Post 2006 Completion

Program Mission

The Defense Post 2006 Completion account includes Environmental Management (EM) projects currently planned to require funding beyond FY 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 Hanford site in Washington; the Savannah River site in South Carolina; the Idaho National Engineering and Environmental Laboratory in Idaho; the Oak Ridge Reservation in Tennessee--as well as, the Los Alamos National Laboratory in New Mexico; the Lawrence Livermore National Laboratory in Oakland, California; the Nevada Test Site; the Chicago Operations Office in Illinois; and the Waste Isolation Pilot Plant in Carlsbad, New Mexico. A variety of multi-site activities are also funded in this account, including the deposit to the Uranium Enrichment Decontamination and Decommissioning Fund.

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 and other representatives of the Administration, 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 Goal

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.

Program Objectives

- 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 and Savannah River, South Carolina; and ensuring the safe storage of spent nuclear fuel at Hanford, Idaho, and Savannah River.
- Be in compliance with applicable environmental and other requirements and meet compliance milestones.

The Waste Isolation Pilot Plant will receive shipments of transuranic waste from the Los Alamos National Laboratory, the Idaho National Engineering and Environmental Laboratory, the Rocky Flats Environmental Technology Site, the Hanford Site, and the Savannah River Site.

Performance Measures

Environmental Management prepares a performance-based budget that demonstrates the program and project results expected for the resources requested. The Environmental Management program performance measures can be found in the site details that follow this overview.

Significant Accomplishments and Program Shifts

The FY 2001 request reflects EM's project-oriented structure as a key component of the effort to accelerate cleanup and reduce costs. All EM activities are organized into projects which have a defined scope, schedule, cost, and end state. Specific accomplishments and program shifts may be found in the site details that follow this overview.

Funding Profile

(dollars in thousands)

	FY 1999 Current Appropriation	FY 2000 Original Appropriation	FY 2000 Adjustments	FY 2000 Current Appropriation	FY 2001 Request
Post-2006 Completion	2,728,518	2,986,548	(47,054)	2,939,494	3,116,532
Subtotal, Defense Post 2006 Completion	2,728,518	2,986,548	(47,054)	2,939,494	3,116,532
Contractor Travel Savings	0	0	0	0	(8,075)
Total, Defense Post-2006 Completion	2,728,518	2,986,548	(47,054) [a]	2,939,494	3,108,457

Public Law Authorization:

Public Law 106-60, "The Energy and Water Development Appropriations Act, 2000"

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

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

Public Law 106-65, "The National Defense Authorization Act for Fiscal Year 2000"

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

[a] Reflects spread of congressional below-the-line reductions, approved reprogrammings, and congressional rescission.

Public Law 106-65, “The National Defense Authorization Act for Fiscal Year 2000"
Public Law 102-579, “Waste Isolation Pilot Plant Land Withdrawal Act (1992)”

Funding by Site

(dollars in thousands)

	FY 1999	FY 2000	FY 2001	$ Change	% Change
Albuquerque Operations Office	78,879	93,705	101,654	7,949	8.5%
Carlsbad Area Office	185,405	181,417	194,498	13,081	7.2%
Chicago Operations Office	0	0	914	914	>999.9%
Idaho Operations Office	309,462	289,290	348,711	59,421	20.5%
Nevada Operations Office	80,081	87,471	90,212	2,741	3.1%
Oak Ridge Operations Office	177,670	262,847	293,896	31,049	11.8%
Oakland Operations Office	0	0	51,882	51,882	>999.9%
Richland Operations Office	360,264	349,947	375,313	25,366	7.2%
Office of River Protection	310,445	338,457	382,139	43,682	12.9%
Savannah River Operations Office	739,973	804,049	814,013	9,964	1.2%
Multi-Site	76,251	82,333	43,300	-39,033	-47.4%
EH Health Studies	12,000	0	0	0	0.0%
D&D Fund Deposit	398,088	420,000	420,000	0	0.0%
Subtotal, Defense Post 2006 Completion	2,728,518	2,909,516	3,116,532	207,016	7.1%
FFTF Reprogramming Sources	0	5,778	0	-5,778	-100.0%
Program Direction Reprogramming Sources	0	19,000	0	-19,000	-100.0%
Idaho TMI Reprogramming Sources	0	5,200	0	-5,200	-100.0%
Contractor Travel Savings	0	0	-8,075	-8,075	>999.9%
Total, Defense Post-2006 Completion	2,728,518	2,939,494	3,108,457	168,963	5.7%

Albuquerque

Mission Supporting Goals and Objectives

Program Mission

The mission of the Defense Environmental Management, Post 2006 Completion program, carried out by the Albuquerque Operations Office is to support cleanup of some 2,000 potential release sites at the Los Alamos National Laboratory in New Mexico and to provide for legacy waste management activities at the Los Alamos National Laboratory. 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 mission of the Nuclear Criticality Safety Training program is to support and implement the Implementation Plan for the Defense Nuclear Facilities Safety Board Recommendation 97-2, Nuclear Criticality Safety Training, approved by the Secretary of Energy on December 12, 1997.

The mission of the Transportation and Packaging program, which includes the National Transportation program and the Transportation Emergency Preparedness program, is to establish and implement National and Departmental policies associated with the transport of hazardous materials.

The mission of the National Analytical Management Program is to establish and implement National and Departmental policies to assure that credible, cost-effective sampling, and analytical needs are met, and the data vital for making decisions regarding waste management and environmental remediation meet the needs of EM, regulators, and the public.

Program Goal

The Albuquerque Operations Office's goal is to complete cleanup of the Los Alamos National Laboratory by FY 2016. Unforseen cost growth in other projects has caused a funding reprioritization to maintain earlier cleanup completion dates for the Sandia National Laboratories and Grand Junction Office, which in turn, causes the Los Alamos cleanup date to be extended one year. The Los Alamos National Laboratory manages programs which help reduce the potential for public exposure to nuclear materials through retrieval of excess plutonium-239 neutron sources and stabilization of at-risk excess nuclear materials. The Albuquerque Nuclear Materials Stewardship Office assists in the implementation of the Environmental Management Excess Materials Management Plan, which supports accelerated closure of Environmental Management sites and facilities.

The program goal of the Nuclear Criticality Safety Training program is to implement and enforce the criticality safety programs as established through the Department's Implementation Plan for the Defense Nuclear Facilities Safety Board Recommendation 97-2.

The National Transportation Program develops and maintains DOE's baseline transportation resources, including the coordination and development of DOE-wide transportation policy, to assure the availability of safe, regulatory compliant, economical, and efficient transportation for DOE materials, including radioactive and other hazardous materials and wastes. Goals for an integrated program mission include: achieving a forward-looking, system-wide assessment of the Department's transportation and packaging needs; assuring a safe, environmentally compliant, and cost-effective transportation management system and operations; performing as a service center for transportation campaigns across the Department's complex; focusing expertise from the Department's transportation and packaging technical base program to solve transportation and packaging requirements; and enhancing transportation relationships and coordinating transportation communication throughout the Department.

The Transportation Emergency Preparedness Program is a National DOE-wide program. Issues related to the transportation of hazardous materials of all types have become more heightened in recent years. This is particularly true for radioactive materials. As a high-visibility shipper of radioactive materials, the Department of Energy and its transportation activities have come under intense scrutiny from Congress, states, tribes, local governments, and the public. An issue of universal concern, however, is whether adequate emergency preparedness exists at all levels of government. The Transportation Emergency Preparedness Program will prepare the Department of Energy and other Federal, state, tribal, and local authorities to respond to a transportation incident involving Department of Energy shipments of radioactive material. The DOE policy is being developed to address concerns regarding transportation emergency management issues. This policy will be included in a revision to DOE Order 151.1, Comprehensive Emergency Management System. In addition, EM in coordination with DOE's Office of Emergency Management, is developing protocols addressing transportation emergency planning, notification, and response.

The program goal of the National Analytical Management Program is to ensure that the laboratory analyses being performed are of sufficient quality to: meet the needs and requirements of the EM program and the regulatory community; be scientifically and legally defensible; provide the basis for returning the DOE environment to the public domain; and to assist in meeting the objectives of the *Accelerating Cleanup: Paths to Closure* plan.

Program Objectives

The program objective for the Los Alamos National Laboratory is to have all contaminated sites remediated and all legacy waste disposed of by FY 2016. 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. The Los Alamos National Laboratory intends to complete the treatment of legacy mixed low-level waste (approximately 637 m^3) by the end of FY 2004 and transuranic waste by the end of FY 2016. Since 1999, treatment and disposal of all newly-generated mixed low-level waste and low-level waste as it is generated 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 2001 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 attempt to accelerate recoveries 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.

The objective of the Nuclear Criticality Safety Training program is to ensure that Secretarial Commitments in the Department's Implementation Plan for the Defense Nuclear Facilities Safety Board Recommendation 97-2 are met.

The Transportation and Packaging program activities focus National attention on areas that impact the Environmental Management goals and planned efforts across the Department of Energy complex.

The National Analytical Management Program activities focus National attention on areas that impact the Environmental Management goals and planned efforts across the Department of Energy complex.

Performance Measures

Performance Measures are provided at an aggregate level after the Funding by Site table, as well as at a project level in the Detailed Program Justification.

The Executive Budget Summary and the Metrics Summary provide a consistent set of high-level performance measures. The more detailed project-level justification provides a description of significant activities for each project including detailed project performance measures and key project milestones, as applicable.

Significant Accomplishments and Program Shifts

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 research mission. The Los Alamos National Laboratory Environmental Restoration project is scheduled to be completed in FY 2016.

Continued funding of monitoring activities and oversight provided as a result of the New Mexico Agreements-in-Principle (FY 1999/FY 2000).

Environmental Restoration

Completed assessments for six potential release sites, and closed out ten potential release sites (FY 1999).

Completed re-baselining of the Los Alamos National Laboratory Environmental Restoration Project using the watershed approach (FY 1999).

Installed four alluvial aquifer wells and drilled two deep wells (FY 1999).

Drafted for submittal the Environmental Restoration Report to Congress in response to Public Law 105-119 (Land Transfer) (FY 1999).

Complete two potential release sites (FY 2000).

