 / DOE External Program Support	6,030	5,530	2,765
SR-DO07 / DOE Program Support	10,353	11,270	5,635
SR-ER01 / Flood Plain Swamp Project	9,364	7,008	4,825
SR-ER02 / Four Mile Branch Project	34,722	27,582	18,555
SR-ER03 / Lower Three Runs and Operations Project	30,933	24,886	17,135
SR-ER04 / Pen Branch Project	7,934	4,959	3,415
SR-ER05 / Steel Creek Project	3,214	5,146	3,543
SR-ER06 / Upper Three Runs Project	21,953	19,769	13,613
SR-ER07 / Program Management	8,751	9,460	6,514
SR-FA16 / F-Area Monitoring	404	0	0
SR-FA18 / M-Area Monitoring Project	9,349	0	0
SR-FA19 / D-Area Monitoring Project	98	43	0
SR-FA20 / Reactors Monitoring Project	8,773	0	0
SR-FA23 / Landlord Facilities Disposition	3,211	3,594	3,989
SR-FA26 / Long-Term Stewardship	0	233	281
SR-FA27 / M-Area Disposition	0	6,492	4,497
SR-FA28 / P, C, R Reactor Areas Disposition	0	8,288	9,506
SR-FA31 / D-Area Disposition	0	605	740
SR-FA35 / Research and Demonstration Facilities	0	494	735
SR-HL01 / H-Tank Farm	105,717	84,650	152,904
SR-HL02 / F-Tank Farm	67,720	59,628	69,859
SR-HL03 / Waste Removal Operations and Tank Closure	2,454	25,824	8,389
SR-HL04 / Waste Pretreatment	46,148	57,730	0
SR-HL05 / Vitrification	106,698	115,868	103,901
SR-HL06 / Glass Waste Storage	569	588	428
SR-HL07 / Effluent Treatment Facility	14,698	14,434	10,493
SR-HL08 / Saltstone	2,026	6,945	5,049
SR-HL12/ High-Level Waste Removal	28,937	15,708	14,870
SR-HL13/ Salt Disposition	33,305	16,506	26,289

(dollars in thousands)

	FY 2001	FY 2002	FY 2003
SR-IN11/ Infrastructure Line Item	1,052	0	0
SR-IN12 / Operating Projects	18,993	17,498	16,881
SR-SF01 / K-Area Spent Nuclear Fuel Project	31,900	32,784	31,785
SR-SF02 / L-Area Spent Nuclear Fuel Project	27,037	33,621	31,767
SR-SF03 / RBOF Spent Nuclear Fuel Project	14,492	11,477	11,477
SR-SF06/ Alternate Technology Project	8,776	3,250	2,363
SR-SW01 / Consolidated Incinerator Facility	1,838	647	1,026
SR-SW02 / Transuranic Waste Project	15,361	18,593	0
SR-SW03 / Mixed Low-Level Waste Project	5,065	6,759	0
SR-SW04 / Low-Level Waste Project	15,338	9,010	0
SR-SW05 / Hazardous Waste Project	3,384	3,855	0
SR-SW06 / Sanitary Waste Project	1,072	1,422	0
SR-SW07 / Pollution Prevention	1,607	1,637	0
SR-SW08 / Waste Stream Management	0	0	34,994
Total, Savannah River	715,776	678,793	623,223

Funding by Site

(dollars in thousands)

	FY 2001	FY 2002	FY 2003	$ Change	% Change
Savannah River Site	692,893	656,993	609,823	-47,170	-7.2%
Savannah River Operations Office	22,883	21,800	13,400	-8,400	-38.5%
Total, Savannah River	715,776	678,793	623,223	-55,570	-8.2%

Metrics Summary

	FY 2001	FY 2002	FY 2003
Release Site			
Cleanup	19	21	2
Facilities Deactivation			
During Period	2	0	0
Transuranic Waste			
Shipped to WIPP for Disposal (m^3)	60	102	0
Mixed Low-Level Waste			
Treatment (m^3)	67	115	91
Disposal (m^3)	332	217	315
Low-Level Waste			
Disposal (m^3)	9,721	0	0
High-Level Waste			
Canisters Produced (canisters)	227	150	100

Site Description

Savannah River Site

The complex covers 198,344 acres, or 310 square miles encompassing parts of Aiken, Barnwell, and Allendale counties in South Carolina, bordering the Savannah River Site.

The site is owned by the Department of Energy and operated by an integrated team led by Westinghouse Savannah River Company. Under the contract extension that became effective October 1, 2000, the Westinghouse Savannah River Company is responsible for the site's nuclear facility operations; applied research; environment, safety, health, and quality assurance; and all of the site's administrative functions. The team also includes Bechtel Savannah River Inc., which is responsible for environmental restoration, project management, engineering and construction activities; Babcock and Wilcox Savannah River Company, which is responsible for facility decontamination and decommissioning; and the British Nuclear Fuel Limited Savannah River Corporation, which is responsible for the site's solid waste program.

Due to past operations and disposal practices, the Savannah River Site was placed on the Comprehensive Environmental Response, Compensation, and Liability Act National Priorities List by the Environmental Protection Agency in 1989. In 1993, the Savannah River Site entered into a Federal Facility Agreement with the Environmental Protection Agency and the South Carolina Department of Health and Environmental Control to ensure that the environmental impacts associated with past and present activities at the site are thoroughly investigated and that appropriate corrective/remedial action is taken, as necessary, to protect the public health and welfare and the environment. In addition to the Federal Facility Agreement, the Savannah River Site has also entered into assessment/cleanup of several portions of the site via Resource Conservation and Recovery Act permits as required by several settlement agreements.

The Savannah River Site is managed through an incentivized Management and Operating contract, with fixed-price subcontracts, to assure the most cost efficient service to the Government. Incentivized work scope includes nuclear materials stabilization, radioactive waste management, and environmental restoration programs. The funds requested for FY 2003 are appropriate to perform the activities based on the use of the "Activity-Based Costing Methodology." All construction line-item projects were validated and many projects received an independent cost estimate review.

Detailed Justification

(dollars in thousands)

FY 2001	FY 2002	FY 2003
SR-DO03 / Savannah River Natural Resource Management and Research Institute 6,500	**5,000**	**5,000**

The Savannah River Natural Resource Management and Research Institute conducts a program of natural management and research to provide sustainable forest products within a National Environmental Research Park, enhance biological diversity, protect threatened, endangered, and sensitive species, and provide quality habitat for wildlife. The Savannah River Institute manages the Savannah River Site secondary road system, maintains the exterior boundaries, participates in waste-site closure projects, and provides aerial photo services. Also, the Savannah River Institute provides a wildland fire program that ensures on-site initial attack capability, as well as fire prevention, presuppression, and detection program.

- The Savannah River Institute will continue with a cost-effective program of natural resource management and research to enhance environmental diversity, protect endangered species, provide quality habitat for native wildlife, protect soil and watershed values, in a national environmental park.
- The Savannah River Institute's Fire Management program will work to protect natural resources and site improvements from wildland fire and smoke impacts.
- Provide management of secondary roads and bridges, boundary maintenance, mapping, aerial photography and support environmental restoration projects.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

SR-DO04 / Ecology Lab Project 0 0 0

This activity has been transferred to the Office of Science.

SR-DO05 / DOE External Program Support 6,030 5,530 2,765

Funding is provided to the South Carolina Department of Health and Environmental Control for oversight of the Savannah River Operations Office activities to be carried out under the Federal Facilities Agreement.

Continue interagency agreement with the United States Forestry Service to perform cap maintenance, in support of the environmental restoration program.

Continue funding the States of South Carolina and Georgia for emergency preparedness programs and independent oversight of environmental monitoring activities.

Provide reimbursement to the State of South Carolina for program management costs associated with the Savannah River Site Federal Facility Agreement.

Funding for grants provided to Historically Black Colleges and Universities, South Carolina Universities Research and Education Foundation, minority serving institutions, and the Education, Research and Development Association of Georgia Universities to support the Savannah River Site environmental restoration program.

SR-DO07 / DOE Program Support 10,353 11,270 5,635

The overall purpose of this project is to enlist off-site resources to independently verify site characteristics and create a culture of public trust and confidence within surrounding communities which enables the Savannah River Site to continue environmental restoration and waste management missions. Program support will be provided for payment-in-lieu-of-taxes, Massie Chair, South Carolina Water Resources Commission, South Carolina Universities and Research and Education Foundation, Medical University of South Carolina, and interagency agreements. This program also supports the operation and maintenance of a public reading room, which houses documents relative to the Savannah River Site, Defense Nuclear Facilities Safety Board.

Environmental Impact Statements.

Payments in Lieu of Taxes; U.S. Geological Survey - required to monitor flow of the site's wastewater effluents and streams.

Savannah River Archaeological Research Program - required to protect and manage the Savannah River Site archaeological resources.

Natural Resources Conversation Service - established to provide technical assistance in the preparation of grading permits and erosion control permits.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

- # National Environmental Training Office - in direct support of the Defense Nuclear Facilities Safety Board Recommendations 93-3, 92-7 and 95-2.
- # Other mission essential management functions which include: Corps of Engineers, Oak Ridge Institute for Science and Education for training, Lab Transfers, and the South Carolina Department of Natural Resources.

Key Milestones

- # Issue the Savannah River Site Integrated Infrastructure Program Plan (May 2001).
- # Issue a report delineating the Savannah River Site reconfiguration decision and path forward for the A-Area and the Savannah River Technology Center (August 2001).

SR-ER01 / Flood Plain Swamp Project 9,364 7,008 4,825

The Flood Plain Swamp Watershed project is one of six geographical divisions of the Savannah River Site for the purpose of implementing the Federal Facility Agreement. The Flood Plain Swamp Watershed Project contains three primary areas: the D-Area, TNX Area, and the West M-Area. Portions of the D-Area were used from the mid-1950's through the mid-1980's for disposal of coal ash, oil, chemicals, and general debris. The TNX was also operated during the same time-frame for the purpose of conducting pilot tests to support the Savannah River Site activities and operations. Portions of the West M-Area were used for disposal of waste before government control of the site and for disposal of general debris after the site started operations.

Remediation of the Flood Plain Swamp Watershed project will consist of the following:

- < Preliminary evaluation of known suspect areas to determine if action is necessary;
- < Investigation and analysis of the identified waste units and any suspect areas identified through preliminary assessments;
- < Evaluations to determine further investigation and possible required remediation;
- < Implementation of remediation technologies to mitigate the impact of contaminants of concern on human health and the environment; and
- < Post-action monitoring to ensure that the implemented technology was effective.

- # Release Sites: Continue eight assessments and three remedial action.
- # Continue remediation at TNX operable unit and D-Area Oil Seepage Basin (groundwater monitoring).

Metrics

Release Site

(dollars in thousands)

	FY 2001	FY 2002	FY 2003
Cleanup	3	0	0
SR-ER02 / Four Mile Branch Project	**34,722**	**27,582**	**18,555**

The Four Mile Branch Watershed project is one of six geographical divisions of the Savannah River Site for the purpose of implementing the Federal Facility Agreement. The Four Mile Branch Watershed project contains sites in five areas: the E-Area, C-Area, N-Area, F-Area, and the H-Area. The E-Area consists of several adjacent facilities that were former or are current disposal sites for hazardous and radioactive wastes and spent solvent generated from plant processes. The C-Area consists of several facilities that were former disposal sites for hazardous and/or radioactive wastes and spent solvents generated from the operation of the C-Reactor Facilities. The N-Area consists of two burning/rubble pits that were used between 1951 and 1973 for the disposal of various waste materials including hazardous substances like organic chemicals of unknown use and origin. The F- and H-Areas consist of several former or current disposal, storage, or treatment facilities for hazardous and radioactive wastes and materials, and spent solvents from the F- and H-Area plant processes.

Remediation of the Four Mile Branch Watershed project will consist of the following:

- < Preliminary evaluation of suspect areas to determine if action is necessary;
- < Preliminary investigation and analysis of identified waste units and any suspect areas identified through preliminary evaluations to determine further investigation and possible required remediation;
- < Implementation of remediation technologies to mitigate the impact of contaminants of concern to human health and the environment;
- < Analysis of the impact on the watershed; and
- < Post-action monitoring to ensure that the implemented technology was effective.

Projects in remediation are F- and H-Inactive Process Sewer Lines, Burial Ground Complex, and Mixed Waste Management Facility Groundwater.

Release Sites: Continue nine assessments and more than five remedial actions.

Metrics			
Release Site			
Cleanup	3	5	0
Key Milestones			
# Implement Mixed Waste Management Facility interim measures (March 2001).			

(dollars in thousands)

FY 2001	FY 2002	FY 2003

SR-ER03 / Lower Three Runs and Operations Project 30,933 24,886 17,135

The Lower Three Runs and Operations project is one of six geographical divisions of the Savannah River Site for the purposes of implementing the Federal Facility Agreement. The Lower Three Runs and Operations project comprises two areas: R-Area and P-Area and Bingham Pump Outage Pits in R-, L-, P-, and K-Reactor Areas. Past disposal practices associated with historical reactor operations have produced waste units within the K-, P-, and R-Reactor Areas. Monitoring well data collected from the P- and R-Reactor Areas indicate the groundwater is contaminated with tritium, chlorinated volatile organics, other radionuclides, heavy metals, and sulfate.

Remediation of the Lower Three Runs Watershed project in accordance with the Resource Conservation and Recovery Act and Comprehensive Environmental Response, Compensation, and Liability Act will decrease human and environmental risks to acceptable levels. The Lower Three Runs Watershed project will require remediation of primary source material, affected soils, affected surface water pathways, and affected groundwater. Remediation of the Lower Three Runs Watershed project will consist of: preliminary evaluation of suspect areas to determine if action is necessary, preliminary investigation and analysis of identified waste units and any suspect areas identified through preliminary evaluations, implementation of remediation technologies to mitigate the impact of contaminants of concern to human health and the environment, analysis of the impact on the watershed, and post-action monitoring to ensure that the implemented technology was effective.

Activate approximately six waste site operable units that will be undergoing either assessment (three operable units) or remediation (three operable units).

Release Sites - Continue assessments and several remedial actions.

Metrics			
Release Sites			
Cleanup	0	7	0
Key Milestones			
# R-Area Burning Rubble Pits, (132-R,-1R) and Ruble Pile (631-25G) Field Start (June 2001).			

SR-ER04 / Pen Branch Project 7,934 4,959 3,415

The Pen Branch Watershed project is one of six geographical divisions of the Savannah River Site for the purpose of implementing the Federal Facility Agreement. The Pen Branch Watershed Project comprises several areas; Central Shops, G-Area, K-Area, and L-Area.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

Remediation of the Pen Branch Watershed project in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act will decrease human and environmental risks to acceptable levels. The Pen Branch Watershed project will require remediation of primary source material, affected soils, affected surface water pathways, and affected groundwater. Remediation of the Pen Branch Watershed project will consist of preliminary evaluation of suspect areas to determine if action is necessary, preliminary investigation and analysis of identified waste units and any suspect areas identified through preliminary evaluations, implementation of remediation technologies to mitigate the impact of contaminants of concern to human health and the environment, analysis of the impact on the watershed, and post-action monitoring to ensure that the implemented technology was effective.

Continue release site assessments and remediations.

Metrics			
Release Site			
Cleanup	1	6	1

SR-ER05 / Steel Creek Project 3,214 5,146 3,543

The Steel Creek Watershed project is one of six geographical divisions of the Savannah River Site for the purpose of implementing the Federal Facility Agreement. The Steel Creek Watershed Project comprises two areas: L-Area and P-Area.

Remediation of the Steel Creek Watershed project in accordance with Resource Conservation and Recovery Act and Comprehensive Environmental Response, Compensation, and Liability Act will decrease human and environmental risks to acceptable levels. The Steel Creek Watershed project will require remediation of primary source material, affected soils, affected surface water pathways, and affected groundwater. Remediation of the Steel Creek Watershed project will consist of preliminary evaluation of suspect areas to determine if action is necessary, preliminary investigation and analysis of identified waste units and any suspect areas identified through preliminary evaluations implementation of remediation technologies to mitigate the impact of contaminants of concern to human health and the environment, analysis of the impact on the watershed, and post-action monitoring to ensure that the implemented technology was effective.

Remediation of the Steel Creek Watershed project will consist of the following:

- < Preliminary evaluation of suspect areas to determine if action is necessary;
- < Investigation and analysis of the identified waste units and any suspect areas identified through preliminary evaluations to determine further investigation and possible required remediation; and

< Implementation of remediation technologies to mitigate the impact of contaminants of concern to human health and the environment, and post-action monitoring to ensure that the implemented technology was effective.