Complete 13 assessments at the Los Alamos National Laboratory, and decommission two facilities (FY 2000).

Complete "hot" test demonstration of in-situ vitrification at TA-21 (FY 2000).

Waste Management - Legacy Waste

Characterized and disposed of 79 m^3 of legacy mixed low-level waste (FY 1999).

Installed characterization gloveboxes in the RAMROD facility (FY 1999).

Transferred the Los Alamos National Laboratory newly generated waste program to the Defense Programs (FY 1999).

Retrieved legacy transuranic waste from Pad 4 under earth cover and placed into compliant storage (FY 1999/FY 2000).

Continued to prepare and certify transuranic waste for shipment to the Waste Isolation Pilot Plant (FY 1999/FY 2000).

Treated and disposed of legacy mixed low-level waste according to the Site Treatment Plan (FY 1999/FY 2000).

Sort, segregate, and repackage transuranic waste (FY 1999/FY 2000).

Complete the Site Treatment Plan Annual Update Report (FY 2000).

Nuclear Material Facility Stabilization

Continued the Research and Development program core technology component. Specific activities:

  < Completed many of the core technology projects needed to characterize materials science of stored materials.

  < Completed salt distillation technology for use at the Rocky Flats Environmental Technology Site.

  < Transferred pyrolysis technology to Hanford for testing implementation (FY 1999).

Continued activities to stabilize at-risk excess nuclear materials and to accelerate site closures in support of the Defense Nuclear Facilities Safety Board Recommendation 94-1 (FY 1999).

Continued to analyze samples in support of shelf-life studies. The data is used in support of the effort to develop a new plutonium storage standard (FY 1999).

Continued experiments on the thermal conditions inside shipping containers with materials in food pack/volrath cans (FY 1999).

Delivered two polycube pyrolysis units to Hanford (FY 1999).

Continued shelf-life studies and surveillance (FY 1999).

Complete status reports on material and container surveillance experiments (FY 2001).

Albuquerque Nuclear Materials Stewardship Office

Led the Trade Study of excess cesium and stronium disposition options under Nuclear Material Integration (FY 1999).

Prepare a complex-wide transportation plan for nuclear materials undergoing stabilization. Coordinate material transportation issues complex-wide for nuclear material undergoing stabilization and disposition (FY 1999/FY 2000/FY 2001).

Published a new plutonium storage standard to support stabilization and disposition activities (FY 1999/FY 2000).

A material management center became operational, providing assistance to sites with sealed sources and isotopes that are no longer required for their programs (FY 1999).

Develop and deploy neutron-based moisture probe for use in production packaging line for plutonium oxide in long-term storage containers at Rocky Flats and Hanford sites (FY 2000).

Deploy supercritical fluid extraction for moisture measurements in production packaging line for plutonium oxide in long-term storage containers at Rocky Flats, Richland and/or Savannah River Sites (FY 2000).

Conduct and analyze surveillance activities on gram-scale and full-scale long-term storage containers and report results on a regular basis (FY 2000).

Demonstrate and deploy electrolytical decontamination for glovebox decontamination, packaged material containers, and highly enriched uranium at the Rocky Flats and the Savannah River Sites (FY 2000).

Develop and deploy real-time digital radiography to document changes inside a long-term storage container (FY 2000).

Off-Site Source Recovery

The Pu-239/Be Neutron Source Program was transferred to EM from Defense Programs (FY 1999).

Conducted complete review of program and made significant changes resulting in lower radiation exposure to workers and improved storage for sources (FY 1999).

Implemented revised program to consolidate and store sources; continued to accept sources from Naval Reactors program (FY 1999).

Consolidated suitable defense recovery actions into PBS AL-026 and transferred suitable non-defense recovery actions to PBS AL/RSRP/LANL (FY 1999).

Close-out RPI activated sodium disposition; continue close-out of loan/lease agreements for excess Pu-239/Be (FY 2000).

Begin consolidating the Waste Isolation Pilot Plant eligible sources, and estimate the Waste Isolation Pilot Plant eligible volumes (FY 2000).

Develop characterization plan for Siemens MOX waste (FY 2000).

Start transfer of government/military Pu-238, Pu-239, Radioisotope Thermoelectric Generators and neutron sources (FY 2000).

Inventory excess DOE neutron sources (FY 2000).

Nuclear Criticality Safety Training

Provide support to the Nuclear Criticality Safety Training program (FY 2001).

This program was supported in the Multi-Site account in FY 1999 and FY 2000.

Transportation and Packaging Management

Develop and maintain a partnership with the U.S. Department of Transportation to perform safety assessments on Department of Energy motor carriers (FY 2001).

Maintain an efficient regulatory compliance training program (FY 2001).

Implement a complex-wide system to ensure internal and external notification of high visibility shipments to appropriate stakeholder officials, and provide public awareness of unclassified shipments; continue transportation focused forums and communications, with internal program activities and external stakeholders, to identify and resolve transportation issues and participate in specific transportation shipment planning; establish DOE-wide protocols for notification, planning, inspection, and other functions with states

and tribal governments; and provide technical support to field and program offices and to state, tribal, and local governments in preparing for and executing hazardous materials shipping campaigns (FY 2001).

Maintain DOE's automated transportation systems in support of efficient shipping and tracking throughout the DOE complex. These systems include the DOE tracking system, the real-time and historical shipment database, and the hazardous materials routing system (FY 2001).

Maintain DOE's transportation and packaging technical base program to establish DOE's position on regulatory issues related to transportation and packaging, and to provide transportation and packaging testing and materials infrastructure for DOE (FY 2001).

Provide improved effective transportation support services to the DOE Waste Material Disposition Programs through Systems Engineering practices (FY 2001).

The Transportation and Packaging program was supported in the Multi-Site account in FY 1999 and FY 2000.

National Analytical Management Program

Develop guidelines that will allow reference laboratories to establish a direct link to the national standard (National Institute of Science and Technology) in analytical measurement processes and the preparation of secondary standards. The guidelines delineate the process of establishing a reference or secondary laboratory according to requirements established by the American National Standards Institute (FY 2001).

The National Analytical Management Program was supported in the Multi-Site account in FY 1999 and FY 2000.

Funding Schedule

(dollars in thousands)

	FY 1999 Current Appropriation	FY 2000 Current Appropriation	FY 2001 Request
AL004 / New Mexico Agreement in Principle	1,980	2,238	1,098
AL008 / Nuclear Material Facility Stabilization R&D	11,885	11,188	10,600
AL009 / LANL Environmental Restoration	45,387	59,003	51,966
AL013 / LANL Waste Management - Legacy Waste	18,294	18,805	23,570
AL026 / Off-site Source Recovery	540	1,526	1,800
AL027 / Nuclear Criticality Safety Training	0	0	495
AL028 / Albuquerque Nuclear Material Stewardship Project Office	793	945	1,505
AL030 / Land Parcels Transfer at LANL	0	0	4,193
AL035 / Transportation and Packaging Management	0	0	6,127
AL036 / National Analytical Management Program	0	0	300
Total, Albuquerque	78,879	93,705	101,654

Funding by Site

(dollars in thousands)

	FY 1999	FY 2000	FY 2001	$ Change	% Change
Los Alamos National Laboratory	76,106	90,522	92,129	1,607	1.8%
Albuquerque Operations Office	2,773	3,183	9,525	6,342	199.2%
Total, Albuquerque	78,879	93,705	101,654	7,949	8.5%

Metrics Summary

	FY 1999	FY 2000	FY 2001
Remedial Action/Release Site			
Assessments	6	9	2
Cleanups	10	2	5
Facility Decommissioning			
Cleanups	0	2	1
Transuranic Waste			
Shipped to WIPP for Disposal (m^3)	191	42	201
Mixed Low-Level Waste			
Disposal (m^3)	140	61	53
Low-Level Waste			
Disposal (m^3)	0	370	164

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 over 2,000 release sites and about 145 surplus facilities within the currently defined scope. Through FY 1999, remediation of 1,404 release sites and decommissioning of 42 facilities was completed. Completion of additional release sites and facilities are planned as follows: two release sites and two facilities in FY 2000, and 26 release sites and one facility in FY 2001. 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 1999	FY 2000	FY 2001

The Los Alamos National Laboratory is managed through a performance-based management and operating contract to assure the most cost-effective services to the government. The scope planned for FY 2001 has been reviewed and is appropriate to meet the goals of the site as outlined in the *Accelerating Cleanup: Paths to Closure*. The funds requested for FY 2001 are appropriate based on a historical costs for similar work.

(dollars in thousands)

	FY 1999	FY 2000	FY 2001
AL004 / New Mexico Agreement in Principle			
The New Mexico Agreement-in-Principle provides 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; Lovelace Respiratory Research Institute; and the Waste Isolation Pilot Plant. 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 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.			
# Oversight activities will be conducted at the Los Alamos National Laboratory, Sandia National Laboratory/New Mexico, the Waste Isolation Pilot Plant, 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.			
AL004	1,980	2,238	1,098

Key Milestones

- # FY 2000 Review and Approve Annual Budget Proposal for the New Mexico Agreement in Principle (January 2000).
- # FY 2000 Norfolk State University Center for Materials Research Report (September 2000).
- # Renegotiate Grant Award (September 2000).
- # FY 2001 Review and Approve Annual Budget Proposal for the New Mexico Agreement in Principle (January 2001).

(dollars in thousands)

	FY 1999	FY 2000	FY 2001
AL008 / Nuclear Material Facility Stabilization Research and Development			
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.			
# Continue development/deployment of monitoring systems to assure safe long-term storage of excess nuclear materials.			
# Evaluation/surveillance of shelf-life materials.			
# Resolve container materials issues (gas generations, material compatibility).			
# Develop technical basis for safe storage via core technical program.			
# Provide technical basis for stabilization process qualification.			
AL008	11,885	11,188	10,600

Key Milestones

Complete development and deployment of moisture analytical methods (September 2000).

Complete Characterization of Savannah River Site materials (September 2001).

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

AL009 / LANL Environmental Restoration

This project protects human health and the environment from hazards posed by inactive and surplus DOE facilities and contaminated lands. The primary drivers for this project are the Laboratory's permit for corrective actions under the Hazardous and Solid Waste Amendments to the Resource Conservation and Recovery Act, the land transfer legislation (Public Law 105-119) and concerned stakeholders. There are 2,122 potential release sites, including sites on private, county, Federal, and DOE properties.