Continue site assessments and remediation.

Metrics			
Release Site			
Cleanup	1	1	1

SR-ER06 / Upper Three Runs Project 21,953 19,769 13,613

The Upper Three Runs Watershed project is one of six geographical divisions of the Savannah River Site for the purpose of implementing the Federal Facility Agreement. The Upper Three Runs Watershed Project contains five primary Savannah River Site operational areas, in part or in whole: A/M-Area, B-Area, E-Area, F-Area, and the H-Area.

Remediation of the Upper Three Runs Watershed project in accordance with the Resource Conservation and Recovery Act and Comprehensive Environmental Response, Compensation, and Liability Act will decrease human and environmental risks to acceptable levels. The Upper Three Runs Watershed Project will require remediation of primary source material, affected soils, affected surface water pathways, and affected groundwater. Remediation of the Upper Three Runs Watershed project will consist of: preliminary evaluation of suspect areas to determine if action is necessary, preliminary investigation and analysis of identified waste units and any suspect areas identified through preliminary evaluations, implementation of remediation technologies to mitigate the impact of contaminants of concern to human health and the environment, analysis of the impact on the watershed, and post-action monitoring to ensure that the implemented technology was effective.

Continue remediation at A/M Groundwater, Non-Rad Disposal Facility Groundwater, Met Laboratory, Miscellaneous Chemical Basin and A-Area Burning Rubble Pit.

Metrics			
Release Site			
Cleanup	11	2	0
Key Milestones			
# Savannah River Laboratory Seepage Basin (904-51G1, 53G2, 54G, 55G) remedial action start (February 2001).			

(dollars in thousands)

FY 2001	FY 2002	FY 2003

SR-ER07 / Program Management 8,751 9,460 6,514

The purpose of the Environmental Restoration Program Management project is to provide oversight of the operational project watersheds and provide programmatic development. The program is also responsible to ensure that the environment, human health and safety are protected by meeting the prescribed standards derived from Federal, state, and local requirements, and internal Department of Energy requirements. Programmatic support is essential to the Savannah River Site's environmental restoration program.

The following global support activities are found in this project: Safety and Health, Environmental Compliance, Program Analysis and Controls, Estimating Support, and Environmental Restoration quality assurance. Planning support and oversight is also provided to monitor and measure the total Savannah River Site's environmental restoration program performance.

Programmatic development is crosscutting, strategic initiatives that support the Environmental Restoration Division. The objectives are to lead strategic planning and integration, coordinate external visibility, develop performance measures, and manage program improvements.

Continue to support: Environmental Restoration Quality Assurance program, Safety and Health program, life-cycle cost estimate and program analysis, Environmental Compliance program, and administration training.

SR-FA16 / F-Area Monitoring 404 0 0

The F-Area Monitoring project supports maintaining facilities that have been deactivated in a cost-effective minimum surveillance and maintenance state pending decisions and implementation of final decontamination and decommissioning. The former Naval Fuels Facility, Building 247-F, and associated support facilities, is the only facility that has, and is projected, to undergo deactivation prior to the F-Canyon/FB-Line mission completion. The deactivated state allows minimum surveillance and maintenance actions to maintain safety, health, and environmental requirements. Deactivated facilities are monitored and inspected quarterly to ensure safe conditions are maintained.

The work scope and schedule for this project has been transferred to SR-FA26 (Long-Term Stewardship).

No activity in FY 2003.

SR-FA18 / M-Area Monitoring Project 9,349 0 0

This project covers surveillance and maintenance during pre-deactivation, and deactivation phases in the M-Area. The scope, schedule and cost associated with the project have been transferred to SR-FA27 (M-Area Disposition) effective in FY 2002 and outyears.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

No activity in FY 2003.

Metrics			
Facilities Deactivation			
During Period	2	0	0

SR-FA19 / D-Area Monitoring Project 98 43 0

This project covers surveillance and maintenance activities for surplus facilities in D-Area. Scope, schedule, and cost associated with this project have been transferred to SR-FA31 (D-Area Disposition) effective in FY 2002 and outyears.

No activity in FY 2003.

SR-FA20 / Reactors Monitoring Project 8,773 0 0

The P-, C-, and R-Reactors were formerly used to irradiate target materials for tritium and plutonium production. Operations for all reactors have ceased and each was placed in a cold shutdown mode with no provision for restart.

During the transition of these facilities from operational status to interim long-term monitoring, there is a need to maintain an appropriate level of surveillance and maintenance.

The workscope and schedule for this project has been transferred to SR-FA28 (P, C, and R-Reactor Areas Disposition) effective FY 2002.

No activity in FY 2003.

SR-FA23 / Landlord Facilities Disposition 3,211 3,594 3,989

This project contains surveillance and maintenance and deactivation/risk reduction activities performed on facilities contained in the administrative facility groupings: F Area Support Facilities, Analytical Labs, H Area Support Facilities, N Area, B Area, Upper 700 Administrative, Lower 700 Area, C Area Office Complex, Railroads, Central Training Facility (H), Savannah River Natural Resource Management Institute, Savannah River Environmental Laboratory Complex, Par Pond Environmental Laboratory, and the General Site Landlord facilities. The Risk Mitigation Program is also included within the scope of this PBS.

Perform risk mitigation program activities (inactive facility assessments, risk mitigation in inactive facilities, continue the Memorandum of Understanding process for transfer of facilities and implement the Assessment Management Plan).

(dollars in thousands)

FY 2001	FY 2002	FY 2003

SR-FA26 / Long-Term Stewardship 0 233 281

Facility disposition is an emerging program at the Savannah River Site; work scopes are understood in broad terms rather than as specific project end points. Detailed disposition plans for the facility groupings transitioning to long-term monitoring do not currently exist and will be developed in the future. Current strategy at the Savannah River Site for disposition includes: Deactivate processing and administrative facilities and prepare them for low-cost, long-term surveillance and maintenance; Final end states for these facilities have not been determined. Therefore, the scope of this PBS does not include the decommissioning or any alternative activity that places these facilities in a final end state.

- **#** Begin long-term monitoring in phases. Includes monitoring of the 247-F Navel Fuels facility and the Heavy Water Cooling Test Reactor Facilities.
- **#** Perform periodic entries for inspection and monitoring.
- **#** Routine maintenance of key safety systems (ventilation/monitoring) is expected to be the only scheduled activities required.

SR-FA27 / M-Area Disposition 0 6,492 4,497

Continue surveillance and maintenance in M-Area. Continue 321-M (manufacturing building) demolition and removal, begin deinventory and deactivation of 330 / 331-M (slug and core storage warehouses), and continue deactivation of 340-M (Waste Treatment Facility), decontaminate assets in 313-M (canning building), and demolition and removal 704-4M guardhouse. The work scope and schedule for this project was previously supported in PBS SR-FA18 (M-Area Monitoring Project).

- **#** Perform surveillance and maintenance in M-Area.

SR-FA28 / P, C, R Reactor Areas Disposition 0 8,288 9,506

Support surveillance and maintenance, C-Area Administration, decontamination facility operations, continuing C-Reactor roof repairs, continuing the deinventory of 608-P (change facility), begin cleaning P-Reactor Basin Water with SELION technology and perform R-Reactor Basin disposition planning. The work scope and schedule for this project was previously supported in PBS SR-FA20 (Reactors Monitoring Project), SR-FA08 (P-Reactor Deactivation); SR-FA02 (C-Reactor Deactivation) and SR-FA10 (R-Reactor Deactivation).

- **#** Perform surveillance and maintenance in P, C, R, Reactor Areas; provide P and C Area deactivation planning and operate the Savannah River Site Decontamination Facility.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

SR-FA31 / D-Area Disposition 0 605 740

Support surveillance and maintenance activities and D-Area hazardous energy sources isolation. The workscope schedule for this project was previously supported in PBS SR-FA19 (D-Area Monitoring Project) and SR-FA14 (D-Area Deactivation).

Perform surveillance and maintenance in D-Area.

SR-FA35 / Research and Demonstration Facilities 0 494 735

Project supports surveillance and maintenance and deactivation/risk reduction activities performed in the TNX and the Savannah River Technology Center facilities.

Perform surveillance and maintenance activities at the TNX facility.

SR-HL01 / H-Tank Farm 105,717 84,650 152,904

The purpose of the H-Tank Farm Facility is to safely store and manage an inventory of approximately 23 million gallons (270 million curies) of liquid high-level radioactive waste in 29 underground storage tanks. This waste has accumulated from nuclear material production operations at the Savannah River Site. The main long-lived radioactive constituents of this waste are Strontium-90, Cesium-137, Plutonium-238, Plutonium-239, and Plutonium-241. Management of this waste involves 24-hour surveillance, maintenance, monitoring, inspection, sampling, operation of the 2H and the Replacement High-Level Waste Evaporator (3H) evaporator systems (to reduce waste volume), and transfers between tanks and other facilities.

The purpose of the Waste Pretreatment Facility is pretreatment of high-level radioactive waste to enable final processing at the Defense Waste Processing Facility into a safe stable form for long-term storage/ disposal. This waste has accumulated from nuclear material production operations at the Savannah River Site. The main long-lived radioactive constituents of this waste are Strontium-90, Cesium-137, Plutonium-238, Plutonium-239, and Plutonium-241. The Waste Pretreatment Facility pretreats the sludge portion of tank waste to be processed at Defense Waste Processing Facility by reducing the aluminum and soluble salt content through an aluminum dissolution step and multiple washing cycles.

Continue safe storage of all waste including monitoring, maintenance, engineering, transfers, and projected canyon receipts.

Minor repair and replacement of equipment.

Continue operations of the liquid high-level evaporator treating high silica liquid waste including the Defense Waste Processing Facility recycle.

Continue feed to the Defense Waste Processing Facility.

Operate the 3-H Evaporator producing 2,000,000 gallons of tank space.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

Key Milestones

- # Resolve the solids accumulation issues and return 2-H evaporator to service (October 2001).
- # Provide 3.0 million gallons of evaporator overheads (F and H Tank Farms) (September 2001).
- # Provide 3.0 million gallons of evaporator overheads (F and H Tank Farms) (September 2002).

SR-HL02 / F-Tank Farm 67,720 59,628 69,859

The purpose of the F-Tank Farm Facility is to safely store and manage an inventory of approximately 15,000,000 gallons (140 million curies) of liquid high-level radioactive waste in 20 underground storage tanks. Two tanks have been regulatory closed. This waste has accumulated from nuclear material production operations at the Savannah River Site. The main long-lived radioactive constituents of this waste are Strontium-90, Cesium-137, Plutonium-238, Plutonium-239, and Plutonium-241. Management of this waste involves 24-hour surveillance, maintenance, monitoring, inspection, sampling, operation of the 2F evaporator system (to reduce waste volume), and transfers between tanks and other facilities.

- # Continue safe management of existing and additional new inventory of waste including receipt, evaporation, storage, and transfer.
- # Operate the 2F Evaporator producing 500,000 gallons of tank source.

SR-HL03 / Waste Removal Operations and Tank Closure . . . 2,454 25,824 8,389

This project involves removing the high-level radioactive waste from the H- and F-Area underground waste storage tanks and transferring it to the Waste Pretreatment Facility for processing. As the tanks are emptied of waste, this project also physically isolates the emptied tanks, fills them with grout, and transitions them into a low surveillance and maintenance mode. Activities include operation of slurry pumps and transfer jets to re-dissolve precipitated waste salts and suspend insoluble waste solids; demonstrating new salt removal technologies; and operationally closing tanks. Work is done remotely or with shielding due to the intense radiation fields.

- # Resume closure activities on Tanks 18 and 19.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

SR-HL04 / Waste Pretreatment 46,148 57,730 0

The purpose of the Waste Pretreatment Facility is pretreatment of high-level radioactive waste to enable final processing at the Defense Waste Processing Facility into a safe stable form for long-term storage/ disposal. This waste has accumulated from nuclear material production operations at the Savannah River Site. The main long-lived radioactive constituents of this waste are Strontium-90, Cesium-137, Plutonium-238, Plutonium-239, and Plutonium-241. The Waste Pretreatment Facility pretreats the sludge portion of tank waste to be processed at Defense Waste Processing Facility by reducing the aluminum and soluble salt content through an aluminum dissolution step and multiple washing cycles.

Activities transferred to PBS SR-HL01, H-Tank Farm.

Key Milestones
Return Tank 49 to high-level waste service (October 2001).

SR-HL05 / Vitrification 106,698 115,868 103,901

The Defense Waste Processing Facility receives pretreated, high level radioactive waste from waste pretreatment and eventually from the salt processing facility and converts it, in a process called vitrification, to a stable form for safe long-term disposal. Vitrification is a highly complex process in which liquid high level radioactive waste is mixed with glass frit, heated to 2100 degrees F to form molten glass, and poured into stainless steel canisters. When cooled, the waste has been immobilized within the glass structure and will not dissolve or leach out to the environment. Stringent quality controls insure the glass meets Federal Repository specifications. All the Defense Waste Processing Facility work is done remotely or with shielding due to the intense radiation fields. Filled canisters are stored on-site pending shipment to a Federal Repository.

Will produce 100 canisters in FY 2003.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

Metrics			
High-Level Waste			
Canisters Produced (canisters)	227	200	100

Key Milestones

- # Produce 227 canisters of vitrified high-level waste in FY 2001 (August 2001).
- # Produce 200 canisters of vitrified high-level waste in FY 2002 (September 2002).
- # Produce 100 canisters of vitrified high-level waste in FY 2003 (September 2003).

SR-HL06 / Glass Waste Storage 569 588 428

The Glass Waste Storage Building receives filled radioactive waste canisters from the Defense Waste Processing Facility and stores them temporarily in shielded, below grade, storage sites pending shipment to a Federal Repository (scheduled to open in FY 2010). The Glass Waste Storage Building activities include 24-hour surveillance, maintenance, operation, monitoring, and inspection of the highly radioactive glass canisters currently being stored in the Glass Waste Storage Building #1, including operation and maintenance of forced air ventilation systems, radiation monitors and temperature sensors. The Glass Waste Storage Building #1, which will hold 2,159 canisters, is scheduled to be filled in FY 2007, by which time the Glass Waste Storage Building #2 must be designed, constructed, and ready to receive canisters.

Store all canisters produced in the Glass Waste Storage Building #1.

SR-HL07 / Effluent Treatment Facility 14,698 14,434 10,493

The Effluent Treatment Facility collects, treats and discharges radioactively and chemically contaminated wastewater. The facility process splits the influent wastewater into two streams; the high volume "treated effluent" stream and the low volume "waste concentrate" stream.

The Effluent Treatment Facility treatment plant decontaminates the influent wastewater through a series of steps consisting of pH adjustment, sub micron filtration, heavy metal ion exchange, activated carbon organic removal, reverse osmosis, and polishing ion exchange. After the treatment, the effluent is analyzed and released to the environment through a National Pollution Discharge Elimination System permitted outfall.

Process approximately 18,000,000 gallons of waste water (depending on influent feed).

(dollars in thousands)

FY 2001	FY 2002	FY 2003

SR-HL08 / Saltstone 2,026 6,945 5,049

The production facility operates under a permit issued by the South Carolina Department of Health and Environmental Control as an industrial waste landfill. The Saltstone Facility is designed to immobilize and dispose of salt solution waste containing low-levels of radioactivity. This facility can process up to 172,000,000 gallons of salt solution over the life of the facility, at a projected average rate of 4,000,000 gallons per year of non-hazardous waste disposal. Waste generating facilities at the site pump salt solution from a tank to Z-Area through an underground pipeline into the Salt Solution Holding Tank. The salt solution is combined with cement, slag, and flyash to form non-hazardous saltstone grout. The grout is pumped into concrete vaults, where it cures and hardens into non-hazardous solid monolith.

Start up facility to process low activity material.

SR-HL12 / High-Level Waste Removal 28,937 15,708 14,870

This project is twofold: 1) to perform the capital improvements necessary to enable the high-level waste system to maximize canister production given the current scientific understanding to process chemistry; and 2) to ensure a continuous supply of pre-treated sludge and salt precipitate feed to the Defense Waste Processing Facility. The project will enable the Defense Waste Processing Facility to process sludge feed and upon selection of a salt pre-treatment alternative, to process the resultant concentrate stream. Additionally, it will provide facility modifications to replace aging service piping and other service utilities on the H-Tank Farm East Hill, install waste removal equipment for all high-level waste tanks, and modifications required to return Tank 50 to waste storage service.

Continue East Hill Piping Upgrades in H-Tank Farm.

Continue modifications required to return Tank 50 to waste storage service.

These funding levels include line-item construction funding of $22,153,000 in FY 2001; $6,754,000 in FY 2002; and $14,956,000 in FY 2003.

Resume Tank 7 waste removal activities.

Resume closure activities on Tank 18 and 19.

Key Milestones
Complete installation of waste removal equipment on Tank 7 (September 2001).

(dollars in thousands)

FY 2001	FY 2002	FY 2003

SR-HL13 / Salt Disposition 33,305 16,506 26,289

The purpose of this activity is to design, construct, and start up the necessary facilities to prepare and treat a portion of the salt waste material for processing in the Defense Waste Processing Facility. The In-Tank Processing Facility was discontinued in January 1998 due to the decomposition of the product material and very high levels of benzene created by this decomposition. A systems engineering team was formed to study all possible alternatives. This resulted in a recommendation to pursue three options leading to a final selection of a process. Final alternatives considered were ion exchange, small tank precipitation and caustic side solvent extraction. Research is also being conducted on optimization of strontium and actinide removal. A Supplemental Environmental Impact Statement was prepared and issued with the preferred alternative late in FY 2001. The Savannah River Technology Center, along with national laboratories and universities, are conducting research and development on three processes. The research and development supported a June 2001 technology selection by implementing recommendations by DOE/Savannah River, the Independent Project Evaluation Team and the National Academics of Science. Research and development to support the Salt Waste Processing Facility design, construction and operation will continue throughout FY 2002.

The Record of Decision issued in October 2001 identified canisters side solvent exhaustion as the preferred separation technology. The strategy was revised to build a processing facility that can be used to demonstrate the separation process, as well as provide some production capability after successful demonstration of this process and a final determination of the full production capability needed to meet program objectives. The plan to build a small-scale pilot is no longer part of the strategy. A request for proposal was issued in December 2001 for the design, construction, and commissioning of the Salt Waste Processing Facility. Conceptual design of the Salt Waste Processing Facility will be started in FY 2002 utilizing up to two competitively selected contractors.

Continue research and development of alternatives to support the salt processing project.

Cancel project for the Salt Processing Pilot Plant, Savannah River Site, South Carolina.

Award contract(s) in May 2002 to begin conceptual design(s) of the Salt Waste Processing Facility.

Key Milestones
Issue final Request for Proposal for the Salt Processing Pilot Plant (June 2001).
Start the Salt Processing Pilot Plant conceptual design (June 2001).

SR-IN11 / Infrastructure Line-Item 1,052 0 0

This activity encompasses up-front planning, design, and budget determinations and documentation required to support future infrastructure capital projects, and the funding needed to execute capital projects underway. This project serves a dual function:

- < To plan, budget, and fund line-item preconceptual and conceptual design activities. These activities are typically started at least three years in advance of actual start of a construction line-item project.
- < A collection point to reflect outyear costs projected in planning space for line-items that are at least one year past the budget year. For example, in this budget submission, the Total Project Costs for construction line-item projects projected to start in FY 2000 and beyond are collected in this project.

No activity in FY 2003.

SR-IN12 / Operating Projects 18,993 17,498 16,881

Responsibility for these functions is associated with the general concept of "landlord" functions which are necessary for the general operation of the site, as well as for the care of the site's shared infrastructure components such as bridges, roads, and support activities that have been centralized for cost effectiveness. This activity encompasses infrastructure support for the Department of Energy, United States Forestry Service, Savannah River Ecological Laboratory, and Wackenhut Services, Inc. Services provided are in the nature of landlord support and are directly necessary for the safe and effective operation of these organizations and for the performance of their activities.

Operational activities include all site baseline activities necessary to operate the site infrastructure program including the following:

- < Reimbursed work for United States Forestry Service in support of Savannah River land management.
- < Capital equipment projects for the purchase and installation of new equipment or upgrades to replace obsolete equipment to support Priority I: safe storage of nuclear materials; regulatory requirements and commitments, and Priority 2: support of mission critical operations.
- < General Plant Projects for the design (excluding conceptual), construction, installation or other acquisition of land, property rights, buildings, structures, utility lines, roads or facilities necessary to reduce or eliminate health, fire, safety, and security problems in support of general site infrastructure and the overall site mission consistent with the Department of Energy requirements.

Procure and install capital equipment/general plant projects for landlord facilities and operations.

Initiate and/or complete capital equipment and general plant projects designated as necessary for safe storage of nuclear radioactive materials and those that are regulatory required that have been postponed from FY 2002 and earlier.

Initiate and/or complete capital equipment and general plant projects designated as "Infrastructure Core" activities that have been deferred from FY 2002 and earlier.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

- # Initiate and/or complete capital equipment and general plant projects designated as necessary to eliminate or decrease the environmental insult and have been deferred from FY 2002 and earlier.

SR-SF01 / K-Area Spent Nuclear Fuel Project 31,900 32,784 31,785

The K-Area Spent Nuclear Fuel project provides basin storage of the Savannah River Site spent nuclear fuel awaiting stabilization, as well as storage for heavy water and nuclear materials awaiting disposition. The K-Area also serves as an administrative and operational support location for all spent nuclear fuel storage activities.

Interim storage of special nuclear material from the Department of Energy Rocky Flats Field Office was added to the scope of the K-Area project. With the addition of this mission, the K-Area will not be available for deactivation in FY 2002 as previously planned. Storage of Rocky Flats special nuclear material is scheduled to continue until FY 2012. This change in mission required this Project Baseline Summary to be moved, from the Site/Project Completion account to the Post 2006 Completion account in FY 2000.

- # Continue surveillance and maintenance of the Reactor Building and basin operation activities.
- # Complete plutonium receipts from Rocky Flats to the K-Area Nuclear Material Storage Modification subproject as funded by the Rocky Flats Field Office.
- # Continue plutonium surveillance and maintenance.
- # Continue storage of highly enriched uranium and hazardous waste.
- # Continue to store heavy water and irradiated spent nuclear fuel.
- # Operate the K-Basin to transfer spent nuclear fuel to the H-Canyon.

SR-SF02 / L-Area Spent Nuclear Fuel Project 27,037 33,621 31,767

This project includes all programmatic and physical support efforts related to safe receipt and storage of spent nuclear fuel; Defense Nuclear Facilities Safety Board Recommendation 94-1/2000-1 shipments of irradiated fuel to H-Canyon; and L-Area Basin Operations and surveillance and maintenance activities. With the assumption that the Treatment and Storage Facility will be located in the 105-L Building, L-Disassembly Basin will receive off-site cask shipments, unload the casks, inspect, and prepare fuel for storage. Mk16 spent nuclear fuel in L-Basin will be transferred to H-Canyon for processing beginning in 2nd Quarter FY 2003 and completed by the end of 1st Quarter FY 2004. The spent nuclear fuel will be transferred from L-Basin to the Treatment and Storage Facility when it is ready for operation.

- # Continue surveillance and maintenance and basin operation activities.
- # Provide minimum cask shipments (2 casks per year) to H-Canyon to maintain personnel qualifications.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

- Continue the Dam Restoration program at a minimal level of effort.
- Continue the project to restore the leaking dam in Pond B between the R and P Reactors at a full level of effort.
- Operate the L-Basin to transfer spent nuclear fuel to H-Canyon.
- In addition to this funding, the Department's Cost of Work for Others Program will include $14,500,000 in FY 2001, $16,000,000 in FY 2002; and $12,400,000 in FY 2003.

SR-SF03 / RBOF Spent Nuclear Fuel Project 14,492 11,477 11,477

The Receiving Basin for Off-site Fuels project scope includes basin operations in the Receiving Basin for Off-site Fuels to control the water quality where fuel rods are stored, reactor deionizer regeneration, and all activities that apply to fuel receipt, handling, storage, and shipping to other facilities. On-site shipments from the Receiving Basin for Off-site Fuels to the L-Basin will take place, with deinventory of the Receiving Basin for Off-site Fuels Facility planned to be completed in the year 2007, assuming that the additional storage racks are installed in L-Area. Basin management and surveillance and maintenance activities will continue until deinventory is complete.

- Operate the receiving basin for off-site fuels for delivery of spent nuclear fuel to the L-Basin.
- Support surveillance and maintenance of the receiving basin for off-site fuels (warm standby) including operation of De-ionizer Resin Regeneration Facility to service de-ionizers for K-, L-, and RBOF spent nuclear fuel storage basins.
- Provide capital equipment to support the receiving basin for off-site fuels surveillance and maintenance.

SR-SF06 / Alternate Technology Project 8,776 3,250 2,363

Funding for the companion Treatment and Storage Facility project was eliminated in FY 2001 to allow time for the completion of research and development activities prior to project initiation. The L-Area Experimental Facility will be completed in FY 2001 and will operate in FY 2002 to demonstrate the technology using irradiated fuel. This will provide information to be used in the design of the Spent Nuclear Fuel Treatment and Storage Facility.

- Operate the L-Area Experimental Facility.
- Characterize the L-Area Experimental Facility product.
- Operate the alternative technology simulators.

Key Milestones
Complete construction of L Experimental Facility (June 2001).

(dollars in thousands)

FY 2001	FY 2002	FY 2003

SR-SW01 / Consolidated Incinerator Facility 1,838 647 1,026

The Consolidated Incinerator Facility incinerates solids and liquids that are either hazardous, low-level radioactive, or mixed wastes. The Consolidated Incinerator Facility mission is to reduce the legacy waste inventory and treat newly generated waste for disposal to avoid a future legacy waste problem. The Consolidated Incinerator Facility has been specially engineered to treat any benzene waste generated from either the Defense Waste Processing Facility or a salt solution treatment process.

Supports minimum surveillance and maintenance activities.

Metrics			
Mixed Low-Level Waste			
Treatment (m^3)	0	0	0

SR-SW02 / Transuranic Waste Project 15,361 18,593 0

The Transuranic Waste Project safely stores, characterizes, treats (as required) and disposes of transuranic waste. With a current inventory of approximately 11,000 cubic meters and an expected generation of an additional 10,000 cubic meters through FY 2028, the Savannah River Site is working to: develop the infrastructure necessary to process the many different transuranic waste streams and containers; and segregate the non-transuranic waste and prepare transuranic waste for disposal in the Waste Isolation Pilot Plant. The Savannah River Site has been working toward improving the storage conditions of transuranic waste on-site, and developing the characterization and certification program to meet the Waste Isolation Pilot Plant disposal requirements.

The mission of the Transuranic Waste Project has been to receive and safely store transuranic waste packages generated at the Savannah River Site, and throughout the DOE complex. The Savannah River Site will receive transuranic waste from the Mound Site and will ship required volume off the Savannah River Site to the Waste Isolation Pilot Plant using Carlsbad's mobile vendors. With the opening of the Waste Isolation Pilot Plant, the focus has shifted to preparation for and transportation to this disposal facility located in Carlsbad, New Mexico. This effort includes: characterizing the waste and segregating out those categories of waste that may be disposed of in a more cost-effective manner; processing and/or treatment of those wastes not meeting the waste acceptance criteria; volume reducing and repackaging items to minimize transportation costs; ensuring that risks to the environment and to human health and safety posed by transuranic waste operations are either eliminated or maintained at acceptable levels; achieving cost effectiveness, through waste minimization and life-cycle optimization, for waste management strategies; and maintaining public confidence in the long-term plan and waste management practices for the site's transuranic wastes.

The work scope, schedule, and funding for these activities has been transferred to PBS SR-SW08, Waste Stream Management.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

Metrics			
Transuranic Waste			
Ship to the Waste Isolation Pilot Plant for Disposal (m^3)	60	102	0
Key Milestones			
# Receive certification for shipment of transuranic waste to the Waste Isolation Pilot Plant (April 2001).			
# Complete four shipments to the Waste Isolation Pilot Plant (August 2001).			

SR-SW03 / Mixed Low-Level Waste Project 5,065 6,759 0

The Mixed Low-Level Waste project encompasses those activities and resources required for the safe, environmentally sound operations of the solid waste mixed waste facilities. The key activities in the management of the various mixed waste streams are: storage, treatment (i.e., including any characterization activities required prior to treatment), and disposal.

This project includes the receipt of waste, interim storage, and on-site treatment or off-site treatment, and off-site disposal. Mixed waste receipt and storage activities include: receipt of newly generated waste; verification that the waste meets the facility's waste acceptance criteria; placement of the newly generated waste or legacy waste in storage; and surveillance and maintenance of the stored waste.

Waste treatment activities include: characterization of legacy waste or newly generated waste; sorting, segregating, repackaging or preparing for treatment, or treatment of the waste, in order to assure that the requirements of the Resource Conservation and Recovery Act and the Federal Facilities Compliance Act of 1992 are met.

Disposal activities include: identifying the most cost-effective and best technical location for disposal of various mixed wastes in inventory; and prior to off-site shipment and disposal, assuring the mixed waste or treatment residuals have been properly characterized, packaged, and prepared for shipment off-site for treatment and/or disposal.

The work scope, schedule, and funding for these activities has been transferred to PBS SR-SW08, Waste Stream Management.

Metrics			
Mixed Low-Level Waste			
Treatment (m^3)	67	115	0
Disposal (m^3)	332	217	0

(dollars in thousands)

FY 2001	FY 2002	FY 2003

SR-SW04 / Low-Level Waste Project 15,338 9,010 0

The various low-level waste streams at the Savannah River Site were and are generated from a variety of activities and waste generators across the site, including the tritium facilities, separations, reactors, high-level waste tank farms, reactor materials, solid waste, environmental restoration, and construction. Also, the Savannah River Site receives low-level waste from the Naval Reactors Program and other off-site generators for disposition.

The Low-Level Waste project encompasses those activities and resources required for the safe, environmentally sound operations of the Solid Waste Low-Level Waste facilities. The key activities in the management of the various low-level waste streams are: storage, treatment (i.e., including any characterization activities required prior to treatment), and disposal. The Low-Level Waste project is managed with a goal of eliminating legacy waste and maintaining the capability and capacity to treat/dispose of newly generated waste. This will be accomplished by identifying, and either developing or contracting, appropriate treatment and disposal technologies, where present capabilities are not adequate.

Low-level waste receipt and storage activities include: verifying that the waste meets the facility waste acceptance criteria; receipt of newly generated waste; and surveillance and maintenance of waste placed in storage. Treatment activities include: sorting and segregating newly generated and legacy waste; and volume reduction by compaction, as required. Disposal activities include: placement of the waste in the appropriate disposal repository (i.e., in vaults or trenches, or on pads); construction and operation of additional disposal capacity; and surveillance and maintenance of the various disposal units.

The work scope, schedule, and funding for these activities has been transferred to PBS SR-SW08, Waste Stream Management.

Metrics			
Low-Level Waste			
Disposal (m^3)	9,721	0	0

SR-SW05 / Hazardous Waste Project 3,384 3,855 0

The Hazardous Waste project encompasses three primary operations: receipt of waste from on-site generators, interim storage, and shipment of waste off-site for commercial treatment and disposal. In addition, it includes maintenance of the waste tracking system. Other operations that are equally important, and are conducted mainly at the generating facility, include waste minimization and pollution prevention.

The work scope, schedule, and funding for these activities has been transferred to PBS SR-SW08, Waste Stream Management.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

SR-SW06 / Sanitary Waste Project 1,072 1,422 0

The Sanitary Waste project provides for the safe, and environmentally sound sanitary waste disposal from the Savannah River Site, which produces approximately 25 tons of sanitary waste per day. Sanitary waste activities include: receipt of newly generated waste, recycling, and verification that the waste meets the commercial disposal facility waste acceptance criteria, radiological screening and contract administration. These activities are necessary to assure compliance with the South Carolina Solid Waste Regulation (i.e., R61-17.258) and DOE Order 435.1, Radioactive Waste Management.

The Savannah River Site and the Lower Savannah River Council of Governments have committed to the development and use of the Three Rivers Landfill, which disposes of waste from the Savannah River Site and eight South Carolina counties.

The work scope, schedule, and funding for these activities has been transferred to PBS SR-SW08, Waste Stream Management.

SR-SW07 / Pollution Prevention 1,607 1,637 0

The Pollution Prevention program provides the Savannah River Site with a safe, effective, and environmentally responsible strategy to implement specific waste and pollutant reduction goals. This strategy is based on current and projected information on waste generation, waste characterization, and ultimate waste disposal costs. In addition, pollution prevention is a major component of the Savannah River Site's International Standards Organization 140001 Certification Program for its Environmental Management system and integrated safety management system. Pollution Prevention is the Savannah River Site's preferred approach for reducing waste, mitigating health risks, and protecting the environment.