LA/Pueblo Canyon Watershed activities planned:
  - < Remediate Technical Area 21 DP Tank Farm;
  - < Remediate Town Sites; and
  - < Complete the Resource Conservation and Recovery Act Facility Investigation at Technical Area 0.
Mortandad Watershed activity planned:
  - < Characterize Technical Area 35 and Material Disposal Area C.
Water Canyon Watershed activities planned:
  - < Characterize deep groundwater;
  - < Remediate Burning Ground; and
  - < Close out Material Disposal Area P.
Parjarito Canyon Watershed activities planned:
  - < Drill one deep well; and
  - < Technical Area 54 Corrective Measure Study.
Sandia Canyon Watershed activities planned:
  - < Characterize deep groundwater; and
  - < Remediate Industrial Site PCB.
Ancho Canyon Watershed activity planned:
  - < Characterize Material Disposal Area AB.
Provide project management, technical support, and regulatory compliance.

AL009	45,387	59,003	51,966

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
Metrics			
Remedial Action			
Assessments	5	9	2
Cleanups	9	1	4
Low-Level Waste			
On-Site Disposal (m^3)	0	370	164
Remediation Waste			
Disposes (m^3)	0	21,550	1,034

Key Milestones

- # Technical Area-O: Submit Remedial Facilities Investigation Report to Administrative Authority (0-030(g)) (September 2000).
- # Two Deep Well Drillings to Depth (September 2000).
- # Complete one release site cleanup (September 2000).
- # Technical Area-16: Submit IM Report to Administrative Authority (16-021(g)) (May 2001).
- # Technical Area-16: Submit Remedial Facilities Investigations Report to Administrative Authority (16-021(c)) (May 2001).
- # Complete four release site cleanups in FY 2001 (September 2001)

AL013 / LANL Waste Management - Legacy Waste

This project provides for the treatment, storage, or disposal of all legacy transuranic 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 the Transuranic Waste Inspectable Storage Project.
- # Continue transuranic waste characterization.

AL013	18,294	18,805	23,570

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
Metrics			
Transuranic			
Storage (m^3)	9,136	9,094	8,894
Shipped to WIPP for Disposal (m^3)	191	42	200
Mixed Low-Level Waste			
Storage (m^3)	241	188	135
Commercial Disposal (m^3)	140	53	53

Key Milestones

- Update and submit the Site Treatment Plan to the New Mexico Environment Department (March 2000).
- Retrieve 3,800 Transuranic Waste Inspectable Storage Project drums equivalents from Pad 4 and Pad 2 (September 2000).
- Complete characterization for storage of all debris transuranic waste retrieved from the Transuranic Waste Inspectable Storage Project Pad 4 and Pad 1 (September 2000).
- Complete acceptable knowledge work of Technical Area-55 waste streams (September 2000).
- Complete five shipments of legacy transuranic waste to the Waste Isolation Pilot Plant (September 2000).
- Vent 2,800 Tank Waste Inspectable Storage Project drums (September 2000).
- Treat and dispose 53 m^3 of legacy mixed low-level waste (September 2000).
- Update and submit site treatment plan to the New Mexico Environment Department (March 2001).
- Vent 2,800 Tank Waste Inspectable Storage Project drums (September 2001).
- Retrieve 3,800 Tank Waste Inspectable Storage Project drums equivalents from Pad 2 (September 2001).
- Process 360 m^3 of transuranic waste composed of large metal objects in DVRS project (September 2001).
- Treat and dispose of 53 m^3 of legacy mixed low-level waste (September 2001).
- Complete 14 shipments of legacy transuranic debris waste to the Waste Isolation Pilot Plant (September 2001).

AL026 / Off-site Source Recovery Program

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
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.			
# Develop a staging plan and transfer schedule for the Waste Isolation Pilot Plant eligible consolidated sealed sources with the Los Alamos National Laboratory/Environmental Management/Waste Management.			
# Complete characterization and certification of Siemens MOX waste and relocate to designated staging site.			
# Complete transfer of the U.S. Air Force Sr-90 Radio-Thermal Generators to the designated interim storage site.			
# Continue close-out of legacy loan/lease agreements for excess radioactive material at institutions.			
# Recover available excess neutron sources from the Naval Reactors program for consolidation and storage pending the Waste Isolation Pilot Plant transfer.			
# Begin consolidation of excess DOE-owned neutron sources from across the complex.			
AL026	540	1,526	1,800

Metrics			
Transuranic Waste			
Storage (m^3)	0	1	5
Shipped to WIPP for Disposal (m^3)	0	0	1
Mixed Low-Level Waste			
TBD Disposal (m^3)	0	8	0

Key Milestones

Recovery of 7 PuBe Sources from the US Navy (April 2000)
Establish Sr-90 RTG Storage Capability (September 2000).
Initiate Consolidation Operations (September 2000).
Complete Waste Characterization and Certification (April 2001).
Establish the Waste Isolation Pilot Plant Shipping Schedule (September 2001).

(dollars in thousands)

	FY 1999	FY 2000	FY 2001

AL027 / Nuclear Criticality Safety Training

This activity provides support to the Nuclear Criticality Safety Training program. The Implementation Plan for Recommendation 93-2, "The Need for Critical Experiment Capability," established a program to maintain the viability of the Department's critical experiments program and improve the knowledge base underlying prediction of criticality. This resulted in the five-element Nuclear Criticality Predictability Program. Ongoing activities have been included under the program established for the Defense Nuclear Facilities Safety Board Recommendation 97-2, Nuclear Criticality Safety Training, which supports the efficient integration and functioning of criticality safety programs across all DOE operations involving fissile materials.

The Nuclear Criticality Safety Training program was supported in the Multi-Site account in FY 1999 and FY 2000.

In FY 2001, the following activities are supported:

The Environmental Management-funded segments of the Defense Nuclear Facilities Safety Board Recommendation 97-2, consist of three elements:
  - < nuclear data;
  - < calculational methods; and
  - < guidance on applicability of bounding curves/data.

AL027	0	0	495

AL028 / Albuquerque Nuclear Material Stewardship Office

This project is designed to leverage field expertise in Nuclear Materials management in order to consolidate and expedite the movement of plutonium and other nuclear materials, thus allowing for accelerated shutdown of Environmental Management facilities across the country.

Provide 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.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Consolidate excess nuclear materials to interim storage sites (materials from Rocky Flats, Fernald, and Mound will receive priority attention). # Continue planning and integration for the transfer of excess nuclear materials to disposition programs. # A material management center will continue limited operation, providing disposition planning assistance to sites with sealed sources and isotopes no longer required for their programs. # Nuclear Material Transportation and Packaging Committee will continue successful integration activities. # Continue operation and maintenance of Cargo Restraint Transporters.			
AL028	793	945	1,505

Key Milestones

FY 2001 Packaging and Transportation Schedule (September 2000)
FY 2002 Packaging and Transportation Schedule (September 2001)
Non-Actinide Isotopes and Sealed Sources Materials Management Center Authorized to Accept Materials (September 2001)

AL030 / Land Parcels Transfer at LANL

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. Land must be remediated and returned by November 2007. Ten parcels totaling approximately 4,000 acres have been identified for transfer. The exact sequence of return of the parcels making up this acreage has not yet been determined.

Continue characterization and remediation of multiple parcels identified for transfer to the County/Pueblo.

AL030	0	0	4,193

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
Metrics			
Release Sites			
Assessment	1	0	0
Cleanup	1	1	1
Facilities/Decommissioning			
Cleanup	0	2	1

Key Milestones

- Technical Area-73: Los Angeles Airport 73-2 Submit Remedial Feasibility Investigation Report to Administrative Authority (June 2000).
- Complete one release site cleanup in FY 2000 (September 2000).
- Submit Work Plan to Administrative Authority (Bayo Canyons) (March 2001).

AL035 / Transportation and Packaging Management

The National Transportation and Packaging program develops and maintains the DOE baseline transportation resources, including the coordination and development of DOE-wide transportation policy to assure the availability of safe, regulatory compliant, economical, efficient transportation for DOE materials.

The Department's transportation and packaging activities are one of the most heavily regulated functions because of the hazardous materials (particularly radioactive) that are shipped. Noncompliance with regulations carries heavy penalties (both criminal and civil). Transportation is an area of public scrutiny due to the perceived hazards associated with the transportation of the DOE materials.

In FY 2001, the following activities are supported:

- Assure a safe and regulatory compliant transportation system and operations.
- Continue to provide improved and effective transportation and packaging systems engineering and analysis support services to the DOE waste and material disposition programs to help anticipate transportation issues and forecast future needs.
- Integrate institutional outreach and stakeholder involvement activities with other DOE program offices.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Provide technical packaging and transportation assistance to resolve packaging issues, to identify packaging needs and to develop packaging concepts or alternatives to ensure that future transportation requirements are met.			
AL035	0	0	6,127

AL036 / National Analytical Management Program

This program is responsible for supporting EM programs to assure that credible, cost-effective sampling, and analytical needs are met, and the data vital for making decisions regarding waste management and environmental remediation meet the needs of EM, regulators, and the public.

In FY 2001, the following activity is supported:

Strategic Partnering Plan; capabilities efforts; partnership implementation; general marketing; client-specific marketing; and client-specific partnering proposal.

AL036	0	0	300
Total, Albuquerque	78,879	93,705	101,654

Explanation of Funding Changes From FY 2000 to FY 2001

	FY 2001 vs. FY 2000 ($000)
AL004 / New Mexico Agreement in Principle	
# Reduction due to redirection of funding to accelerate cleanup activities at other sites.	-1,140
AL008 / Nuclear Material Facility Stabilization Research and Development	
# Reduction reflects site-wide reprioritization to accelerate cleanup activities at Sandia, New Mexico; Pantex, and the Los Alamos National Laboratory.	-588
AL009 / LANL Environmental Restoration	
# Reduction reflects site-wide reprioritization to accelerate cleanup work at the Sandia, New Mexico; and other Albuquerque Complex sites.	-7,037
AL013 / LANL Waste Management - Legacy Waste	

	FY 2001 vs. FY 2000 ($000)
# Increase provides additional funding for the treatment, storage, or disposal of legacy waste.	4,765
AL026 / Off-Site Source Recovery Program	
# Increase is due to the start of consolidation of excess DOE-owned neutron sources from across the complex.	274
AL027 / Nuclear Criticality Safety Training	
# This program, formerly supported in the Multi-Site account, is transferred to the Albuquerque Operations Office.	495
AL028 / Albuquerque Nuclear Material Stewardship Project Office	
# Change is due to increase in project responsibilities to support accelerated closure of EM sites and implementation of Nuclear Material Integration Project recommendations. It also supports establishment of the National Isotope and Sealed Source Management Office.	560
AL030 / Land Parcels Transfer at LANL	
# Increase is required to meet deadlines for return of land in Public Law 105-119. Several parcels have significant contamination that will require years to characterize and remediate, and thus work must be started well in advance of the November 2007 end-date milestone in legislation.	4,193
AL035 / Transportation and Packaging Management	
# This program, formerly supported in the Multi-Site account, is transferred to the Albuquerque Operations Office.	6,127
AL036 / National Analytical Management Program	
# This program, formerly supported in the Multi-Site account, is transferred to the Albuquerque Operations Office.	300
Total Funding Change, Albuquerque	7,949

Carlsbad

Mission Supporting Goals and Objectives

Program Mission

The mission of the Defense Environmental Management, Post FY 2006 Completion program, carried out by the Carlsbad Area 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 defined the total capacity of the Waste Isolation Pilot Plant to be 6,200,000 cubic feet (175,600 m^3) of transuranic waste. In September 1996, Congress amended the Waste Isolation Pilot Plant Land Withdrawal Act to delete duplication in regulatory compliance and to streamline provisions of the Act. The Act, as amended, also authorizes 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. Congress subsequently stated in the FY 2000 appropriations language that DOE may utilize funding provided for economic assistance to reimburse costs of financial assurance required of the contractor by the Resource Conservation and Recovery Act permit issued by the State of New Mexico.

Program Goal

The primary goal of the program is to meet all regulatory and technical requirements for disposal operations at 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 non-mixed (radioactive waste that does not contain toxic waste as regulated by the Resource Conservation and Recovery Act) transuranic waste from the Los Alamos National Laboratory was received at the site for disposal. Initiating waste disposal operations at the Waste Isolation Pilot Plant makes available a key element in the Environmental Management strategy for disposal of transuranic waste under the Department of Energy control. The transuranic waste generator sites will continue waste characterization and waste loading activities in preparation for shipments to the Waste Isolation Pilot Plant. In particular, the Idaho National Engineering and Environmental Laboratory is working to ensure that the 3,100 m^3 of transuranic waste will be disposed at the Waste Isolation Pilot Plant by December 31, 2002. By FY 2006, the Waste Isolation Pilot Plant expects to have disposed of

approximately 35,500 m^3 of contact-handled transuranic waste and approximately 350 m^3 of remote-handled transuranic waste. Current planning has all transuranic waste at the Rocky Flats Environmental Technology Site and the Mound Plant disposed by FY 2006. The total volumes disposed by FY 2006 represent 33 percent of the current inventory of 109,000 m^3 of transuranic waste now stored at the sites, and 20 percent of the repository's total capacity of 175,600 m^3. During the planned 35-year disposal phase, waste will be received from 10 major and 13 small quantity sites. The disposal phase is followed by a five-year decommissioning and dismantlement phase.

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. Lifecycle costs in FY 1999 dollars for the period FY 1997-2006 are $1,900,000,000 and post FY 2006 costs are expected to be $6,200,000,000. Total lifecycle costs are estimated to be $8,100,000,000 in constant FY 1999 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. The Privatization Appropriation for FY 1999 included $19,605,000 to develop and fabricate the RH-72B cask to transport remote-handled transuranic waste by the selected privatized contractor. However, this budget proposes to reduce the funding to $15,513,000, which supports remote-handled highway shipments, but excludes rail shipments at this time.

Program Objectives

During FY 2000 and FY 2001 the Waste Isolation Pilot Plant has or will receive transuranic waste from the Los Alamos National Laboratory, the Idaho National Engineering and Environmental Laboratory, the Rocky Flats Environmental Technology Site, the Hanford Site, and the Savannah River Site. The Waste Isolation Pilot Plant will meet transuranic waste disposal goals by ramping up to an optimal receipt rate of 13 contact-handled transuranic waste shipments per week by the end of FY 2001, which is based on waste site demands and transportation fleet availability. The expected transuranic waste shipments will increase from about 120 in FY 2000 to about 485 in FY 2001. The expected quantity of transuranic waste disposed will increase from about 1,204 m^3 in FY 2000 to about 3,450 m^3 in FY 2001. There are no additional major projects planned for the Waste Isolation Pilot Plant Site. Future construction needs will be covered within the general plant project funding.

The Carlsbad Area 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 Area Office also funds a wide variety of institutional programs that provide economic impact assistance and operational oversight. Institutional support provides additional funding for other activities such as the Environmental Evaluation Group, Carlsbad Environmental Monitoring and Research Center, Western Governors' Association, Southern States Energy Board, cooperative agreements with Indian Tribes, New Mexico Emergency Response, New Mexico Impact Assistance, and other activities. Funding for these activities totals $9,203,000 in FY 2001. Prior year funding was $11,000,000 in FY 2000, and $35,200,000 in FY 1999. The funding levels for FY 2000 and FY 2001

are reduced by approximately $20,000,000 due to the state economic assistance payments being redirected into the financial assurance trust fund required by the final Resource Conservation and Recovery Act permit.

Performance Measures

Performance Measures are provided at an aggregate level after the Funding by Site table; as well as at a project level, in the Detailed Program Justification.

The Executive Budget Summary and the Metrics Summary provide a consistent set of high-level performance measures. The more detailed project-level justification provides a description of significant activities for each project including detailed project performance measures and key project milestones, as applicable.

Significant Accomplishments and Program Shifts

- The Waste Isolation Pilot Plant facility opened for radioactive waste disposal operations on March 26, 1999, when it received the first shipment of non-mixed transuranic waste from the Los Alamos National Laboratory.
- The Waste Isolation Pilot Plant received the first shipment of non-mixed transuranic waste from the Idaho National Engineering and Environmental Laboratory on April 28, 1999, thereby meeting the Department's commitment to the State of Idaho to initiate shipments of transuranic waste from the site by April 30, 1999.
- The first shipment of non-mixed transuranic waste from the Rocky Flats Environmental Technology Site was received at the Waste Isolation Pilot Plant on June 16, 1999.
- The first shipment of transuranic waste from the Hanford Site is expected in March 2000 and from the Savannah River Site in September 2000.
- Received waste from the transuranic waste generator sites at the rate of two shipments per week at the end of FY 1999, increasing to an estimated five shipments per week by the end of FY 2000, and to an estimated optimal level of 13 shipments per week by the end of FY 2001.
- The Waste Isolation Pilot Plant Resource Conservation and Recovery Act Part B final permit was received from the State of New Mexico on October 27, 1999, with an effective date of November 26, 1999.
- Awarded contract for 12 additional contact-handled transuranic waste shipping containers on October 26, 1999.
- Award Contact-Handled and Remote-Handled Transuranic Waste carrier and trailer contract (FY 2000).
- Award Remote-Handled Transuranic Waste shipping containers privatization contract (FY 2000).
- Award contract for the Waste Isolation Pilot Plant Site Operations Contractor in August 2000.

Program Shifts

The Department of Energy is realigning transuranic waste disposal activities to comply with the requirements of the final Resource Conservation and Recovery Act Part B Permit for disposal of hazardous (mixed) transuranic waste that became effective on November 26, 1999.

The Department of Energy has revised its strategy for the procurement of contact-handled transuranic waste shipping containers. The shipping containers will be procured within the Environmental Restoration and Waste Management Post 2006 budget, rather than from the Environmental Management Privatization budget to provide greater flexibility with implementing the provisions of the Resource Conservation and Recovery Act permit.

Funding Schedule

(dollars in thousands)

	FY 1999 Current Appropriation	FY 2000 Current Appropriation	FY 2001 Request
CAO-1 / WIPP Base Operations	104,163	108,665	126,401
CAO-2 / WIPP Disposal Phase Certification and Experimental Program	38,005	34,372	29,967
CAO-3 / WIPP Transportation	19,415	18,719	17,881
CAO-4 / WIPP TRU Waste Sites Integration and Preparation	23,822	19,661	20,249
Total, Carlsbad	185,405	181,417	194,498

Funding by Site

(dollars in thousands)

	FY 1999	FY 2000	FY 2001	$ Change	% Change
Waste Isolation Pilot Plant	185,405	181,417	194,498	13,081	7.2%
Total, Carlsbad	185,405	181,417	194,498	13,081	7.2%

Metrics Summary

	FY 1999	FY 2000	FY 2001
Transuranic Waste			

Transuranic Waste Received for Disposal at the Waste Isolation Pilot Plant (m^3) [a]	276	1,204	3,450
Shipments Received at the Waste Isolation Pilot Plant (Number of Shipments)	32	120	485

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 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

[a] The volume (m^3) of transuranic waste received for disposal at the Waste Isolation Pilot Plant is equivalent to the number of shipments received at the Waste Isolation Pilot Plant.

(dollars in thousands)

FY 1999	FY 2000	FY 2001

The managing and operating contractor, accounts for approximately 54 percent of the Carlsbad Area Office funding requirements. The M&O contractor operates the Waste Isolation Pilot Plant through a contract that is nearly 85 percent fixed price. The remaining funding contracting vehicles are dependent upon existing contracting mechanisms, such as national laboratories, grants, and agreements in principle. The scope planned for FY 2001 is consistent with the site goals as outlined in the *Accelerating Cleanup: Paths to Closure*. All of the projects included in this section of the budget have had an independent review through the Carlsbad Area Office's program planning process. There are no construction projects funded here.

CAO-1 / WIPP Base Operations

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. Also included is the $20,800,000 for either financial assurance payments into a trust fund or for economic assistance to the State of New Mexico in FY 2001.