The work scope, schedule, and funding for these activities has been transferred to PBS SR-SW08, Waste Stream Management.

SR-SW08 / Waste Stream Management 0 0 34,994

This is a new project for FY 2003. The Savannah River Site has combined the FY 2002 Solid Waste Program projects (i.e., SR-SW02 through SR-SW07) into a new project, SR-SW08, Waste Stream Management.

In FY 2003 and beyond, this project will manage the same waste stream specific (i.e., for transuranic, mixed low-level, low-level, hazardous, and sanitary wastes) operations and functions (i.e., storage, treatment, and disposal), and pollution prevention/waste minimization activities, which were covered by these FY 2002 projects.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

The funding will cover waste stream operations for the receipt and safe storage of transuranic, mixed low-level, low-level, and hazardous wastes. In addition, funding will cover treatment and disposal of some hazardous waste, disposal of sanitary waste, and miscellaneous equipment needed to support base solid waste operations.

Compliance target will not permit the Savannah River Site to meet the Site Treatment Plan regulatory commitments regarding treatment of mixed waste, shipment of transuranic waste to the Waste Isolation Pilot Plant, or disposal of mixed low-level waste or low-level waste.

- # Transuranic Waste - Receive transuranic waste from generators and then store in a minimum safe basic regulatory compliant status.
- # Mixed Low-Level Waste - Receive mixed low-level waste from generators and then store in a minimum safe basic regulatory compliant status.
- # Low-Level Waste - Receive low-level waste from generators and then store in a minimum safe basic regulatory compliant status.
- # Hazardous Waste - Receive hazardous waste from generators and then store, treat, and dispose at commercial facilities.
- # Sanitary Waste - Collect and dispose of sanitary waste at commercial facilities.
- # Pollution Prevention/Waste Minimization - Maintain the minimum Pollution Prevention Program.
- # Perform work to obtain Critical Decision-0 on the Transuranic Waste Category 2/ High Activity Facility by September 2003, in order to meet a Site Treatment Plan commitment to submit a Resource Conservation and Recovery Act Part B application in FY 2008; continue mixed low-level treatment and disposal operations (i.e., approximately 550 m^3 will be characterized and/or treated, and approximately 375 m^3 will be disposed); and conduct a PUREX incineration alternative study.
- # Complete modifications to Building 643-43E to house the transuranic waste HANDSS-55 System - a technology deployment application for remote-handling and segregation of transuranic waste. The modifications will include construction of double-containment PERMACON structures, and electrical and ventilation systems, and installation of the HANDSS-55 System. The funding will also support testing of the HANDSS-55 System at the Western Environmental Technology Office Facility in Butte, Montana.
- # Continue full support for the waste minimization/pollution prevention program.
- # Continue mixed low-level waste treatment facility miscellaneous equipment upgrades and other requirements.
- # Continue shipments off-site of transuranic, low-level, and mixed low-level waste for disposal.

Metrics
Mixed Low-Level Waste

	(dollars in thousands)		
	FY 2001	FY 2002	FY 2003
Treatment (m^3)	0	0	91
Disposal (m^3)	0	0	315
Total, Savannah River	**715,776**	**678,793**	**623,223**

Explanation of Funding Changes

	FY 2003 vs. FY 2002 ($000)
SR-DO05 / DOE External Program Support	
# Decrease reflects transfer of the Ecology Laboratory to the Office of Science.	-2,765
SR-DO07 / DOE Program Support	
# Decrease in funding reflects reduced support for the Medical University of South Carolina Cooperative Agreement; South Carolina Consortium; Tritium Monitoring; University of South Carolina Water Research Project; and Nuclear Material Stewardship.	-5,635
SR-ER01 / Flood Plain Swamp Project	
# Decrease reflects reduced remediation in TNX Area and 488-D Ash Basin.	-2,183
SR-ER02 / Four Mile Branch Project	
# Decrease continues cleanup of soil and groundwater (Record-of-Decision activities) at a reduced level.	-9,027
SR-ER03 / Lower Three Runs and Operations Project	
# Decrease continues groundwater monitoring and cleanup activities at a reduced level.	-7,751
SR-ER04 / Pen Branch Project	
# Decrease continues release site assessment and remediations at a reduced level.	-1,544
SR-ER05 / Steel Creek Project	
# Decrease continues release site assessment and remediation at a reduced level.	-1,603
SR-ER06 / Upper Three Runs Project	
# Decrease reflects continuation of remediation at a reduced level.	-6,156
SR-ER07 / Program Management	

	FY 2003 vs. FY 2002 ($000)
# Decrease funding for lower priority support activities of operational project watersheds.	-2,946
SR-FA19 / D-Area Monitoring Project	
# No significant change.	-43
SR-FA23 / Landlord Facilities Disposition	
# Additional funding reflects increases in risk mitigation activities.	395
SR-FA26 / Long-Term Stewardship	
# No significant change.	48
SR-FA27 / M-Area Disposition	
# Reduction reflects continuation of deactivation activities at a reduced level.	-1,995
SR-FA28 / P, C, R-Reactor Areas Disposition	
# Increase reflects additional decontamination facility operations.	1,218
SR-FA31 / D-Area Disposition	
# Increase continues surveillance and maintenance in D-Area.	135
SR-FA35 / Research and Demonstration Facilities	
# Increase reflects continued surveillance and maintenance activities at TNX facility.	241
SR-HL01 / H-Tank Farm	
# Increase reflects consolidation of the waste pretreatment activities (scope and funding) (HL04) with this project.	68,254
SR-HL02 / F-Tank Farm	
# Additional funding reflects increase in authorized basis studies to determine the safety requirements for operating the F-Tank Farm Facility to comply with the Compliance Federal Regulations.	10,231
SR-HL03 / Waste Removal Operations and Tank Closure	
# Decrease suspends all tank closure activities.	-17,435
SR-HL04 / Waste Pretreatment	
# Decrease reflects transfer of workscope to PBS SR-HL01, H-Tank Farm.	-57,730
SR-HL05 / Vitrification	
# Decrease reflects deferral of melter replacement.	-11,967
SR-HL06 / Glass Waste Storage	
# No significant change.	-160
SR-HL07 /Effluent Treatment Facility	

	FY 2003 vs. FY 2002 ($000)
# Decrease continues to process waste water at a reduced level.	-3,941
SR-HL08 / Saltstone	
# Decrease reflects reduced processing of Tank 50 material.	-1,896
SR-HL12 / High-Level Waste Removal	
# No significant change.	-838
SR-HL13 / Salt Disposition	
# Increase supports preparation of preliminary designs.	9,783
SR-IN12 / Operating Projects	
# No significant change.	-617
SR-SF01 / K-Area Spent Nuclear Fuel Project	
# No significant change.	-999
SR-SF02 / L-Area Spent Nuclear Fuel Project	
# Decrease reflect minimum (two per year) cask shipments to H-Canyon.	-1,854
SR-SF06 / Alternate Technology Project	
# Decrease reflects completion of the L-Area Experimental Facility.	-887
SR-SW01 / Consolidated Incinerator Facility	
# Increase reflects additional costs for surveillance and maintenance.	379
SR-SW02 / Transuranic Waste Project	
# Decrease reflects work scope, schedule, and cost being transferred to PBS SR-SW08, Waste Stream Management.	-18,593
SR-SW03 / Mixed Low-Level Waste Project	
# Decrease reflects work scope, schedule, and cost being transferred to PBS SR-SW08, Waste Stream Management.	-6,759
SR-SW04 / Low-Level Waste Project	
# Decrease reflects work scope, schedule, and cost being transferred to PBS SR-08, Waste Stream Management.	-9,010
SR-SW05 / Hazardous Waste Project	
# Decrease reflects work scope, schedule, and cost being transferred to PBS SR-W08, Waste Stream Management.	-3,855
SR-SW06 / Sanitary Waste Project	
# Decrease reflects work scope, schedule, and cost being transferred to PBS SR-W08, Waste Stream Management.	-1,422
SR-SW07/ Pollution Prevention	

	FY 2003 vs. FY 2002 ($000)
# Decrease reflects scope, schedule, and cost being transferred to PBS SR-SW08, Waste Stream Management.	-1,637
SR-SW08 / Waste Stream Management	
# Increase reflects the transfer of activities from PBSs SR-SW02 through SR-SW07.	34,994
Total Funding Changes, Savannah River	-55,570

Capital Operating Expenses & Construction Summary

Capital Operating Expenses

(dollars in thousands)

	FY 2001	FY 2002	FY 2003	$ Change	% Change
General Plant Projects	26,457	25,803	12,379	-13,424	-52.0%
Capital Equipment	10,311	26,101	13,244	-12,857	-49.3%
Total, Capital Operating Expense	36,768	51,904	25,623	-26,281	-50.6%

Construction Projects

(dollars in thousands)

	Total Estimated Cost (TEC)	Prior Year Approp-riations	FY 2001	FY 2002	FY 2003	Unapprop-riated Balance
Post 2006						
93-D-187 High-Level Waste Removal from Filled Waste Tanks, SR	967,200	293,658	22,153 [a]	6,754	14,870	629,765
Total, Post 2006		293,658	22,153	6,754	14,870	629,765
Operating Expense Funded						
02-EXP Salt Processing Pilot Plant, SR	N/A	0	3,000	11,263	0	N/A
Total, Project Funding		293,658	25,153	18,017	14,870	629,765

[a] Reflects FY 2001 rescission of $59,000 and a reprogramming of $5,000,000. The original appropriation was $27,212,000.

93-D-187, High-Level Waste Removal from Filled Waste Tanks, Savannah River, Aiken, South Carolina (SR-HL12)

(Changes from FY 2002 Congressional Budget Request are denoted with a vertical line [|] in the left margin.)

Significant Changes

Provision of a gravity drain line (GDL) to Tank 37 for the 3H evaporator system and modification to the Tank 50 transfer system to make it a high-level waste receipt tank have been added to the scope of this line item.

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost ($000)	Total Project Cost ($000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 1993 Budget Request *(Title I Baseline)*	2Q 1993	1Q 1994	3Q 1994	4Q 1999	86,500	88,640
FY 1994 Budget Request *(Title I Baseline)*	"	"	"	"	"	"
FY 1995 Budget Request *(Title I Baseline)*	1Q 1979	4Q 1999	2Q 1980	3Q 2005	602,700	991,446
FY 1996 Budget Request *(Title I Baseline)*	"	2Q 2006	"	4Q 2008	565,050	828,238
FY 1997 Budget Request *(Title I Baseline)*	"	"	"	"	"	"
FY 1998 Budget Request *(Current Baseline Estimate)*	"	4Q 2006	"	"	558,050	821,238
FY 1999 Budget Request *(Current Baseline Estimate)*	"	"	"	"	"	"
FY 2000 Budget Request *(Current Baseline Estimate)*	"	"	"	"	"	"
FY 2001 Budget Request *(Current Baseline Estimate)*	"	2Q 2028	"	4Q 2028	967,200	1,550,500
FY 2002 Budget Request (*Current Baseline Estimate*)	"	"	"	"	"	"
FY 2003 Budget Request (*Current Baseline Estimate*)	"	"	"	"	"	"

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
1993	2,000 [a]	0	0
1994	186,802 [a]	188,802	184,117
1995	22,675 [a b]	22,675	25,233
1996	19,700	19,700	15,380
1997	13,000 [c]	13,000	18,200
1998	18,220 [d]	18,220	17,207
1999	15,774 [e]	15,774	17,080
2000	15,487 [f]	15,487	13,927
2001	19,674 [g]	19,674	16,444
2002	6,754	6,754	6,000
2003	14,870	14,870	14,870
Outyears	632,244	632,244	638,742

3. Project Description, Justification and Scope

This project supports the high-level waste mission which is currently scheduled to complete in FY 2028. Waste removal work was started in the early 1980's using a cost-funded project approach. In FY 1994, three cost-funded projects were consolidated into this line item and the cost baseline was eventually established at $565,050,000 for total estimated cost and $828,238,000 for total project cost with a

[a] This represents the operating expenses funded costs through FY 1994 of the three previously operating expense funded projects. Also, represents the actual operating expense funded costs though FY 1994. Previously reported operating expense costs of $192,420,000 were an estimate. The adjustment of $8,618,000 reflects the difference between the estimated value and actual value ($183,802,000). The original appropriation was $3,000,000.

[b] Use of current year ($1,700,000) funds for Productivity Savings and ($2,150,000) for FY 1995 rescission.

[c] Reflects use of prior year funds to meet uncosted offset to FY 1997 appropriation. Project total estimated cost is reduced as a result due to better than expected fixed-price contract costs.

[d] Reflects FY 1998 reprogramming of $700,00. The original appropriation was $17,520,000.

[e] Reflects FY 1999 internal reprogramming of $560,000. The original appropriation was $15,214,000.

[f] Reflects FY 2000 notification to allocate $6,500,000 of the $10,000,000 conference mark add-on for high-level waste removal activities. The original appropriation was $8,987,000.

[g] Reflects FY 2001 rescission of $59,000. Also a reduction for use of prior year balances of $2,479,000 and a reprogramming for $5,000,000 is applied against this project. The original appropriation was $27,212,000.

scheduled completion date in FY 2008. In FY 1994, the majority of the processing facilities in the high-level waste system were in either the construction or the startup phase. Planning and scheduling of the production phase was very preliminary and not optimized. The line item scope at that time provided the equipment and infrastructure required to remove waste from 38 of the 51 large underground storage tanks for transfer to the sludge or salt processing facilities for pretreatment prior to being vitrified at the Defense Waste Processing Facility. In FY 1996, the Defense Waste Processing Facility began producing vitrified high-level waste canisters. The high-level waste mission extends until the FY 2028 time frame and requires that waste be removed from the underground storage tanks in a prescribed sequence that supports the production schedule of the Defense Waste Processing Facility and regulatory commitments discussed below. The high-level waste system integration and planning has steadily improved and provides the capability to better plan and coordinate the capital construction requirements of the system. This line item is an integral part of the high-level waste system and is unique in that it spans more time than that normally associated with large capital construction projects. It is essentially a collection of smaller projects managed as one large effort due to the repetitive nature of the work and the need to closely coordinate project activities with tank farm and Defense Waste Processing Facility operations.
| The cost and schedule baselines were revised in FY 2000 to include equipment and infrastructure required to remove the high-level waste inventory from nine additional tanks bringing total included in
| this project to 47 of the 51 underground storage tanks. The estimate for this line item has been prepared
| per official estimating methodology (standard rates, overhead, escalation, etc.). These estimates have
| been refined where necessary with data from past execution of similar scope. The estimate is estimated
| as individual scopes of work. The estimate is built bottoms-up off the final design for the near-term
| scopes. The long-term scopes' estimates are then refined based on the differences in the preliminary
| design for that scope and the final design for the near-term scope. Then contingency analyses are
| developed based on the individual risks within a distinct scope of work. This disciplined approach
| provides a high level of confidence in the resulting estimate. The installation of waste removal
| equipment on the four remaining tanks has been provided by other projects. This line item will also provide modifications to isolate the remaining 49 tanks from operating facilities in preparation for interim and final closure (two are closed).

Also included in this line item are some high-level waste systems improvements for operability and
| efficiency of the system. Some of these improvements are for facilities outside the tank farms. An
| Energy Systems Acquisition Advisory Board (ESSAB) meeting held in May 2000 approved the baseline of $967,200,000 for total estimated cost and $1,550,500,000 for total project cost with a scheduled completion date in FY 2028. This cost is composed of the following work items:

	TEC ($M)	OPC ($M)	TPC ($M)
Costed through FY 1999	$277.2	$37.4	$314.6
Sludge Tanks (To-Go)	$313.1	$271.9	$585.0
Salt Tanks (To-Go)	$312.0	$233.5	$545.5
Other High-Level Waste System (To Go)	$64.9	$40.5	$105.4
Total	$967.2	$583.3	$1,550.5

The project schedule is matched to the production needs for the Defense Waste Processing Facility through a coupled waste feed (salt and sludge). A more detailed description of the scope in each of the work item categories includes:

Costed through FY 1999: Approximately $184,000,000 was expended during the time frame when the waste removal work was done as cost-funded projects. These funds were used to complete the installation of waste removal equipment and infrastructure on 10 high-level waste tanks. In general, this includes slurry pumps, transfer pumps, transfer jets, structural support steel, service utilities and instrumentation. A number of other tanks were partially completed and some tank farm infrastructure work was done. In addition, two new control rooms were completed and one existing control room expanded. Another $131,000,000 has been spent since the consolidation of the cost projects into this line item. These funds were primarily spent on tank farm infrastructure, the construction of one new control room, the expansion of an existing control room and partial design and construction on Tanks 7, 8, 11, 21, 22 and 29.