- Continue receipt of contact-handled transuranic waste primarily from the Rocky Flats Environmental Technology Site and the Idaho Engineering and Environmental Laboratory, with limited shipments from the Los Alamos National Laboratory, Hanford, and the Savannah River Site.
- Receive transuranic waste at an optimal rate of 13 shipments per week by the end of FY 2001.
- Maintain the Waste Isolation Pilot Plant site in compliance with DOE Orders, Federal, State, and local requirements.
- Continue the Waste Isolation Pilot Plant site activities necessary to comply with certification and permitting requirements.
- Continue activities necessary to accelerate the first receipt of remote-handled transuranic waste from January 2003 to January 2002, from the Los Alamos National Laboratory, to include underground and surface facilities, safety and health, Final Safety Analysis Report and Operational Readiness Review as well as operations.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Provide payment either to the trust fund established to provide financial assurance as required by the final Resource Conservation and Recovery Act Part B Permit, or if the requirement is overturned by the Courts, provide payment to the State of New Mexico for economic assistance as specified in the Waste Isolation Pilot Plant Land Withdrawal Amendment Act.			
# Includes procurement of the remaining contact-handled transuranic waste shipping containers and trailers.			
CAO-1	104,163	108,665	126,401

Metrics			
Transuranic Waste			
Transuranic Waste Received for Disposal at the Waste Isolation Pilot Plant (m^3)	276	1,204	3,450
Shipments Received at the Waste Isolation Pilot Plant (Number of Shipments)	32	120	485
Key Milestones			
# Complete Panel 2 Mining (September 2000).			
# Complete Remote-Handled Equipment Modifications (April 2001).			
# Begin Mining Panel 3 (January 2001).			

CAO-2 / WIPP Disposal Phase Certification and Experimental Program

This project includes experimental and performance assessment work in support of the recertification and operational performance improvements for the Waste Isolation Pilot Plant site and the national transuranic waste system.

Maintain the core business and management structure for the Waste Isolation Pilot Plant scientific advisor.

Provide continuing experimental support during the disposal phase to meet recertification requirements for performance assessment.

Complete system verification and sensitivity analysis to support recertification.

CAO-2	38,005	34,372	29,967

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

Key Milestones

- # Finalize plan for resolution of Plutonium (VI) issue (March 2000).
- # Complete Actinide Source Term Test Program (August 2000).
- # New Mexico Environmental Department approval of final Remote-Handled permit (August 2001).

CAO-3 / WIPP Transportation

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 for transporting waste to the Waste Isolation Pilot Plant; and stakeholder interfaces with the Western Governors' Association, the Southern States Energy Board 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, and the Savannah River Site are open. The Hanford transportation corridor will be opened in February 2000. The lead time for opening additional corridors is approximately two years. The Waste Isolation Pilot Plant will receive about 5,000 shipments of contact-handled waste through FY 2006.

- # 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 Los Alamos National Laboratory, Hanford, and the Savannah River Site routes to achieve an optimal rate of 13 shipments per week by the end of FY 2001.
- # Provide support for the development and implementation of a remote-handled transuranic waste transportation system.

CAO-3	19,415	18,719	17,881

Key Milestones

- # First Hanford contact-handled shipment to the Waste Isolation Pilot Plant (March 2000).
- # Award carrier contract (June 2000).
- # First Savannah River Site contact-handled shipment to the Waste Isolation Pilot Plant (September 2000).

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Receipt of first 72-B cask (August 2001). # Open the Nevada Test Site corridor (September 2001).			

CAO-4 / WIPP Transuranic Waste Sites Integration and Preparation

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 certification-like activities performed by the Carlsbad Area 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 and the Environmental Evaluation Group. Also included are infrastructure support costs such as those in the Interagency Agreement with the Bureau of Land Management.

- Provide integration studies for improvements of the transuranic waste complex's treatment and transportation systems.
- Maintain the transuranic waste site certification of the Los Alamos National Laboratory, the Rocky Flats Environmental Technology Site, the Idaho National Engineering and Environmental Laboratory, Hanford, and the Savannah River Site.
- Provide for the implementation of the quality assurance program plan.
- Maintain current agreements for oversight and economic impact to local community.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Provide support for validating the performance of laboratories and systems that will be performing analysis of characterization data and mobile systems. This includes assessments and certification activities associated with initial certification and annual recertification of transuranic waste site Transportation Programs in accordance with the Quality Assurance Program Plan, the TRUPACT-II Safety Analysis Report for Packaging, and the Waste Acceptance Criteria; preparation of mobile system Task Order, oversight monitoring, and coordination of the scheduling of mobile system operations at the transuranic waste sites; and increasing the payload capabilities of transuranic waste packagings.			
# Provide management and technical support for the development of remote-handled transuranic programs at the Waste Isolation Pilot Plant, and in the integration of site activities related to overall remote-handled transuranic waste management.			
CAO-4	23,822	19,661	20,249

Key Milestones
Complete operations disposal plan (April 2000).
Revise the National Transuranic Waste Management Plan (July 2000).
Complete the Waste Isolation Pilot Plant Waste Information System modifications for remote-handled (August 2001).

Total, Carlsbad Area Office	185,405	181,417	194,498

Explanation of Funding Changes From FY 2000 to FY 2001

FY 2001 vs. FY 2000 ($000)

CAO-1 / WIPP Base Operations

	FY 2001 vs. FY 2000 ($000)
# Increase contact-handled transuranic waste disposal operations at the Waste Isolation Pilot Plant from 1,204 m^3 disposed in FY 2000 to 3,450 m^3 disposed in FY 2001; conduct full panel mining operations; accelerate remote-handled facility upgrades for initial waste receipt in FY 2002; and procurement of contact-handled transuranic waste shipping containers. . . .	17,736
CAO-2 / WIPP Disposal Phase Certification and Experimental Program	
# Decrease is due to rescheduling the completion of simulation model upgrades in support of the first Environmental Protection Agency recertification; and reduced experimental program activities.	-4,405
CAO-3 / WIPP Transportation	
# Decrease in funding is made up through efficiencies in waste transportation activities.	-838
CAO-4 / WIPP Transuranic Waste Sites Integration and Preparation	
# Increase reflects additional Quality Assurance audit activity at the generator sites to ensure compliance with the provisions of the Resource Conservation and Recovery Act permit. . . .	588
Total Funding Change, Carlsbad	13,081

Chicago

Mission Supporting Goals and Objectives

Program Mission

The mission of the Defense funded Environmental Management Post 2006 program carried out by the Chicago Operations Office is to support projects at sites or facilities where a Department of Energy mission such as the Office of Science or the Office of Nuclear Energy, Science and Technology, will continue.

The mission of the National Analytical Management Program is to establish and implement National and Departmental policies to assure that credible, cost-effective sampling, and analytical needs are met, and the data vital for making decisions regarding waste management and environmental remediation meet the needs of EM, regulators, and the public.

The mission of the Pollution Prevention program is to establish and implement National and Departmental policies to reduce or eliminate all wastes and pollutants in order to minimize the impact of the Department's operations on the environment, to reduce operational cost, and improve the safety and health of its operations.

The mission of the Transportation and Packaging program, which includes the National Transportation program and the Transportation Emergency Preparedness program, is to establish and implement National and Departmental policies associated with the transport of hazardous materials.

Program Goal

The program goal of the National Analytical Management Program is to ensure that the laboratory analyses being performed are of sufficient quality to: meet the needs and requirements of the EM program and the regulatory community; be scientifically and legally defensible; provide the basis for returning the DOE environment to the public domain; and to assist in meeting the objectives of the *Accelerating Cleanup: Paths to Closure* plan.

The Pollution Prevention program is to comply with waste minimization, pollution prevention, affirmative procurement, and recycling requirements under Federal/State statutes, Executive Orders, and DOE Orders; and reduce waste generated through implementation of cost-effective pollution prevention projects.

The National Transportation Program develops and maintains DOE's baseline transportation resources, including the coordination and development of DOE-wide transportation policy, to assure the availability of safe, regulatory compliant, economical, and efficient transportation for DOE materials, including radioactive and other hazardous materials and wastes. Goals for an integrated program mission include: achieving a forward-looking, system-wide assessment of the Department's transportation and packaging needs; assuring a safe, environmentally compliant, and cost-effective transportation management system and operations; performing as a service center for transportation campaigns across the Department's complex; focusing expertise from the Department's transportation and packaging technical base program to solve transportation and packaging requirements; and enhancing transportation relationships and coordinating transportation communication throughout the Department.

The Transportation Emergency Preparedness Program is a National DOE-wide program. Issues related to the transportation of hazardous materials of all types have become more heightened in recent years. This is particularly true for radioactive materials. As a high-visibility shipper of radioactive materials, the Department of Energy and its transportation activities have come under intense scrutiny from Congress, states, tribes, local governments, and the public. An issue of universal concern, however, is whether adequate emergency preparedness exists at all levels of government. The Transportation Emergency Preparedness Program will prepare the Department of Energy and other Federal, state, tribal, and local authorities to respond to a transportation incident involving Department of Energy shipments of radioactive material. The DOE policy is being developed to address concerns regarding transportation emergency management issues. This policy will be included in a revision to DOE Order 151.1, Comprehensive Emergency Management System. In addition, EM in coordination with DOE's Office of Emergency Management, is developing protocols addressing transportation emergency planning, notification, and response.

Program Objectives

The National Analytical Management Program activities focus National attention on areas that impact the Environmental Management goals and planned efforts across the Department of Energy complex.

The pollution prevention activities focus National attention on areas that impact the EM goals and planned efforts across the Department of Energy complex.

The Transportation and Packaging program activities focus National attention on areas that impact the Environmental Management goals and planned efforts across the Department of Energy complex.

Significant Accomplishments and Program Shifts

Develop guidelines that will allow reference laboratories to establish a direct link to the national standard (National Institute of Science and Technology) in analytical measurement processes and the preparation of secondary standards. The guidelines delineate the process of establishing a reference or secondary laboratory according to requirements established by the American National Standards Institute (FY 2001).

The National Analytical Management Program was supported in the Multi-Site account in FY 1999 and FY 2000.

Administer the Pollution Prevention programs to achieve site plan goals (FY 2001).

The Pollution Prevention program was supported in the Multi-Site account in FY 1999 and FY 2000.

Develop and maintain a partnership with the U.S. Department of Transportation to perform safety assessments on Department of Energy motor carriers (FY 2001).

Maintain an efficient regulatory compliance training program (FY 2001).

Implement a complex-wide system to ensure internal and external notification of high visibility shipments to appropriate stakeholder officials, and provide public awareness of unclassified shipments; continue transportation focused forums and communications, with internal program activities and external stakeholders, to identify and resolve transportation issues and participate in specific transportation shipment planning; establish DOE-wide protocols for notification, planning, inspection, and other functions with states and tribal governments; and provide technical support to field and program offices and to state, tribal, and local governments in preparing for and executing hazardous materials shipping campaigns (FY 2001).

Maintain DOE's automated transportation systems in support of efficient shipping and tracking throughout the DOE complex. These systems include the DOE tracking system, the real-time and historical shipment database, and the hazardous materials routing system (FY 2001).

Maintain DOE's transportation and packaging technical base program to establish DOE's position on regulatory issues related to transportation and packaging, and to provide transportation and packaging testing and materials infrastructure for DOE (FY 2001).

Provide improved effective transportation support services to the DOE Waste Material Disposition Programs through Systems Engineering practices (FY 2001).

The Transportation and Packaging program was supported in the Multi-Site account in FY 1999 and FY 2000.

Funding Schedule

(dollars in thousands)

	FY 1999 Current Appropriation	FY 2000 Current Appropriation	FY 2001 Request
CH-NAMP / National Analytical Management Program	0	0	500
CH-PP / Pollution Prevention	0	0	283
CH-TM / Transportation and Packaging Management	0	0	131
Total, Chicago	0	0	914

Funding by Site

(dollars in thousands)

	FY 1999	FY 2000	FY 2001	$ Change	% Change
Chicago Operations Office	0	0	914	914	>999.9%
Total, Chicago	0	0	914	914	>999.9%

Site Description

Chicago Operations Office

The Chicago Operations Office manages, coordinates, tracks, and assists in the implementation of programs among various sites. It is committed to ensuring its facilities and activities pose no undue risk to the public, worker health and safety, and maintains compliance with applicable environmental requirements.

Detailed Program Justification

(dollars in thousands)

FY 1999	FY 2000	FY 2001

CH-NAMP / National Analytical Management Program

This program is responsible for supporting EM programs to assure that credible, cost-effective sampling, and analytical needs are met, and the data vital for making decisions regarding waste management and environmental remediation meet the needs of EM, regulators, and the public.

In FY 2001, the following activities are supported:

Complete integration of existing databases into the National Analytical Management Program Common Database and adapt the National Analytical Management Program Common Database to accommodate additional information, such as laboratory capability, audit results, laboratory accreditation, and Integrated Contract Procurement Team data.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Populate the National Analytical Management Program Common Database with existing information from all relevant DOE-EM organizations for current administrative and laboratory identification information.			
# Develop Internet interface for entry of new information into the National Analytical Management Program Common Database by the DOE-EM organizations.			
# Re-design current Integrated Performance Evaluation Program Web site into the Web site from the National Analytical Management Program Informational Databases. Maintain the DOE Methods Compendium, per the National Analytical Management Program guidance, and recover all ~100 of the DOE Methods Compendium's source files with version history from six Mac Zip disks and rebuild the document from sources.			
# Collection of performance evaluation data for identified laboratory population.			
CH-NAMP	0	0	500

CH-PP / Pollution Prevention

The Department's pollution prevention mission is to reduce or eliminate all wastes and pollutants in order to minimize the impact of the Department's operations on the environment, to reduce operational cost, and improve the safety and health of its operations.

Pollution prevention is the Department's preferred approach to reducing waste, mitigating health risks, and protecting the environment, in accordance with the Pollution Prevention Act of 1990. This was evidenced by the Secretary's November 1999 establishment of aggressive source reduction, recycling, and affirmative procurement goals, to be achieved by 2005. Pollution prevention applied within EM can significantly reduce wastes, allowing the cost savings to be used to accelerate the cleanup effort. As in industry, pollution prevention is a core program that helps DOE achieve maximum environmental benefits.

The Pollution Prevention program was supported in the Multi-Site account in FY 1999 and FY 2000.

In FY 2001, the following activities are supported:

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Maintain field pollution prevention/waste minimization programs to comply with Federal/State laws and regulations.			
# Track and report on waste generation and affirmative procurement activities.			
# Coordinate pollution prevention activities with the waste generating organization to reduce waste generation.			
CH-PP	0	0	283

CH-TM / Transportation and Packaging Management

The National Transportation and Packaging program develops and maintains the DOE baseline transportation resources, including the coordination and development of DOE-wide transportation policy to assure the availability of safe, regulatory compliant, economical, efficient transportation for DOE materials.

The Department's transportation and packaging activities are one of the most heavily regulated functions because of the hazardous materials (particularly radioactive) that are shipped. Noncompliance with regulations carries heavy penalties (both criminal and civil). Transportation is an area of public scrutiny due to the perceived hazards associated with the transportation of the DOE materials.

In FY 2001, the following activities are supported:

Assure a safe and regulatory compliant transportation system and operations.

Continue to provide improved and effective transportation and packaging systems engineering and analysis support services to the DOE waste and material disposition programs to help anticipate transportation issues and forecast future needs.

Integrate institutional outreach and stakeholder involvement activities with other DOE program offices.

Provide technical packaging and transportation assistance to resolve packaging issues, to identify packaging needs and to develop packaging concepts or alternatives to ensure that future transportation requirements are met.

CH-TM	0	0	131

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
Total, Chicago	0	0	914

Explanation of Funding Changes From FY 2000 to FY 2001

	FY 2001 vs. FY 2000 ($000)
CH-NAMP / National Analytical Management Program	
# This program, formerly supported in the Multi-Site account, is transferred to the Chicago Operations Office.	500
CH-PP / Pollution Prevention	
# This program, formerly supported in the Multi-Site account, is transferred to the Chicago Operations Office.	283
CH-TM / Transportation and Packaging Management	
# This program, formerly supported in the Multi-Site account, is transferred to the Chicago Operations Office.	131
Total Funding Change, Chicago	914

Idaho

Mission Supporting Goals and Objectives

Program Mission

The mission of the Defense Post 2006 Completion, Environmental Management 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 full compliance 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.

The mission of the National Analytical Management Program is to establish and implement National and Departmental policies to assure that credible, cost-effective sampling, and analytical needs are met, and the data vital for making decisions regarding waste management and environmental remediation meet the needs of EM, regulators, and the public.

The mission of the Pollution Prevention program is to establish and implement National and Departmental policies to reduce or eliminate all wastes and pollutants in order to minimize the impact of the Department's operations on the environment, to reduce operational cost, and improve the safety and health of its operations.

The mission of the Transportation and Packaging program, which includes the National Transportation program and the Transportation Emergency Preparedness program, is to establish and implement National and Departmental policies associated with the transport of hazardous materials.

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. Necessary infrastructure upgrades will be performed to support these ongoing activities. The Idaho Settlement Agreement requires spent nuclear fuel to be packaged for transfer 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. The budget request assumes both productivity improvements and projected efficiencies.

The program goal of the National Analytical Management Program is to ensure that the laboratory analyses being performed are of sufficient quality to: meet the needs and requirements of the EM program and the regulatory community; be scientifically and legally defensible; provide the basis for returning the DOE environment to the public domain; and to assist in meeting the objectives of the *Accelerating Cleanup: Paths to Closure* plan.

The Pollution Prevention program is to comply with waste minimization, pollution prevention, affirmative procurement, and recycling requirements under Federal/State statutes, Executive Orders, and DOE Orders, and reduce waste generated through implementation of cost-effective pollution prevention projects.

The National Transportation Program develops and maintains DOE's baseline transportation resources, including the coordination and development of DOE-wide transportation policy, to assure the availability of safe, regulatory compliant, economical, and efficient transportation for DOE materials, including radioactive and other hazardous materials and wastes. Goals for an integrated program mission include: achieving a forward-looking, system-wide assessment of the Department's transportation and packaging needs; assuring a safe, environmentally compliant, and cost-effective transportation management system and operations; performing as a service center for transportation campaigns across the Department's complex; focusing expertise from the Department's transportation and packaging technical base program to solve transportation and packaging requirements; and enhancing transportation relationships and coordinating transportation communication throughout the Department.

The Transportation Emergency Preparedness Program is a National DOE-wide program. Issues related to the transportation of hazardous materials of all types have become more heightened in recent years. This is particularly true for radioactive materials. As a high-visibility shipper of radioactive materials, the Department of Energy and its transportation activities have come under intense scrutiny from Congress, states, tribes, local governments, and the public. An issue of universal concern, however, is whether adequate emergency preparedness exists at all levels of government. The Transportation Emergency Preparedness Program will prepare the Department of Energy and other Federal, state, tribal, and local authorities to respond to a transportation incident involving Department of Energy shipments of radioactive material. The DOE policy is being developed to address concerns regarding transportation emergency management issues. This policy will be included in a revision to DOE Order 151.1, Comprehensive Emergency Management System. In addition, EM in coordination with DOE's Office of Emergency Management, is developing protocols addressing transportation emergency planning, notification, and response.

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 spent nuclear 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 generated by waste treatment and decontamination activities at the Idaho Nuclear Technology and Engineering Center. All of the legacy high-level waste has been pretreated and converted to a calcine, with only sodium-bearing liquid waste remaining in the tank farm from decontamination and waste treatment activities. The high-level waste project objective is to continue calcining liquid waste through the first half of FY 2000, and then place the calciner in standby, pending a decision on upgrading it to meet regulatory requirements or the selection of an alternative 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 the Settlement Agreement (October 17, 1995) with the State of Idaho:

- The high-level waste activities will treat sodium-bearing waste by 2012.
- The Department of Energy will cease use of the 11 high-level waste tanks by 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 FY 2003.
- Submit a closure plan for at least one tank by December 2000.
- By 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.
- The Department of Energy began negotiations with the State in 1999 on the final plan and schedule for treatment of high-level waste, as part of the development of the Idaho National Engineering and Environmental Laboratory High-Level Waste and Facility Disposition Environmental Impact Statement.
- Decision on future calciner operations by June 2000.
- The Department of Energy will complete the transfer of the Three Mile Island spent fuel from wet to dry storage facilities by June 1, 2001.
- The Department of Energy will complete the transfer of all spent fuel from wet storage facilities to dry interim storage by December 31, 2023.
- The Department of Energy will remove all spent fuel from Idaho by January 1, 2035.