Sludge Tanks: This portion of the line item scope supports the current high-level waste system production goals. Due to problems in establishing a viable salt pretreatment process, the Defense Waste Processing Facility will only process high-level waste sludge until sometime after FY 2008. During the FY 2000 to FY 2006 time frame, the primary focus of this line item will be to provide waste removal equipment and infrastructure required to provide high-level waste sludge for Defense Waste Processing Facility batches 2 through 3. The total project cost expenditures during this period are estimated at approximately $63,500,000 and average approximately $9,100,000 per year. The remaining sludge processing cost will be spent after FY 2006 on Defense Waste Processing Facility batches 4 through 8.

Salt Tanks: Expenditures for this portion of the line item scope are not projected to start until beyond FY 2006. The technical approach for the Salt Tanks is similar to that used for Sludge Tanks with a similar average cost per tank. Work on Salt Tanks is the last item to be completed on the line item.

Other High-Level Waste System: The scope of work includes various tank farm control room upgrades, miscellaneous tank farm piping/infrastructure upgrades and upgrades to facilities outside the tank farms. This category of work scope is intended to improve the efficiency and/or long-term operability of the high-level waste system. It is anticipated that additional scope items will continue to be identified over the life of the high-level waste mission and that this line item may be used as a means to effect the capital improvements. Any future upgrades will continue to be added by formal change control with proper notification and full disclosure.

The line item consists of two subprojects:

Subproject 01: Waste Removal

TEC	Previous	FY 2001	FY 2002	FY 2003	Outyears	Construction Start - Completion Dates
924,458	291,169	19,674	6,754	8,740	598,121	2nd Qtr. FY 1980 - 4th Qtr. FY 2028

In general, this subproject provides waste removal facilities including slurry pumps, transfer pumps, transfer jets, structural steel and associated instrumentation, and distributed control system. This

subproject will provide equipment so that salt and/or sludge can be removed and transferred to either Salt Processing, when available, or Extended Sludge Processing for eventual feed to the Defense Waste Processing Facility. The waste removal process will be performed and funded separately by operating funds. Lastly, this subproject will provide the modifications to tank systems and services, as necessary, to isolate tanks from the operating facility at the end of the tank's service life and prior to tank closure.

Subproject 02: Processing Facility Upgrades

TEC	Previous	FY 2001	FY 2002	FY 2003	Outyears	Construction Start - Completion Dates
42,742	2,489	0	0	6,130	34,123	3rd Qtr. FY 1997 - 4th Qtr. FY 2005

The Processing Facility Upgrades subproject provides the processing upgrades to the Defense Waste Processing Facility, Saltstone, Effluent Treatment Facility or other waste tank farm facility required to support efficient processing of salt and sludge through the High-Level Waste System. These upgrades have not been fully defined; thus, the scope of this subproject will be modified via formal change control in the future to include additional upgrades as necessary. The current scope includes upgrades to the Defense Waste Processing Facility and the service lines/infrastructure on the "East Hill" of the H-Area Waste Tank Farm. The current upgrades to the Defense Waste Processing Facility include support for the processing of higher curie content sludge and a missile shield for the nitrogen system. The "East Hill" direct buried service piping will be replaced with new above ground pipe on pipe racks. Tank 37 gravity drain line for the 3H evaporator and Tank 50 transfer system modifications were added via baseline change proposal in FY 2001.

The Federal Facilities Agreement requires that the site close the 22 remaining non-regulatory compliant waste tanks by FY 2022. These waste tanks do not have approved secondary containment. Some of these tanks have leaked; however, current waste levels have been reduced to below the leak sites. The Site Treatment Plan requires Defense Waste Processing Facility production to average at least 200 canisters per year. If funds are not appropriated for this project, the Savannah River Site will not meet the required Federal Facilities Agreement and Site Treatment Plan regulatory commitments; Defense Waste Processing Facility operations will be slowed or stopped; and waste tank space may not be available to support current and future missions.

The FY 2003 funds for this line-item will be used to continue East Hill Piping Upgrades and to complete modifications to the Tank 50 transfer system. The pace of tank closure activities is being slowed down to accommodate other higher priority activities.

Compliance with Project Management Order

- Critical Decision - 0: Original Completion Date - September 1990; Rebaselining was reaffirmed by ESAAB in April 2000
- Critical Decision - 1: Approved - June 1991
- Critical Decision - 2: Approved - March 1993
- Critical Decision - 3: Approved - October 1993

External Independent Reviews: February 2000, by Burns & Roe

4. Details of Cost Estimate [a]

(dollars in thousands)

	Current Estimate	Previous Estimate
Design phase		
Preliminary and final design costs (18.8% of total estimated cost (TEC))	181,734	181,734
Design management costs	11,603	11,603
Project management costs	12,000	12,000
Total, engineering, design, inspection, and administration of construction costs (21.2% of TEC)	205,337	205,337
Construction phase		
Buildings & improvements to land	12,341	12,341
Specialized equipment	347,303	347,303
Other (major utilities/comp items, specialized facilities, etc.)	160,243	160,243
Removal cost less salvage	21,353	21,353
Inspection, design and project liaison, testing, checkout and acceptance	39,059	39,059
Construction management (2.3% of TEC)	22,119	22,119
Project management costs (5.0% of TEC)	48,000	48,000
Total, construction costs	650,418	650,418
Contingencies		
Design phase (2.9% of TEC)	27,960	27,960
Construction phase (8.6% of TEC)	83,485	83,485
Total, contingencies (11.5% of TEC)	111,445	111,445
Total, line item costs (TEC)	967,200	967,200

The project team has a high level of confidence in this estimate.

5. Method of Performance

Design will be performed by site design engineering and via subcontract. Construction and procurement will be accomplished utilizing fixed-price subcontracts awarded on the basis of competitive bidding, where possible.

[a] The cost estimate basis for this project is the rebaselining estimate.

The DOE escalation rates (percent per year) used for this estimate are as follows: FY 2000 2.3%; FY 2001 2.4%; FY 2002 2.5%; FY 2003 2.6%; Outyears 2.5%.

6. Schedule of Project Funding

(dollars in thousands)

	Prior Years	FY 2001	FY 2002	FY 2003	Outyears	Total
Project cost						
Facility cost						
Design	95,114	4,200	1,000	1,000	131,983	233,297
Construction	196,030	12,244	5,000	13,870	506,759	733,903
Total facility costs (Federal and Non-Federal)	291,144	16,444	6,000	14,870	638,742	967,200
Other project costs						
Conceptual design cost	800	0	0	0	0	800
Other project-related costs [a]	46,912	4,984	3,246	875	526,483	582,500
Total other project costs	47,712	4,984	3,246	875	526,483	583,300
Total project costs (TPC)	338,856	21,428	9,246	15,745	1,165,225	1,550,500

7. Related Annual Funding Requirements

(FY 1998 dollars in thousands)

	Current Estimate	Previous Estimate
Annual facility operating costs (staff, utilities, etc.) [b]	6,650	6,650
Annual facility maintenance and repair costs	2,850	2,850
Other annual costs	0	0
Total related annual funding *(operating from FY 1998 through FY 2010)*	9,500	9,500

[a] Includes $582,500,000 to fund permitting activities, Post Modification Testing Reviews, one-time program development startup, and management and integration contractor project support.

[b] Includes operating manpower, supplies and energy and additional operators. Operation of this facility will result in a net annual cost increase of $6,100,000 and 56 full time equivalents. This facility does not replace an existing facility.

Hanford Site - Office of River Protection

Mission Supporting Goals and Objectives

Program Mission

The mission of the Defense Environmental Restoration and Waste Management, Post 2006 Completion account, carried out by the Office of River Protection is to safely operate the underground high-level waste storage tanks and to build and operate the tank waste treatment complex to complete the cleanup of Hanford's highly radioactive tank waste. The Office of River Protection is located at the Hanford Reservation in Richland, Washington. The critical mission is to immobilize the waste contained in Hanford's 177 high-level waste tanks and to protect the Columbia River.

The Office of River Protection works with the Richland Operations Office to protect the health and safety of the public, workers, and the environment, and to control hazardous materials to protect the Columbia River, a national treasure. Under the Defense Environmental Restoration and Waste Management, Post 2006 Completion account, the Office of River Protection manages the River Protection Project in the central plateau (200 Area) of the Hanford Site. The Hanford site is the nation's largest former nuclear weapons production site, and the cleanup of the site is the largest, most technically complex, environmental cleanup project yet undertaken.

The Hanford Federal Facility Agreement and Consent Order, commonly referred to as the Tri-Party Agreement, negotiated by the Department of Energy, the State of Washington, and the Environmental Protection Agency, is a major regulatory driver for the project. In addition, interim tank stabilization activities necessary to remove pumpable liquids from single-shell tanks are subject to a Consent Decree administered by a Federal District Court in the State of Washington. The Consent Decree was negotiated as a result of a threatened lawsuit by the State of Washington against DOE for not meeting the Tri-Party Agreement milestones. This Consent Decree was later amended to include a requirement that DOE award a new contract for design, construction, and commissioning of the Waste Treatment and Immobilization Plant by January 2001. The new contract was awarded on December 11, 2000.

Program Goal

The ultimate program goal for the Hanford Site is to protect the Columbia River. The Office of River Protection is responsible for safe storage, retrieval, treatment, and disposal of 53 million gallons of highly toxic, high-level radioactive waste stored in 177 underground storage tanks located within 7 miles of the Columbia River. The waste will be retrieved from the storage tanks, separated into low-activity and high-activity fractions, and then vitrified. Low activity waste will be disposed in the Hanford central plateau, and immobilized high-level waste will be stored at Hanford pending ultimate disposal in the nation's geologic repository.

The Department has initiated design of the Waste Treatment and Immobilization Plant to immobilize the tank waste. Excavation of foundations and emplacement of the forms, rebar, and embeds began in November 2001. Construction is scheduled to begin in July 2002 and the start of plant operations to commence in CY 2007. By that time, all essential site infrastructure construction will be completed to support the operation of the Waste Treatment and Immobilization Plant. By FY 2018, approximately 10 percent of the wastes by mass and 25 percent by radioactivity will be safely immobilized and stored.

Several interim activities are being conducted by the Office of River Protection to resolve the most urgent risks at the Hanford Site. The interim stabilization program is removing pumpable liquids from the old, single-shell tanks, some of which have leaked, to prevent further subsurface contamination. The tank farm systems and components are being upgraded to provide an adequate margin of safety. These upgrades include the retrieval and transfer systems needed to provide feed to the Waste Treatment and Immobilization Plant. These important actions addressing urgent risks will also enable remaining safety issues to be resolved. For example, as a result of upgrading the tanks, the Office of River Protection gained valuable flammable gas release data, which resolved the final Priority 1 safety issue–Flammable Gas in August 2001.

Program Objectives

The most important near-term objective is to complete design and initiate construction of the Waste Treatment and Immobilization Plant. Another near-term program objective for the Office of River Protection is to complete interim stabilization of the remaining 22 single-shell tanks by pumping their contents to safer, newer double-shell tanks by FY 2004. Actions completed in FY 2001 included successfully closing the flammable gas safety issue, the last of the Priority 1 safety issues identified as of September 30, 1993, and removing all remaining tanks from the Watch List.

Significant Accomplishments and Program Shifts

- The Office of River Protection realigned workscope within their PBSs in August 2001 to match the contractor's new River Protection Project Work Breakdown Structure. Alignment of the PBSs with the Work Breakdown Structure will increase efficiency in baseline management and improve the accuracy of performance reporting. (Program Shift)
- Ensured adequate safety of the River Protection Project Waste Treatment and Immobilization contractor. Executed a comprehensive inspection program. Completed review of the Waste Treatment Contractor's Construction Authorization Request and Standards Approval Package. Prepared and issued the Preliminary Safety Evaluation Report, Construction Authorization Agreement, and Standards Approval Package. Reviewed revisions to the contractor's Quality Assurance Plan and Radiation Protection Plan (FY 2001/FY 2002/ORP-RG01).
- Completed transfer of waste from Tank SY-101, remediating the surface level rise. Removed Tank SY-101 from the Flammable Gas Watch List; closed the Flammable Gas Safety Issue and resolved the associated unreviewed safety question (FY 2001/ORP-TW03).

- Removed remaining 24 tanks from the Wyden Amendment Watch List (all tanks have been removed as of August 2001); this will document closure of the unreviewed safety questions and complete the Tri-Party Agreement Milestone M-40-00 (FY 2001/ORP-TW03).
- Complete Interim Stabilization of three single-shell tanks for a total of 130 of 149 single-shell tanks pumped (15 tanks remain to be pumped per the Consent Decree) (FY 2002/ORP-TW03).
- Started Interim Stabilization of six single-shell tanks in FY 2001 and initiate pumping of four single-shell tanks in FY 2002 as required by the Consent Decree (FY 2001/FY 2002/ORP-TW03).
- Initiated the planning and design activities for conducting near-term, i.e., prior to September 30, 2006, retrieval demonstrations in single-shell tanks in compliance with Tri-Party Agreement Milestone M-45-00A (FY 2001/ORP-TW04).
- Complete functions requirements and pre-conceptual design for the confined sluicing and robotic waste retrieval demonstration for Tank C-104 and for saltcake retrieval demonstration in Tank S-112. Complete functions and requirements for Tank S-102 retrieval demonstration (FY 2002/ORP-TW04).
- Complete design and procurement for the Tank AN-101 retrieval system. Continue procurement and initiate construction of the Tank AZ-101 retrieval system. Initiate construction of the new waste transfer system piping. Initiate infrastructure upgrades in the AP and AW tank farms. Complete construction of upgrades to Tanks AZ-101 and AZ-102. Continue construction of the Master Pump Shutdown System, Waste Transfer System, and the AW Farm Pit (FY 2002/ORP-TW04).
- Awarded the Waste Treatment and Immobilization Plant contract on December 11, 2000 (FY 2001/ORP-TW06LT).
- Complete the Waste Treatment and Immobilization Plant small-scale process and characterization of candidate feed samples. Complete modeling of full-scale vitrification facility and melter development and testing of canisters, off gas systems, and glass product. Submit to DOE, the product and secondary waste plans and Environmental, Safety and Health deliverables (FY 2002/ORP-TW06LT).
- Complete all remaining infrastructure construction activities and closeout Line-Item Project 99-D-403, Phase I Infrastructure Support, one year ahead of schedule and $9,000,000 below the Project Total Estimated Cost (FY 2001/FY 2002/ORP-TW08).
- Initiated design of Immobilized High-Level Waste Interim Storage Facility for the facility modifications to allow interim storage of the high-level waste canisters produced by the Waste Treatment and Immobilization Facility. The design is funded as a subproject within Line-Item 01-D-414, Project Engineering and Design, through FY 2004 (FY 2001/ORP-PED).
- Signed a contract modification for a five-year extension of the tank farm operation contractor, CH2M Hill Hanford Group, Inc., on January 17, 2001 (FY 2001/ORP-TW10).
- Complete the initial characterization of the Vadose Zone in Waste Management Areas B/BX/BY. Issue to the State regulator the Field Investigation Report for the Vadose Zone in Waste Management Areas S/SX (FY 2001/FY 2002/ORP-TW11).

Issued the final report on baseline spectral gamma logging of the soil around the single-shell tank farms. This report provides data on existing contamination around the farms and will serve as the baseline to track whether there is any increase or movement of contamination during future operations and waste retrieval (FY 2001/ORP-TW11).

Funding Schedule

(dollars in thousands)

	FY 2001	FY 2002	FY 2003
ORP-RG01 / Safety Regulation	6,502	4,001	3,089
ORP-TW01 / Tank Waste Characterization	1,815	0	0
ORP-TW02 / Tank Safety Issue Resolution Project	16,791	0	0
ORP-TW03 / Store Waste	160,655	150,790	126,407
ORP-TW04 / Retrieve Waste	106,995	93,497	72,217
ORP-TW05 / Process Waste Support	2,752	0	0
ORP-TW06LT / Treat Waste	401,171	670,749	619,150
ORP-TW08 / Process Waste Privatization Infrastructure	5,506	0	0
ORP-TW09 / Dispose Waste	6,709	10,401	8,732
ORP-TW10 / Manage Project	72,847	81,769	65,293
ORP-TW11 / Close Facilities	9,037	13,991	3,100
Total, Office of River Protection	790,780	1,025,198	897,988

Funding by Site

(dollars in thousands)

	FY 2001	FY 2002	FY 2003	$ Change	% Change
CH2M Hill	389,609	360,198	278,988	-81,210	-22.5%
Bechtel Washington	401,171	665,000	619,000	-46,000	-6.9%
Total, Office of River Protection	790,780	1,025,198	897,988	-127,210	-12.4%

Metrics Summary

	FY 2001	FY 2002	FY 2003
Project specific metrics and key milestones are included in the Detailed Program Justification as applicable.			

Site Description

Office of River Protection

In order to more effectively manage the River Protection Project and in response to Section 3139 of the *Strom Thurmond National Defense Authorization Act for Fiscal Year 1999*, the Secretary of Energy established the Office of River Protection at the Hanford Site in the State of Washington. The Office of River Protection is responsible for the storage, treatment, and immobilization of tank waste and the operation, maintenance, engineering, and construction activities in the 200 Area tank farms. The 200 Area tank farms are located in the central plateau of the Hanford Site and are 7 miles south and 10 miles west of the Columbia River, the largest river in the Pacific Northwest. The Hanford Site is mostly flat and semi-arid with a relatively mild climate. The 200 Area had been the site of major nuclear chemical processing plants, which were shut down by the early 1990's. The 200 Area is now the focus of the Office of River Protection and includes 177 underground storage tanks (149 single-shell and 28 double-shell) containing approximately 190 million curies in more than 53 million gallons of radioactive waste from past processing operations. The Office of River Protection will manage the complex River Protection Project activities to ensure successful immobilization and disposal of high-level wastes and the ultimate protection of the Columbia River resources.

Detail Program Justification

(dollars in thousands)

FY 2001	FY 2002	FY 2003

The site is managed through an incentivized management and operations contractor, with fixed-price subcontracts, to assure the most cost-effective services to the Government. The scope planned for FY 2003 has been reviewed and is appropriate to meet the critical goals of the program. The integrated baseline and supporting documentation have had an independent review of the scope by an internal Hanford and Headquarters team. The funds requested for FY 2003 are appropriate to perform the critical activities based on estimated project progress and accumulated cost management success.

ORP-RG01 / Safety Regulation 6,502 4,001 3,089

This project funds the Safety Regulation within the River Protection Project. The Safety Regulation Office ensures adequate safety through development of guidance, review and approval of the River Protection Project Waste Treatment Contractor’s regulatory submittals, and execution of a comprehensive inspection program. This office will continue to perform these duties through design, construction, operation, and deactivation of the Waste Treatment and Immobilization Plant. In FY 2002, these activities transferred from the Richland Operations Office to the Office of River Protection.

Ensure adequate safety of the River Protection Project Waste Treatment and Immobilization Plant.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

- # Execute a comprehensive inspection program, and review revisions to the contractor's Quality Assurance Manual and Radiation Protection Program.
- # Initiate review of the Waste Treatment Plant contractor's Construction Authorization Request and Standards Approval Package.

Key Milestones

- # Issued the Limited Construction Authorization Request Agreement and Environmental Report (October 2001).
- # Issued the Preliminary Safety Analysis Report and Evaluation Report (June 2002).

ORP-TW01 / Tank Waste Characterization 1,815 0 0

This PBS was closed in FY 2001 and all activities were transferred to PBS ORP-TW03, Store Waste.

- # No activity in FY 2003.

ORP-TW02 / Tank Safety Issue Resolution Project 16,791 0 0

This PBS was closed in FY 2002 and all activities were transferred to PBS ORP-TW03, Store Waste.

- # No activity in FY 2003.

ORP-TW03 / Store Waste 160,655 150,790 126,407

This project’s mission is to operate and maintain tank farm facilities to safely store waste until it is retrieved and to perform the single-shell tank interim stabilization program to pump remaining liquids from the single-shell tanks. The interim stabilization program will be completed in FY 2004 in accordance with the Consent Decree administered by a Federal District Court in the State of Washington. Beginning in FY 2002, this project will also be responsible for maintaining an adequate, comprehensive, and reliable Authorization Basis for management and storage of tank waste.

Also beginning in FY 2002, this project will be responsible to provide characterization for tank waste safe storage, operations, and retrieval/disposal. Characterization of tank waste contents is performed to: verify tank waste composition to ensure no problems are occurring during storage; assess waste compatibility to ensure that no problems are created while the wastes are being retrieved and transferred; and provide input to the design of the feed delivery systems and Waste Treatment and Immobilization Plant to ensure they can be operated to properly retrieve and treat the waste.

- # Conduct cross-site transfers in support of Interim Stabilization and Evaporator Campaigns.
- # Operate the tank farm complex in a safe and efficient manner consistent with the Authorization Basis.
- # Continue Interim Stabilization activities consistent with the Consent Decree.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

- Maintain and update the Authorization Basis/Final Safety Analysis Report as required.
- Continue the double-shell tank integrity assessments to expand understanding of tank service life and support administrative orders.
- Continue to characterize samples in support of retrieval and waste feed delivery.
- Provide RadCon programs, safety and health, Quality Assurance, and Environmental Safety and Health and Quality program management.
- Provide engineering and requirements management including safety equipment list, standards and requirements identification documents and overall conduct of engineering support.

Key Milestones

- Initiate pumping of Tanks SX-105, SX-103, SX-101, and U-106 (November 2000).
- Start Interim Stabilization of two single-shell tanks BY -105 and 106 (D-001-09) (July 2001).
- Submit final Waste Information Requirements Document for FY 2002 to Ecology (August 2001).
- Mitigate/resolve tank safety issues high priority watch list tanks (August 2001).
- Reduce total organic complexant pumpable liquids to 5 percent of total volume from single-shell tanks (D-001-01V) (September 2001).
- Start Interim Stabilization of four single-shell tanks U-108, U-107, S-111, SX-102 (D-001-11) (December 2001).
- Reduce total liquids to 18 percent of total volume of single-shell tanks (September 2002).
- Evaluate the double-shell tank space (September 2002).
- Start Interim Stabilization of five single-shell tanks U-111, S-109, S-112, S-101, S-107 (D-001-13) (November 2002).
- Reduce total liquids to 2 percent of total volume from single-shell tanks (D001-00V) (September 2003).

(dollars in thousands)

FY 2001	FY 2002	FY 2003

ORP-TW04 / Retrieve Waste 106,995 93,497 72,217

This project's mission is to retrieve wastes from the single-shell and double-shell tanks and the designated miscellaneous underground storage tanks and provide waste to the Waste Treatment and Immobilization Plant for treatment and immobilization. As part of this mission, this project will conduct demonstrations of single-shell tank retrieval technologies. In addition, two capital construction projects will be managed under this PBS. Project 94-D-407, Initial Tank Retrieval Systems, will design and install the waste retrieval systems for the double-shell tanks. Project 97-D-402, Tank Farm Restoration and Safe Operations (transferred in FY 2002 from PBS ORP-TW03, Store Waste), will perform the essential tank farms infrastructure upgrades to support waste feed delivery to the Waste Treatment and Immobilization Plant, and correct environmental compliance deficiencies with the aging tank farms support systems.

- # Continue analysis for creating additional tank space to support future single-shell tank retrieval.
- # Provide retrieval engineering and program activities to maintain ability provide initial quantity compliant waste to the Waste Treatment and Immobilization Plant.
- # For line-item 94-D-407, Initial Tank Retrieval Systems, continue detailed design on retrieval systems, long lead procurement, initiate construction on one tank, and continue construction on the first high-level waste feed tank and on the AP waste transfer system to the Waste Treatment and Immobilization Plant. Funding for this project is: $17,347,000 in FY 2001; $6,844,000 in FY 2002; and $20,945,000 in FY 2003.
- # For line-item 97-D-402, Tank Farm Restoration and Safe Operations, complete all Phase I activities, support AN Phase II construction, AN-101/104 and AP design, procurement, and construction activities. Startup and testing of the Cold Test Facility is planned. Funding for this project is: $45,923,000 in FY 2001; $33,473,000 in FY 2002; and $25,424,000 in FY 2003.

Key Milestones

- # Complete system description and operations strategy for tank leak monitoring and mitigation (December 2000).
- # Submit annual update of single-shell tank retrieval sequence document (September 2001).
- # Submit annual progress report on waste tank leak monitor/detection and mitigation (September 2001).
- # Start construction phase of the River Protection Project Transfer System (September 2002).
- # ORP-01-2.a - Complete master pump shutdown system installation (September 2002).
- # ORP-01-2.b - Complete valve pit, lines, and ATPs (September 2003).
- # ORP-01-3 - Complete AZ/AY Transfer System Upgrades and AN Tank Farm Upgrades (Phase 1and 2) (September 2003).

(dollars in thousands)

FY 2001	FY 2002	FY 2003

ORP-TW05 / Process Waste Support 2,752 0 0

The Process Waste Support Project provides support to the Office of River Protection in management of the procurement for the Waste Treatment and Immobilization Plant. Due to the decision not to privatize the Waste Treatment and Immobilization Plant, the management support provided by this PBS is significantly reduced. As a result, this PBS will be closed after FY 2001 and the remaining work scope will be transferred to PBS ORP-TW10, Manage Project.

No activity in FY 2003.

ORP-TW06LT / Treat Waste 401,171 670,749 619,150

This PBS funds Project 01-D-416, Waste Treatment and Immobilization Plant (formerly Privatization Project 97-PVT-1, Tank Waste Remediation System). The project's mission is to design, construct, and commission the Waste Treatment and Immobilization Plant, which consists of: the Pretreatment Facility, which separates the tank waste into a high-level waste stream and a low-activity waste stream; the Low-Activity Waste Vitrification Facility, which immobilizes the low-activity waste stream into glass for disposal site; and the High-Level Waste Vitrification Facility, which immobilizes the high-level waste into glass for interim storage until a National Repository is available.

This PBS also supports the development of engineering information required during design, construction, and operations of the Plant, establishment and maintenance of the system level flow sheets, development of all permits and safety basis documents for construction and operations, and performance of pilot melter research and pretreatment requirement testing. Infrastructure operations services, i.e., utilities and site maintenance, required to support the Waste Treatment and Immobilization Plant, have been transferred from PBS RL-TW08, Process Waste Privatization Infrastructure, in FY 2002.

Start of construction milestones were changed to reflect the revised project baseline while maintaining the milestone for hot start of the facility.

Continue with detailed design, engineering, planning, and site preparation of the Waste Treatment and Immobilization Plant.

Initiate pretreatment facility construction, and continue low-activity waste vitrification and high-level waste vitrification facilities' construction. In FY 2001 $401,171,000 was appropriated; in FY 2002 $665,000,000 was appropriated; and in FY 2003 $619,000,000 is requested.

Provide utility support to the Waste Treatment and Immobilization Plant construction site.

Provide limited support to the Interface Control Document Integrated Product Team.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

Key Milestones

- # Award the Waste Treatment Plant contract (December 2000).
- # Select a commissioning subcontractor for the Waste Treatment Plant (June 2001).
- # Start construction of the High-Level Waste Facility (July 2002).
- # Start construction of the Low-Activity Waste Facility (July 2002).
- # Start construction of the Pretreatment Facility (November 2002).

ORP-TW08 / Process Waste Privatization Infrastructure 5,506 0 0

This project provides the road, electrical service, water services, and liquid piping system tie-ins to support construction of the Waste Treatment and Immobilization Plant. Construction of line-item Project 99-D-403, Privatization Phase I Infrastructure, will be completed in FY 2002. Infrastructure operations costs such as utilities and site maintenance will be transferred to PBS ORP-TW06LT, Treat Waste, in FY 2002.

- # Complete project closeout in FY 2002 one year ahead of schedule and $9,000,000 below the total estimated cost.
- # Capital line-item funding to support Project 99-D-403, Privatization Phase I Infrastructure, was $3,858,000 in FY 2001, which completed project funding. No line-item funding is requested in FY 2002 or FY 2003.

ORP-TW09 / Dispose Waste 6,709 10,401 8,732

This PBS will provide final near-surface disposal on the Hanford Site for immobilized low activity tank waste, and interim storage for immobilized high-level waste. This project will also be responsible for the operations of the facilities to interim store the high-level waste canisters until shipped to the National Repository and the storage and final near-surface disposal of the immobilized low-activity tank waste. This includes assessments, systems definitions, etc.

- # Support planning for immobilized high-level waste storage and immobilization low activity waste disposal including updating the Performance Assessment.
- # The Immobilized High-Level Waste Interim Storage Facility Project (03-D-403) will initiate procurement of long-lead time equipment including the shielded canister transporter. Funding of $6,363,000 is requested for line-item 03-D-403.

ORP-TW10 / Manage Project 72,847 81,769 65,293

(dollars in thousands)

FY 2001	FY 2002	FY 2003

The Manage Project provides program management services and oversight for the River Protection Project. This project performs the activities necessary for the efficient, cost-effective operation of the River Protection Project.

In FY 2002, the Office of River Protection implemented an Accounting Practice Change for the direct funding of indirect expenses resulting in a streamlining of the rate structures. This change simplifies estimating and planning, eventually producing cost reductions and efficiencies for these processes.

- # Manage River Protection Project's allocation of Hanford Site Services, i.e., water, electrical utilities, sanitary water/sewer, roads, fire systems, etc.
- # Maintain the River Protection Project integrated baseline and change control process.
- # Provide management, integration, engineering, and site services for River Protection Project.

Key Milestones

- # CH2M Hill Hanford Group, Inc. - completed revised River Protection Project integrated baseline (September 2001).
- # Submit the annual Tank Farm Contractor baseline package fully integrated with the Waste Treatment Plant contractor (March 2002).
- # Submit the annual work analysis to the Office of River Protection (July 2002).
- # M-045-05D - Establish completion date for the second tank, Initial Waste Retrieval (December 2002).

ORP-TW11 / Close Facilities 9,037 13,991 3,100

This project's mission is to mitigate potential environmental impacts from waste retrieval and tank closure activities through monitoring; characterization and control of contaminates in the vadose zone; and closure of both the double-shell and single-shell tank farms.

- # Continue development of closure planning documents.
- # Install surface run-on barriers and finalize Field Investigation reports for various tank farms.
- # Vadose zone monitoring and characterization provides an indication of the extend of migration of high-level waste that has leaked from the tanks, and is strongly supported by the regulator and local stakeholders. The information gathered from Vadose Zone Characterization will provide a basis for establishing performance criteria for tank closure.

Key Milestones

- # Complete 244-AR vault interim stabilization (September 2002).
- # Complete acceptance criteria transferring 244-T for decontamination and decommissioning (October 2002).

(dollars in thousands)

	FY 2001	FY 2002	FY 2003
Total, Hanford Site - Office of River Protection	**790,780**	**1,025,198**	**897,988**

Explanation of Funding Changes

	FY 2003 vs. FY 2002 ($000)
ORP-RG01 / Safety Regulation	
# In FY 2003, the administration proposes to reduce this activity to permit EM to accelerate risk reduction elsewhere.	-912
ORP-TW03 / Store Waste	
# In FY 2003, the administration proposes to reduce this activity to permit EM to accelerate risk reduction elsewhere.	-24,383
ORP-TW04 / Retrieve Waste	
# In FY 2003, the administration proposes to reduce this activity to permit EM to accelerate risk reduction elsewhere.	-21,280
ORP-TW06LT / Treat Waste	
# In FY 2003, the administration proposes to reduce this activity to permit EM to accelerate risk reduction elsewhere.	-51,599
ORP-TW09 / Dispose Waste	
# In FY 2003, the administration proposes to reduce this activity to permit EM to accelerate risk reduction elsewhere.	-1,669
ORP-TW10 / Manage Project	
# In FY 2003, the administration proposes to reduce this activity to permit EM to accelerate risk reduction elsewhere.	-16,476
ORP-TW11 / Close Facilities	
# In FY 2003, the administration proposes to reduce this activity to permit EM to accelerate risk reduction elsewhere.	-10,891
Total Funding Change, Hanford Site - Office of River Protection	-127,210

Capital Operating Expenses & Construction Summary

Construction Projects

(dollars in thousands)

	Total Estimated Cost (TEC)	Prior Year Appropriations	FY 2001	FY 2002	FY 2003	Unappropriated Balance
Post 2006 - ORP						
03-D-403 Immobilized High-Level Waste Interim Storage Facility, ORP	91,647	0	0	0	6,363	85,284
01-D-416 Waste Treatment and Immobilization Plant, ORP	4,350,000	0 [a]	401,171 [b]	665,000	619,000	2,664,829
99-D-403 Privatization Phase I Infrastructure Support, ORP	22,585	18,727	3,858 [c]	0	0	0
97-D-402 Tank Farm Restoration and Safe Operations, ORP	216,960	46,861	45,923 [d]	33,473	25,424	65,279
94-D-407 Initial Tank Retrieval Systems, ORP	242,100	39,740	17,347 [e]	6,844	20,945	157,224
Total, Post 2006-ORP	4,923,292	105,328	468,299	705,317	671,732	2,972,616

[a] $490,673,000 appropriated for Privatization in prior years and is not included in the TEC of Project 01-D-416. Privatization of this project was terminated in FY 2000.