The Advanced Mixed Waste Treatment Project will meet the Idaho Settlement Agreement through awarding the Advanced Mixed Waste Treatment Project contract (actual award December 1996); 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 40 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 or another appropriate facility for disposal.

Newly generated mixed waste will be treated in the Advanced Mixed Waste Treatment Project facility, at other Department of Energy facilities, or at commercial treatment facilities.

Will complete 100 percent of environmental restoration assessments and 90 percent of release sites.

Two high-level liquid waste tanks will be closed.

A major objective of the Environmental Management Program at the Idaho National Engineering and Environmental Laboratory is to use technology development to ensure completion of the primary goals. These technologies will accelerate cleanup schedules and reduce costs. Innovative technologies continue to be developed to meet the Idaho National Engineering and Environmental Laboratory needs and will be demonstrated and implemented as necessary to meet schedules and budgets. Examples of these technologies include:

Process studies to increase the sodium bearing radioactive waste throughput at the calciner facility.

Demonstrations of solvent extraction processes to remove transuranic waste and strontium components from sodium bearing wastes.

Development of pilot scale vitrification methods, including development work on cross flow filtration system to remove particulates from the waste stream.

Demonstration of advanced transuranic waste characterization systems needed to improve throughput and increase efficiency.

Use of the light duty utility arm to characterize tank heels.

Deployment of the Rapid Geophysical Surveyor for ultra-high resolution geophysical mapping and adaptation of the dig face characterization instrumentation with the Global Positioning Radiometric Scanner System for broad area radiation mapping.

Remote Excavator for removal of unexploded ordnance.

Application of in-situ bioremediation for remediating organic contaminants at the Test Area North injection well.

Passive Vapor Vacuum Extraction for removal of below surface organic vapors.

Robotics and advanced systems for waste handling and deactivation and decommissioning.

Decommissioning of highly contaminated fuel pools and associated structures using innovative technologies.

The National Analytical Management Program activities focus National attention on areas that impact the Environmental Management goals and planned efforts across the Department of Energy complex.

The pollution prevention activities focus National attention on areas that impact the EM goals and planned efforts across the Department of Energy complex.

The Transportation and Packaging program activities focus National attention on areas that impact the Environmental Management goals and planned efforts across the Department of Energy complex.

Performance Measures

Performance Measures are provided at an aggregate level after the Funding by Site table; as well as at a project level in the Detailed Program Justification.

The Executive Budget Summary and the Metrics Summary provide a consistent set of high-level performance measures. The more detailed project-level justification provides a description of significant activities for each project including detailed project performance measures and key project milestones, as applicable.

Significant Accomplishments and Program Shifts

Prepared Integrated Burn Plan for the Department Incinerator System Team (FY 1999, ID-CTREXE-101).

The Commercial Treatment and Disposal Site Audit Team audited commercial sites used by DOE, with the results being accepted by all DOE generating sites rather than each DOE site sending its own team (FY 1999, ID-CTREXE-101).

Completed final Operable Unit 2-13 Remedial Design/Remedial Action Work Plan (FY 1999, ID-ER-102). Continue remedial actions at Operable Unit 2-13 (FY 2000, ID-ER-102).

Completed the final Comprehensive Record of Decision for the Waste Area Group 3 at the Idaho Nuclear Technology Engineering Center (FY 1999). Will begin post Record of Decision field work at Operable Unit 3-13 for Remedial Action Groups 1,3,4, and 5 (FY 2000, ID-ER-103).

- Continue the Vacuum Vapor Extraction Remedial Action and groundwater and Pad A monitoring and complete remedial investigation drilling, analysis and evaluation of Pits 4 and 10 (FY 2000, ID-ER-106).
- Complete 30 percent design for stage 2 of the limited retrieval/excavation in selected areas of Pit 9 (FY 2000, ID-ER-106).
- Completed five facility assessments and eight facility/structure decontamination and decommissioning completions (FY 1999). Complete three facility assessments and four facility/structure decontamination and decommissioning completions (FY 2000, ID-ER-110).
- Initiated calcining of the sodium bearing waste in FY 1998, several years earlier than the Settlement Agreement Milestone, and continued to process liquid waste during FY 1998 and first half of FY 1999 (ID-HLW-101).
- Develop guidelines that will allow reference laboratories to establish a direct link to the national standard (National Institute of Science and Technology) in analytical measurement processes and the preparation of secondary standards. The guidelines delineate the process of establishing a reference or secondary laboratory according to requirements established by the American National Standards Institute (FY 2001, ID-NAMP).
- Maintain the Idaho National Engineering and Environmental Laboratory infrastructure in support of EM's mission (ID-OIM-10).
- Carry out the Idaho Nuclear Technology and Engineering Center (formerly Idaho Chemical Processing Plant) infrastructure operations (e.g., provide steam for 130 buildings, 147,000 kilowatt hours per day of electrical power, 2,500,000 gallons of water sewage treatment and maintain fire water lines) (FY 1999/FY 2000, ID-OIM-102).
- Complete shutdown of the Idaho National Technology Engineering Center Coal Fired Steam Generating Facility and converted steam production to the oil fired boilers. Operational cost saving was $2,000,000 per year (FY 2000, ID-OIM-102).
- Completed transfer of the paper pelletizer (pilot development of technology done at Idaho) which was dismantled and shipped to the Savannah River Site for next phase utilization (full production) (FY 2000, ID-OIM-102).
- Voluntary Consent Order for the Environmental Legacy Compliance to correct identified Resource Conservation and Recovery Act deficiencies and non-compliance issues (FY 2000, ID-OIM-116).
- Administer pollution prevention activities to achieve site plan goals (FY 2001, ID-PP).
- Developed a standardized spent nuclear fuel canister and incorporated DOE spent nuclear fuel into the geologic repository baseline design (FY 1999, ID-SNF-101). Performed annual acceptance audits of site quality assurance programs for DOE spent nuclear fuel (FY 1999/FY 2000, ID-SNF-101). Completed the first hot test of the Multi-Detector Analysis System to non-destructively determine the presence of fissile materials in DOE spent nuclear fuel (FY 2000, ID-SNF-101).

- Issued a Record of Decision for the use of multi-purpose canisters to ship and ultimately dispose of spent nuclear fuel outside of Idaho (FY 1999, ID-SNF-102).
- Began transferring fuel from wet storage in the Test Area North-607, Nuclear Hot Shop, pool to the interim dry storage facility (FY 1999, FY 2000 ID-SNF-103).
- Continued transfer of spent nuclear fuel from wet storage at the Chemical Processing Plant-603 to wet storage at the Chemical Processing Plant-666 and dry storage at the Irradiated Fuel Storage Facility (FY 1999/FY 2000, ID-SNF-103).
- Received foreign research reactor fuel shipments safely and without incident (FY 1999, ID-SNF-103).
- Commenced negotiations with the State of Idaho ahead of schedule to develop a mutually agreeable schedule to place Spent Nuclear Fuel into dry interim storage in support of the Idaho Settlement Agreement (FY 1999, ID-SNF-103).
- Continued moving TMI-2 fuel from wet to dry interim storage per Settlement Agreement milestone to complete by June 1, 2001 (FY 1999/FY 2000, ID-SNF-103).
- Develop and maintain a partnership with the U.S. Department of Transportation to perform safety assessments on Department of Energy motor carriers (FY 2001, ID-TM).
- Maintain an efficient regulatory compliance training program (FY 2001, ID-TM).
- Implement a complex-wide system to ensure internal and external notification of high visibility shipments to appropriate stakeholder officials, and provide public awareness of unclassified shipments; continue transportation focused forums and communications, with internal program activities and external stakeholders, to identify and resolve transportation issues and participate in specific transportation shipment planning; establish DOE-wide protocols for notification, planning, inspection, and other functions with states and tribal governments; and provide technical support to field and program offices and to state, tribal, and local governments in preparing for and executing hazardous materials shipping campaigns (FY 2001, ID-TM).
- Maintain DOE's automated transportation systems in support of efficient shipping and tracking throughout the DOE complex. These systems include the DOE tracking system, the real-time and historical shipment database, and the hazardous materials routing system (FY 2001, ID-TM).
- Maintain DOE's transportation and packaging technical base program to establish DOE's position on regulatory issues related to transportation and packaging, and to provide transportation and packaging testing and materials infrastructure for DOE (FY 2001, ID-TM).
- Provide improved effective transportation support services to the DOE Waste Material Disposition Programs through Systems Engineering practices (FY 2001, ID-TM).
- Completed the following Phase I activities for the Advanced Mixed Waste Treatment Project: the National Environmental Policy Act evaluation; a Preliminary Safety Analysis Report; and authorized the contractor to

proceed with construction (FY 1999). Obtain all Phase I environmental regulatory permits and start facility construction (FY 2000, ID-WM-105).

The National Analytical Management, Pollution Prevention, and Transportation and Packaging programs were supported in the Multi-Site account in FY 1999 and FY 2000.