[b] Reflects FY 2001 Rescission of $829,000 and FY 2001 Supplemental Appropriation of $25,000,000. The original appropriation was $377,000,000.

[c] Reflects FY 2001 General Reduction of $950,000 and a rescission of $4,000 and a $3,000,000 internal reprogramming to support single shell tank retrieval demonstrations. The original appropriation was $7,812,000.

[d] Reflects the shift of selected Phase 2 scope to Phase 1; changes in the safety authorization basis; and FY 2001 rescission of $100,000. The original appropriation was $46,023,000.

[e] Reflects FY 2001 Rescission of $38,000. The original appropriation was $17,385,000.

03-D-403, Immobilized High Level Waste Interim Storage Facility, Richland, Washington (ORP-TW09)

(Changes from FY 2002 Congressional Budget Request are denoted with a vertical line [|] in the left margin.)

Significant Changes

None.

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost ($000)	Total Project Cost ($000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 2003 Budget Request *(Preliminary Estimate)*	4Q 2001	4Q 2004	3Q 2004	2Q 2006	91,647[a]	108,072[a]

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
2003	6,363	6,363	6,363
2004	41,705	41,705	41,705
2005	28,200	28,200	28,200
2006	4,037	4,037	4,037

3. Project Description, Justification and Scope

The Immobilized High Level Waste (IHLW) Interim Storage Facility Project will install systems, structures, and components in the Canister Storage Building (CSB) to enable receipt and storage of Phase I IHLW produced by the Waste Treatment and Immobilization Plant (WTP). Vault 1 of the CSB provides for interim storage of Spent Nuclear Fuel; this project outfits vaults 2 and 3 for interim storage of IHLW. The project also includes a system for transporting IHLW canisters from the WTP to the CSB.

The IHLW Interim Storage Facility Project will design, procure, and install 220 storage tubes approximately 41 feet tall and 28 inches in diameter in each vault. The vaults will have independent

[a]TEC/TPC includes project engineering and design funding from Project 01-D-414 “Environmental Management, Project Engineering and Design (PED), Various Locations.”

intake (approximately 80 feet high) and exhaust structures (approximately 164 feet) designed and constructed for convection cooling of the canisters. The IHLW Interim Storage Facility Project will design/construct a building annex (approximately 2,900 square feet) to the CSB to receive IHLW from the WTP. This annex will provide a shielded transfer pit approximately 27 feet below grade to unload IHLW canisters from the transportation cask. The cask will be removed from the transportation vehicle and placed in the transfer pit with a gantry crane. The annex will have exhaust ventilation with HEPA filtration and associated exhaust stack.

Transporter vehicles and shielded transport casks to transport the IHLW from the WTP's facility to the CSB will be procured by the project. A shielded canister transporter will be procured to unload the canister from the transportation cask inside the building annex and place it into the selected storage tube.

The FY 2003 budget request will be used to initiate long lead procurement of the Shielded Canister Transporter.

It also supports meeting the established project milestones identified in the Hanford Federal Agreement and Consent Order (Tri-Party Agreement).

4. Details of Cost Estimate

(dollars in thousands)

	Current Estimate	Previous Estimate
Construction Costs		
Buildings and improvements to land	23,165	N/A
Specialized equipment	39,540	N/A
Other (major utilities/comp items, specialized facilities, etc.)	0	N/A
Removal cost less salvage	0	N/A
Project management	2,600	N/A
Inspection, design and project liaison, testing, checkout and acceptance	6,170	N/A
Construction management (5.0% of TEC)	4,030	N/A
Total, construction costs	75,505	N/A
Contingencies		
Construction phase (6.0% of TEC)	4,800	N/A
Total, contingencies (6.0% of TEC)	4,800	N/A
Total, line item costs (TEC)	80,305[a]	N/A

[a]Cost excludes $11,345,000 of project engineering and design funding. PED funding included in Project 01-D-414 "Environmental Management, Project Engineering and Design (PED), Various Locations."

5. Method of Performance

The CH2M-Hill Hanford Group will manage the project for the Office of River Protection (ORP). A design agent from the onsite Architect/Engineer pool will perform preliminary design and engineering and inspection during the construction of the IHLW Interim Storage Facility Project. Detailed design and construction will be performed by a competitively selected Architect-Engineer/Construction Manager with fixed-price contracts utilized to the maximum extend possible.

6. Schedule of Project Funding

(dollars in thousands)

	Prior Years	FY 2001	FY 2002	FY 2003	Outyears	Total
Project cost						
Facility cost						
Design	0	0	0	0	0	0
Construction	0	0	0	6,363	73,942	80,305
Total facility costs (Federal and Non-Federal)	0	0	0	6,363	73,942	80,305
Other project costs						
Conceptual design cost	0	0	0	0	0	0
NEPA documentation costs	0	0	0	0	0	0
Other project-related costs	0	0	0	685	9,151	9,836
Total other project costs	0	0	0	685	9,151	9,836
Total project costs (TPC)	0	0	0	7,048	83,093	90,141

7. Related Annual Funding Requirements

(dollars in thousands)

	Current Estimate	Previous Estimate
Annual facility operating costs (staff, utilities, etc)	2,655	NA
Annual facility maintenance and repair costs	0	NA
Other annual costs	530	NA
Total related annual funding	3,185	NA

01-D-416, Waste Treatment and Immobilization Plant Hanford Site, Washington (ORP-TW06LT)

(Changes from FY 2002 Congressional Budget Request are denoted with a vertical line [|] in the left margin.)

Significant Changes

None

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost ($000)	Total Project Cost ($000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 2001 Budget Request *(Title I Baseline)* [a]	4Q 1998	2Q 2005	2001	2007	5,466,000	12,488,000
FY 2002 Budget Request (*Current Baseline Estimate*) [b]	" [c]	"	2002	2007	4,350,000	4,350,000
FY 2003 Budget Request (*Current Baseline Estimate*)	"	"	2002	2007	4,350,000	4,350,000

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
Prior Year	393,673 [d]	393,673	393,673
2001	401,171 [e]	401,171	226,311
2002	665,000	665,000	530,609
2003	619,000	619,000	691,957
2004	690,000	690,000	842,804
2005	690,000	690,000	718,281

[a] Total Project Cost/Total Estimated Cost based upon Privatization concept and included plant operations through FY 2018.

[b] The FY 2002 Total Project Cost/Total Estimated Cost based on traditional government construction contract.

[c] The A-E work initiated and funding provided under the Tank Waste Privatization Project.

[d] Prior Years appropriated under EM Privatization account reflect $97,000,000 Congressional Rescission in the FY 2001 Appropriation. These appropriation, obligation, and cost estimates are not included in line item 01-D-416 TEC or TPC.

[e] Reflects FY 2001 Rescission of $829,000 and FY 2001 Supplemental Appropriation of $25,000,000. The original appropriation was $377,000,000.

Fiscal Year	Appropriations	Obligations	Costs
2006	690,000	690,000	680,874
2007	594,829	594,829	373,310
2008	0	0	100,000
2009	0	0	100,000
2010	0	0	85,854

3. Project Description, Justification and Scope

Radioactive waste has been stored in large underground storage tanks at the Hanford Site since 1944. Approximately 53 millions gallons of waste containing approximately 240,000 metric tons of processed chemicals and 172 mega-curies of radionuclides are currently being stored in 177 tanks. These caustic wastes are in the form of liquids, slurries, saltcakes, and sludge. In 1992, the Tank Waste Remediation System Program was established to manage, retrieve, treat, immobilize, and dispose of these wastes in a safe, environmentally sound, and cost-effective manner. In FY 2001, as directed by Congress, the Tank Waste Remediation System was renamed the River Protection Project. The River Protection Project is managed by the Office of River Protection at the Hanford site in Washington State. The River Protection Project also includes efforts to resolve a number of safety concerns and technical issues. Of particular interest is addressing past leakage from some of the underground storage tanks. The leakage has resulted in contamination of the underlying ground column (vadose zone) and recent reports indicate that some of the leakage has permeated to a depth to cause contamination of the groundwater. Storage in the current tanks is very costly, and as the tanks age, potential for radioactive and chemical release will increase, although short-term risks are low. The River Protection Project will substantially decrease the long-term costs and provide protection of public health and safety and the environment by removing the waste from the tanks and placing it in a waste form suitable for long-term disposal.

The River Protection Project will implement cleanup under two contract vehicles.

- The Tank Farm Contractor will provide for safe storage and retrieval of tank wastes, storage and disposal of immobilized waste, decontamination and decommissioning of tanks, and initiation of post closure monitoring of the tank farms.
- The Waste Treatment Contractor will design, construct, and commission a Waste Treatment and Immobilization Plant and support transition of the plant into full operation. Operation of the Waste Treatment and Immobilization Plant is planned to be under a separate contract awarded after commissioning.

The River Protection Project pathway for cleanup is documented in the Hanford Federal Facility Agreement and Consent Order, commonly known as the Tri-Party Agreement. Under the Tri-Party Agreement, DOE, the U.S. Environmental Protection Agency, and the Washington State Department of Ecology have agreed to a timetable for cleanup of the Hanford Site. A major objective in that timetable is to accomplish the first phase (Phase I) of the treatment effort by immobilizing approximately 10 percent of the tank waste by mass and 25 percent of the tank waste by radioactivity by 2018. The objective associated with Phase I will be met utilizing the Waste Treatment and Immobilization Plant. Phase II will accomplish immobilization of the remaining tank waste.

Until spring 2000, the Department's acquisition strategy for construction of the Waste Treatment and Immobilization Plant was planned to occur through a privatization contract. However, the Department determined that the privatization contractor's April 24, 2000, proposal for the Hanford privatization contract was unacceptable in many areas including cost, schedule, management, and business approach. The price of the proposal included high contingency, fees, and return on investment, which essentially shifted the financial risk from the contractor back to the Federal government. Thus a key benefit of privatization, in this case, was lost. Therefore, on May 8, 2000, then Secretary Richardson announced that the privatization contract with BNFL, Inc., would be terminated. Although the privatization contract was terminated, significant progress has been made in acquiring a robust technical design for the Waste Treatment and Immobilization Plant. Process tests with simulated and actual waste have demonstrated that the melter and pretreatment technologies meet or exceed requirements. These test results have been independently verified.

The Department awarded a competitively bid, non-privatized design and construction contract for the Waste Treatment and Immobilization Plant on December 11, 2000, a full month ahead of schedule. Bechtel Washington Group, the Waste Treatment and Immobilization Plant contractor, will continue to build upon the design initiated and developed by the prior privatization contractor. Design work will entail development of all structural, mechanical, electrical, and process drawings to a degree of detail sufficient for construction.

The Waste Treatment and Immobilization Plant Contractor will subcontract for operability and commissioning support. After commissioning, DOE will award a separate contract to operate the Waste Treatment and Immobilization Plant and treat and immobilize approximately 10 percent of the Hanford tank waste by mass and 25 percent of the Hanford tank waste by radioactivity by 2018.

The Waste Treatment and Immobilization Plant Contractor will review the privatization contractor's Waste Treatment and Immobilization Plant design and supporting information; complete process and facility design; perform construction and procurement; conduct acceptance testing; select and integrate a subcontractor into the project team to provide the necessary operability and commissioning capability; and conduct all required environmental, safety, quality, and health actions. From contract award, the Waste Treatment and Immobilization Plant Contractor will be the design authority responsible for the design of the Waste Treatment and Immobilization Plant.

The Waste Treatment and Immobilization Plant Complex currently consists of five separate facilities: Pretreatment facility, Low Activity Waste Conditioning facility, Low Activity Waste Vitrification facility, High-Level Waste Vitrification facility, and the Balance of Facilities. The Pretreatment facility will separate the Hanford feed waste into low-level and high-level fractions. The high-level fraction is sent to the High-Level Waste Vitrification facility for immobilization. The low-level fraction is sent to the Low Activity Waste Conditioning facility for additional treatment prior to being immobilized in the Low Activity Waste vitrification facility. Office facilities, chemical storage, site utilities, and infrastructure are provided as part of the Balance of Facilities.

Schedule performance is an important consideration for the River Protection Project, and specifically the Waste Treatment and Immobilization Plant. The Waste Treatment and Immobilization Plant contract includes several key milestones, the most important of which is the start of hot commissioning by December 2007. The Department will seek to accelerate the project by providing contractor fee

incentives to optimize life-cycle performance, cost, and schedule, including the process design, facility design, and technologies. The current Waste Treatment and Immobilization Plant design provides a reference solution that meets project requirements, but has significant potential for optimization. The Department will expect full Waste Treatment and Immobilization Plant Contractor accountability for performance, cost, and schedule throughout the contract period of performance.

This project has a contingency of $350,000,000 (8 percent) of the Total Estimated Cost, which is on the low side of the contingency allowance per Chapter 11 of DOE G 430.1-1. Project contingency is based on a risk assessment of design maturity, work complexity and project uncertainties. The assessment evaluated the following criteria: weather, unknown interferences, unknown tie-ins, rework, unknown special work procedures, operations impacts, changing waste disposal requirements, Health Physics Technician support, safety class/regulatory changes, contamination/radiation changes, longer project duration, schedule conflicts, and maturity of work definition.

| The FY 2003 appropriation request of $619,000,000 will be used to continue detailed design, engineering, long-lead procurement, planning, and continue construction. Many of the activities listed below are multi-year activities initiated in FY 2001 and carrying through FY 2002 and FY 2003, or beyond. The work that will be funded in FY 2003 includes the following.

- < Continue development of electrical component specifications
- < Continuation of seismic analysis
- < Continue Ion Exchange Testing for radionuclides removal
- < Continue preparation of procurement specifications for piping fabrication, Heating, Ventilation, and Air Conditioning systems, stainless steel liner plate, roofing and siding, rebar and embeds.
- < Continue procurement of electrical equipment, fabrication of tanks and vessels, wall boxes and cabinets.
- < Continue Instrumentation and Control Design.
- < Continue civil and structural detail drawings.
- < Low Activity Waste Facility construction starts.
- < Pretreatment Facility construction starts.
- < High-Level Waste Facility construction starts.
- < Continue performance testing of the canister design.
- < Continue primary and secondary Off-Gas System Development.
- < Continue preparation of the Piping, piping support, and Instrumentation Drawings.
- < Continue preparation of Control System Drawings.
- < Continue development of the Mechanical Equipment Specifications.
- < Continue small scale testing of the vitrification processes.

- < Continue regulatory permitting activities.
- < Continue Land Disposal Requirement Petitions.
- < Continue fabrication of other mechanical equipment.
- < Continue Pretreatment process testing of unit operations.
- < Continue development testing of unit operations.
- < Continue design and initiate construction of underground utilities.
- < Continue construction of site facilities (steam, water, electrical).
- < Continue construction of High Level Waste Facility, Low Activity Waste Facility, and initiate construction of the Pretreatment Facility.

4. Details of Cost Estimate

(dollars in thousands)

	Current Estimate	Previous Estimate
Facility Construction	$4,350,000	N/A
Facility Operations	$0	N/A
TOTAL	$4,350,000	N/A

The cost estimate was developed from the BNFL cost estimate provided to DOE on April 24, 2000, as part of the Tank Waste Remediation System Privatization contract. Since there were areas of the BNFL cost estimate that DOE believed to excessive (i.e. management costs and contingency) the original estimate for these areas were dramatically reduced. The contingency costs were reduced from $500,000,000 to $350,000,000 and there were portions of the management costs that were completely eliminated. The Department agreed with the "brick and mortar" costs proposed by BNFL and therefore did not propose any dramatic changes. The use of the BNFL cost estimate provides DOE with a cost, schedule, technical and risk baseline for comparison to any future baseline changes.

5. Method of Performance

Schedule performance is an important requirement for the Waste Treatment and Immobilization Plant Contract. The Waste treatment and Immobilization Plant Contract includes several key milestones, most important is the start of hot commissioning by December 2007. The Department will seek to improve the Waste Treatment and Immobilization Plant by incentivizing the Contractor, Bechtel Washington, to optimize life-cycle performance, cost, and schedule of the Waste Treatment and Immobilization Plant, including the process design, facility design, and technologies. The Waste Treatment and Immobilization Plant Conceptual Design provides a reference solution that appears to meet project requirements, but has significant potential for optimization. The Department will expect full Contractor accountability for performance, cost, and schedule throughout the contract period of performance.

The project has currently met the intent of DOE Order 413.3 requirements for Critical Decisions 0, 1, and 2. Critical Decisions 0 and 1, which established the need for waste treatment capability and the design approach, were completed under the former privatization approach. The requirement for Critical Decision 2, which establishes needed confidence in the design and cost estimate to permit final design and construction to move forward, was met during the process of selecting a contractor to complete design, construction, and commissioning of the WTP. Critical Decision 3 is planned to be approved in the fall of 2002. To date, the DOE has completed a Government Fair Cost Estimate (GFCE), a Request for Proposals, and selected a contractor based on two bids that were within 5 percent of the GFCE. Further, the DOE has funded and completed an External Independent Review. The technical requirements of the project have been determined through evaluation of waste characteristics and performance of ongoing research and development activities to mitigate potential project risks. An external review of the technologies to be used in the WTP was also performed. Results indicated that the DOE is proceeding down a prudent technological path for treating the wastes. A revised project baseline, reflecting the plans of the construction contractor, Bechtel Washington, will establish detailed project cost, scope, and schedule requirements. It will be completed in the summer of 2001. The contract contains numerous incentives to assure the contractor meets cost and schedule requirements and a large portion of the incentive fee is associated with the successful commissioning and hot start of the facility.

The current baseline milestones for the project are included in Table 5.1. The baseline for this project has not changed as a result of contract award, but may change following review by the new contractor of the cost, schedule, and technical requirements.

Table 5.1

Treatment and Immobilization Milestones

Milestone Title	Date
Start Construction of the Pretreatment Facility	November 30, 2002
Start Construction of the High-Level Waste Facility	July 16, 2002
Start Construction of the Low Activity Waste Facility	July 29, 2002
Complete Design of the Pretreatment Facility	October 1, 2003
Complete Design of the Low Activity Waste Facility	December 29, 2004
Complete Design of the High-Level Waste Facility	February 16, 2005
Complete Construction - Low Activity Waste	March 2, 2006
Complete Construction - Pretreatment	March 16, 2006
Complete Construction - High-Level Waste	September 28, 2006
Initiate Pretreatment Hot Start	May 2, 2007
Initiate Pretreatment Services	November 28, 2008
Initiate High-Level Waste Treatment Services	July 2, 2008

6. Schedule of Project Funding

(dollars in thousands)

	Prior Years	FY 2001	FY 2002	FY 2003	Outyears	Total
Project cost						
Facility cost						
Design	0	220,311	450,311	187,040	525,230	1,382,892
Construction	0	0	70,298	450,000	1,790,039	2,310,337
Total facility costs (Federal and Non-Federal)	0	220,311	520,609	637,040	2,315,269	3,693,229
Other project costs						
Conceptual design cost	0	0	0		0	0
Other project-related costs	0	6,000	10,000	54,917	585,854	656,771
Total other project costs	0	6,000	10,000	54,917	585,854	656,771
Total project costs (TPC)	0	226,311	530,609	691,957	2,901,123	4,350,000

7. Related Annual Funding Requirements

(FY 2000 dollars in thousands)

	Current Estimate	Previous Estimate
Annual facility operating costs (staff, utilities, etc.) [a]	114,000	TBD
Annual facility maintenance and repair costs	TBD	TBD
Other annual costs [b]	TBD	TBD
Total related annual funding *(operating from FY 1998 through FY 2010)*	114,000	0

[a] The total operating costs for all facilities that constitute the Waste Treatment and Immobilization Plant are included in this estimate. This estimate includes the estimated maintenance and repair costs. This is an estimated average cost for the operation of the Waste Treatment and Immobilization Plant.

[b] No estimate currently exists for this work scope.

97-D-402, Tank Farm Restoration and Safe Operations, Hanford Site, Washington (ORP-TW04)

(Changes from FY 2002 Congressional Budget Request are denoted with a vertical line [|] in the left margin.)

Significant Changes

None.

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost ($000)	Total Project Cost ($000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 1997 Budget Request *(Preliminary Estimate)*	2Q 1997	2Q 2004	1Q 1999	3Q 2005	248,480	289,239
FY 1998 Budget Request *(Preliminary Estimate)*	"	3Q 2004	3Q 1998	3Q 2007	206,000	273,000
FY 1999 *Budget Request (Title I Baseline)*	"	"	1Q 1998	"	232,700	301,500
FY 2000 Budget Request *(Current Baseline Estimate)*	"	2Q 2004	"	"	"	"
FY 1999 Reprogramming *Request (Current Baseline Estimate)*	"	"	"	"[a]	216,960[b]	285,260[c]
FY 2001 Budget Request *(Current Baseline Estimate)*	"	4Q 2004	"	3Q 2005	"	"
FY 2002 Budget Request (*Current Baseline Estimate)*	"	"	"	"	"	"
FY 2003 Budget Request *(Current Baseline Estimate)*	"	"	"	"	"	"

[a] Delays to Phase I due to reprogramming do not cause an overall project schedule change.

[b] The total estimated cost of $232,700,000 based on the Conceptual Design Report dated November 1996 was reduced by $15,740,000 due to the deletion of liquid-level monitors and continuous air monitors from the project scope. Replacement of these devices was required on an expedited basis to meet regulatory and safety demands and is being performed as a maintenance activity.

[c] The total project cost of $301,500,000 based on the Conceptual Design Report dated November 1996 was reduced by $16,240,000 ($15,740,000 capital funds and $500,000 for other project costs).

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
1997	7,584	7,584	3,864
1998	13,961	13,961	9,596
1999	4,800[a]	4,800	12,077
2000	20,516	20,516	20,747
2001	45,923[b]	45,923	39,828
2002	33,473	33,473	37,000
2003	25,424	25,424	27,357
2004	34,000	34,000	33,555
2005	31,279	31,279	32,936

3. Project Description, Justification and Scope

The Tank Farm Restoration and Safe Operations project will provide upgrades for selected tank farm instrumentation control, tank ventilation, waste transfer, and electrical systems in order to restore these systems to an acceptable design basis. Phase I of the project focuses primarily on improvements needed to support waste processing and disposal and routine operations of existing double-shell tank farm facilities during the River Protection Project's mission. This project is integrated with other planned/ongoing upgrades, waste retrieval, and major maintenance activities to ensure that the combined upgrades are performed in a cost-effective manner and that they will adequately support the overall River Protection Project mission.

During Phase I, the project will provide major upgrades to the waste transfer systems, the master pump shutdown system, and the leak detection system. During Phase II, the project will provide upgrades to ventilation and electrical systems and additional transfer systems.

Waste Transfer

New valve manifold assemblies will be provided in selected pits used for the double-shell tank waste transfer operations. In addition, the project will install three new transfer routes (pipe-in-pipe configuration, equipped with appropriate leak detection and cathodic protection capabilities); one bypassing the A-A valve pit (200 East Area), and two bypassing the 244-S double-contained receiver tank (200 West Area). Existing pits used for the double-shell tank waste transfer operations will have special protective coating applied to the walls, floor, and underside of cover blocks to facilitate decontamination and support compliance with regulatory requirements for secondary containment.

[a] Reflects original appropriation of $22,723,000 less the reduction of $17,923,000 of FY 1999 funds for Congressional reprogramming. The reprogramming was possible because the project schedule has been revised due to a change in feed delivery need date following award of the private vitrification contract.

[b] Reflects: 1) the shift of selected Phase 2 scope to Phase 1; 2) changes in the safety authorization basis; and 3) FY 2001 rescission of $100,000. The original appropriation was $46,023,000.

94-D-407, Initial Tank Retrieval Systems, Hanford Site, Washington (ORP-TW04)

(Changes from FY 2002 Congressional Budget Request are denoted with a vertical line [|] in the left margin.)

Significant Changes

None

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost ($000)	Total Project Cost ($000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 1994 Budget Request *(Preliminary Estimate)*	2Q 1994	4Q 1998	1Q 1995	2Q 2000	210,000	245,000
FY 1995 Budget Request *(Preliminary Estimate)*	"	4Q 1999	4Q 1995	2Q 2001	"	"
FY 1996 Budget Request *(Preliminary Estimate)*	"	2Q 2008	3Q 1996	2Q 2010	315,000	375,200
FY 1997 Budget Request *(Title I Baseline*	4Q 1994	4Q 2007	4Q 1996	"	304,300	358,200
FY 1998 Budget Request *(Title I Baseline)*	"	4Q 2004	2Q 1997	3Q 2008	202,000	229,100
FY 1999 Budget Request *(Current Baseline)*	"	"	1Q 2001	2Q 2010	"	"
FY 2000 Budget Request *(Current Baseline)*	"	"	"	"	"	"
FY 2001 Budget Request *(Current Baseline)*	"	4Q 2003	"	"	"	"
FY 2002 Budget Request *(Current Baseline)*	"	3Q 2004	3Q 2000	1Q 2016	249,200	283,700
FY 2003 Budget Request *(Current Baseline)*	"	"	"	"	242,100	274,900 [a]

[a] Baseline Change Proposal planned for approval in late January 2002.

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
1994	1,000 [b]	1,000	509
1995	3,380 [b]	3,380	3,151
1996	5,600 [c]	5,600	2,659
1997	7,600 [d]	7,600	6,231
1998	10,100 [e]	10,100	7,672
1999	8,000 [f]	8,000	4,657
2000	4,060	4,060	5,066
2001	17,347 [g]	17,347	5,735
2002	6,844	6,844	19,375
2003	20,945	20,945	22,806
2004	30,355	30,355	36,105
2005	9,000	9,000	9,010
2006	8,700	8,700	8,714
2007	17,000	17,000	17,029
2008	19,000	19,000	19,433
2009	13,000	13,000	12,314
2010	16,000	16,000	16,253
2011	14,000	14,000	13,767
2012	9,000	9,000	8,911
2013	10,000	10,000	10,176

[a] Reflects reduction of $6,000,000 for uncosted offset from original appropriation of $7,000,000.

[b] Reflects reduction of $9,020,000 of FY 1995 funds for Productivity Savings and reduction of $5,300,000 current year funds due to rescission from original appropriation of $17,700,000.

[c] Reflects reduction of $6,400,000 to meet uncosted offset for FY 1996 from original appropriation of $12,000,000.

[d] Reflects reduction of $5,000,000 for internal reprogramming by the Richland Operations Office from the original appropriation of $12,600,000. The reprogramming moved $5,000,000 to Project 89-D-173, Tank Farm Ventilation Upgrades.

[e] Reflects reduction of $5,000,000 for internal reprogramming by the Richland Operations Office from the original appropriation of $15,100,000. The reprogramming moved $5,000,000 to operating expenses to extend the existing privatization Phase 1A contract from May 1998 until Phase 1B contract was signed August 1998.

[f] Reflects reduction of $560,730 for uncosted offset and $24,299,270 for congressional reprogramming from the original appropriation of $32,860,000. The FY 1999 capital funding was available for reprogramming because construction work planned for the project has been deferred. The scheduled need date for waste feed delivery in the contract between DOE and BNFL does not require the project to begin construction until FY 2001.

[g] Reflects FY 2001 rescission of $38,000. The original appropriation was $17,385,000.

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
2014	8,000	8,000	7,697
2015	3,169	3,169	1,477
2016	0	0	3,353

3. Project Description, Justification and Scope

The selected feed and staging tanks contain both supernatant liquids and settled solids, most of which must be mixed before transfer for processing or storage. Initial tank design did not anticipate solid waste transfers, but consolidation and concentration of wastes stored in these tanks, as well as feed specifications supporting vitrification processing, have made such systems necessary. The consolidation of wastes stored in these double shell tanks has supported waste removal from older design and leaking single shell tanks, thereby relieving threats to the environment. Concentration has avoided the need for construction of additional tanks. Additionally, waste mixing and concentration will mitigate safety concerns relating to radiolytic generation of flammable gasses within stored waste.

This project will provide mixing and pumping systems for the retrieval of radioactive wastes from ten double-shell tanks at Hanford and the waste transfer system between the existing tank farms and the Waste Treatment and Immobilization Plant. The typical retrieval system for the selected tanks consists of 300 horsepower mixer pumps to mobilize solids in the tank and a transfer system for removal of the tank contents. Tank internal components, such as thermocouple trees, will be replaced with higher strength equipment to withstand the forces induced by the mixer pumps. Monitoring and control systems will be installed to measure performance of the mixer pumps and tank operations. Remote decontamination equipment and disposable containment equipment will be utilized for removal and disposal of tank components. Waste transfer components include upgrades to valve pits (including new jumpers) and waste transfer lines.

| The project is at the Title II design maturity level and has a contingency of $23,200,000, which is within the contingency allowance per Chapter 11 of DOE G 430.1-1. Project contingency is based on a risk assessment of design maturity, work complexity, and project uncertainties. The assessment evaluated the following criteria: weather, unknown interferences, unknown tie-ins, rework, unknown special work procedures, operations impacts, changing waste disposal requirements, Health Physics Technician support, safety class/regulatory changes, contamination/radiation changes, longer project duration, schedule conflicts, maturity of work definition, and Job Control system package impacts. A summation of the risk scores assigned to each of the above criteria yields a composite contingency of 9.6 percent of the Total Estimated Cost.

The FY 2003 budget request will be used for continuing detailed design on three retrieval systems, continuing long lead procurement, initiating construction on one tank, continuing construction on the first HLW feed tank (AZ-101) and on the AP waste transfer system to the Waste Treatment Plant, and performing associated project management.

This project has met the intent of DOE Order 413.3 requirements for Critical Decisions 0, 1, and 2.

4. Details of Cost Estimate [a] [b]

(dollars in thousands)

	Current Estimate	Previous Estimate
Engineering, design, inspection, and administration of construction costs		
Preliminary and final design costs (11.3% of total estimated cost (TEC))	27,315	25,870
Design management costs (2.5% of TEC)	5,980	5,720
Project management costs (4.4% of TEC)	10,645	10,930
Total, engineering, design, inspection, and administration of construction costs (18.2% of TEC)	43,940	42,520
Construction Costs		
Buildings & improvements to land	300	300
Specialized equipment	83,995	85,340
Other (major utilities/comp items, specialized facilities, etc.)	13,350	13,350
Removal cost less salvage	14,620	14,620
Inspection, design and project liaison, testing, checkout and acceptance	22,420	22,370
Construction management (11.9% of TEC)	28,770	29,560
Project management costs (4.8% of TEC)	11,505	15,420
Total, construction costs	174,960	180,960
Contingencies		
Design phase (1.3% of TEC)	3,250	3,120
Construction phase (8.2% of TEC)	19,950	22,600
Total, contingencies (9.6% of TEC)	23,200	25,720
Total, line item costs (TEC)	242,100	249,200

5. Method of Performance

The CH2M HILL Hanford Group will manage the project for the Office of River protection and the onsite engineer-constructor will perform design and construction. Fixed-price contracts will be utilized to the maximum extent possible.

[a] Project estimate is based on the July 2000 estimate reflecting an increase of one tank for a total of ten, and the transfer of the AP Tank Farm work scope.

[b] Escalation rates were calculated from the January 2000 update of the economic escalation price change indices for DOE construction projects.

6. Schedule of Project Funding

(dollars in thousands)

	Prior Years	FY 2001	FY 2002	FY 2003	Outyears	Total
Project cost						
Facility cost						
Design	24,359	3,835	4,095	2,479	6,184	40,952
Construction	5,586	1,900	15,280	20,327	158,055	201,148
Total facility costs (Federal and Non-Federal)	29,945	5,735	19,375	22,806	164,239	242,100
Other project costs						
Conceptual design cost	1,595	0	0	0	0	1,595
NEPA documentation costs	10	0	0	0	0	10
Other project-related costs	7,388	1,217	1,595	1,673	19,322	31,195
Total other project costs	8,993	1,217	1,595	1,673	19,322	32,800
Total project costs (TPC)	38,938	6,952	20,970	24,479	183,561	274,900

7. Related Annual Funding Requirements

(FY 2000 dollars in thousands)

	Current Estimate	Previous Estimate
Annual facility operating costs (staff, utilities, etc.)	250	250
Annual facility maintenance and repair costs	50	50
Total related annual funding *(operating from FY 2005 through FY 2018)*	300	300