Funding Schedule

	(dollars in thousands)		
	FY 1999 Current Appropriation	FY 2000 Current Appropriation	FY 2001 Request
HQNP-SI01-1D / Security Investigations	508	508	585
ID-CTREXC-101 / Low-Level Waste/Mixed Low-Level Waste Center of Excellence	395	0	0
ID-ER-102 / Test Reactor Area Remediation	2,509	562	884
ID-ER-103 / Idaho Chemical Processing Plant Remediation	8,711	10,523	19,802
ID-ER-106 / Radioactive Waste Management Complex Remediation	23,948	1,891	31,047
ID-ER-107 / Pit 9 Remediation	970	5,912	2,434
ID-ER-108 / Sitewide Monitoring Area Remediation	3,611	3,048	2,572
ID-ER-109 / Remediation Operations	17,122	15,557	19,875
ID-ER-110 / Decontamination and Decommissioning	9,747	3,651	6,182
ID-HLW-101 / High-Level Waste Pretreatment	38,863	46,692	40,311
ID-HLW-103 / High-Level Waste Treatment and Storage	12,632	18,958	21,008
ID-HLW-105 / Closure and Stabilization Activities	2,538	5,274	2,567
ID-LRP-101 / Environmental Engineering and Science Center	61	0	0
ID-NAMP / National Analytical Management Program	0	0	750
ID-OIM-101 / Site-wide Landlord Operations	29,365	28,114	30,339
ID-OIM-102 / Idaho Nuclear Technology and Engineering Center (formerly Idaho Chemical Processing Plant) Non-Process Plant Operations	59,190	54,367	55,957
ID-OIM-116 / Environmental Legacy Compliance (VCO)	0	9,077	9,757
ID-PP / Pollution Prevention	0	0	283
ID-SC-101-LT / Validation and Verification Program	0	0	18,692
ID-SNF-101 / National Spent Nuclear Fuel Program	26,292	17,316	18,238
ID-SNF-102 / Integrated Spent Nuclear Fuel Program	8,224	7,289	15,179
ID-SNF-103 / Emptied Spent Nuclear Fuel Facilities	38,930	42,689	39,209
ID-TM / Transportation and Packaging Management	0	0	764
ID-WM-105 / AMWTP Production Operations	8,904	1,357	653
ID-WM-106 / Idaho National Engineering and Environmental Laboratory Site-wide Environmental Protection	7,137	6,740	7,480

	(dollars in thousands)		
	FY 1999 Current Appropriation	FY 2000 Current Appropriation	FY 2001 Request
ID-WM-108 / Integrated Waste Operations Program	9,805	9,765	4,143
Total, Idaho	309,462	289,290	348,711

Funding by Site

	(dollars in thousands)				
	FY 1999	FY 2000	FY 2001	$ Change	% Change
Idaho National Engineering and Environmental Laboratory	309,462	289,290 [a]	348,711 [b]	59,421	20.5%
Total, Idaho	309,462	289,290	348,711	59,421	20.5%

Metrics Summary

	FY 1999	FY 2000	FY 2001
Remedial Action/Release Sites			
Assessments	40	6	0
Cleanups	9	6	6
Facility Decommissioning			
Assessments	5	3	3
Cleanups	8	4	2
Spent Nuclear Fuel			
Move to Dry Storage (MTHM)	0	35	47

[a] The total program activity funding in FY 2000 totals $332,290,000. Due to the termination of the Pit 9 subcontract, $43,000,000 will be made available in uncosted carryover to provide for the phased alternate approach.

[b] The FY 2001 funding includes $34,317,000 of new budget authority, which will be made available for the phased alternate approach, but is offset below the line with uncosted carryover. This uncosted is due to the termination of the Pit 9 subcontract.

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 transuranic waste, 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 570 m^3 of spent nuclear fuel from a number of sources, including the Navy, foreign and domestic research reactors, and some commercial reactors, with the Department of Energy owned fuel. Environmental remediation activities are required at ten Waste Area Groups encompassing 50 different operable units, which are comprised of 508 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 1999	FY 2000	FY 2001

The Idaho National Engineering and Environmental Laboratory is managed through an incentivized management and operating contract, with fixed-price subcontracts, to assure the most cost efficient service to the Government. The scope planned for FY 2001 has been reviewed and is appropriate to meet the goals of the site as outlined in the *Accelerating Cleanup: Paths to Closure*. 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. The Army Corps of Engineers performed an independent review of the Environmental Management baseline at the Idaho National Engineering and Environmental Laboratory.

HQNP-SI01-LT-ID / Security Investigations

Funding will be used to perform new security investigations and re-investigations for non-Federal employees in accordance with DOE order requirements for the Idaho site.

HQNP-SI01-LT-ID	508	508	585

ID-CTREXC-101 / Low-Level Waste/Mixed Low-Level Waste Center of Excellence

The Low-Level Waste/Mixed Low-Level Waste Center of Excellence (the Center) will analyze critical waste management issues, formulate effective solutions with respect to those issues, and assist the Department of Energy Headquarters in establishing policies, which are put into practice by the Department of Energy low-level waste and mixed low-level waste programs nationwide.

No activity.

ID-CTREXC-101	395	0	0

ID-ER-102 / Test Reactor Area Remediation (WAG 2)

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
This project provides for the assessment and 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.			
# Perform Interim Action on four new sites.			
ID-ER-102	2,509	562	884

Metrics			
Remedial Action/Release Site			
Assessments	0	6	0
Cleanups	0	6	6

ID-ER-103 / Idaho Nuclear Technology and Engineering Center (formerly Idaho Chemical Processing Plant) Remediation (WAG3)

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.)

Complete well construction and begin monitoring perched water and Snake River Plain Aquifer (Remedial Groups 4 and 5).

Complete 30 and 90 percent designs (designs and final Remedial Design/Remedial Action Workplans) for the Idaho Comprehensive Environmental Response, Compensation, and Liability Act Disposal Cell and Support Facility.

Begin construction of Tank Farm Interim Actions (storm-water drainage diversion).

Begin Operable Unit 3-14 (Tank Farm Final Remedy) Field Work.

ID-ER-103	8,711	10,523	19,802

Metrics			
Remedial Action/Release Sites			
Assessments	40	0	0

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
Cleanups	9	0	0

ID-ER-106 / Radioactive Waste Management Complex Remediation (WAG 7)

This project is to complete assessment and remediation activities for the Radioactive Waste Management Complex, which was an 88 acre burial ground for transuranic, radioactive, and hazardous waste. The site was in operation from 1952 to 1970. The focus of this project is the cleanup of radioactive and hazardous contaminants in accordance with a 1993 Pit 9, 1994 Pad A, and 1995 Vadose Zone Organics Record of Decisions; to continue work on the Remedial Investigation/Feasibility Study to be completed in March 2000; and complete a final Record of Decision for all of Waste Area Group 7 in December 2002. 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 contaminants from waste burial sites in accordance with a 1993 Interim Record of Decision. The Alternate Pit 9 project uses a three-phased approach and data obtained from these studies will be used in planning the cleanup of additional pits and trenches within the Radioactive Waste Management Complex.

- Operable Unit 7-13/14 will: develop Remedial Investigations, Baseline Risk Assessment, and Feasibility Studies reports; begin a project plan; monitor perched water and groundwater; monitor Pad A cap; and complete in-situ vitrification, in-situ grouting, ex-situ final reports, and in-situ thermal desorption treatability studies (finish in FY 2003).
- Operable Unit 7-08 will include: complete drilling of seven extraction/monitoring wells; continue Vapor Vacuum Extraction and treatment operations; and complete five-year review with agencies.
- Operable Unit 7-10 Pit 9 Staged Interim Action will include completion of: delivery of major procurements; construction of secondary enclosure; checkout facility training; system testing of Stage II facilities; and procedure development.

ID-ER-106	23,948	1,891	31,047

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

Metrics

This project has associated metrics; however, no metrics are reportable in the 3-year budget profile.

ID-ER-107 / Pit 9 Remediation (contract management)

As a result of the termination of the Pit 9 subcontractor, the project has since been restarted under a three-stage alternate approach. The work under the phased approach will be tracked under PBS ID-ER-106. Funding contained in this PBS supports ongoing legal activities resulting from the original Pit 9 subcontract termination.

Ongoing litigation cost for the original Pit 9 Project.

ID-ER-107	970	5,912	2,434

ID-ER-108 / Sitewide Monitoring Area Remediation

Waste Area Group 6/10 consists of 38 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. Funding supports all regulatory requirements and completion of all remedial activities by FY 2005.

Complete Operable Unit 10-04 Remedial Investigation/Feasibility Study.

Submit Operable Unit 10-04 proposed plan to the Environmental Protection Agency and the State of Idaho for review and comment.

ID-ER-108	3,611	3,048	2,572

Metrics

This project has associated metrics; however, no metrics are reportable in the 3-year budget profile.

Key Milestones

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Operable Unit 10-04 Draft Remedial Investigation/Feasibility Study report sent by DOE-Idaho Operations Office to the Environmental Protection Agency/Idaho Department of Health and Welfare for Review (June 2001).			

ID-ER-109 / Remediation Operations

This activity provides program management and support for assessment and cleanup projects conducted under the Federal Facilities Agreement/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: system planning and control; technical program integration; community relations; environmental/safety/health and quality planning and support; integrated project management reporting; cost engineering system management; configuration management and control; data management; decontamination and decommissioning program management and support; remedial designs/remedial action program support and Headquarters interface support; and the DOE Idaho remediation programmatic support.

Other activities supported include: funding for the State of Idaho's involvement in the remediation program required by the Federal Facility Agreement and Consent Order; technical data development by the United States Geological Survey; and the university research foundation support to DOE to address stakeholder concerns, as well as, technical support contracts and grants to Indian tribes.

These activities are necessary to support and manage cost-effective remediation, decontamination, decommissioning, and deactivation programs with State and stakeholder involvement using state-of-the-art cleanup techniques.

Create project, assemble resources, and implement end state planning to support closure activities across the Idaho National Engineering and Environmental Laboratory.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Provide project management, baseline control, configuration/records/data/sample management, environment, safety, health, and quality general support, and project technical support required to maintain current requirements and meet Federal Facility Agreement/Consent Order enforceable milestones.			
# Provide for the Idaho Department of Health and Welfare Grants and other DOE Headquarters directed requirements.			
ID-ER-109	17,122	15,557	19,875

ID-ER-110 / Decontamination and Decommissioning

This project is to eliminate the hazards posed by some 307 inactive radiologically contaminated facilities at the Idaho National Engineering and Environmental Laboratory, which may cause risk to site workers and the environment. The program end date for this project is FY 2044.

Complete the decontamination and decommissioning of Test Reactor Areas TRA-641 (Gamma Building) and TRA-706 (Delay Tanks) and complete the assessment of Test Area North TAN-616 (Liquid Waste Treatment Facility), TAN-650 Loss of Fluid Test Containment and Service Building) and Test Area Reactor Area TRA-706 (Delay Tanks).

ID-ER-110	9,747	3,651	6,182

Metrics			
Facilities Decommissioning			
Assessments	5	3	3
Cleanups	8	4	2

ID-HLW-101 / High-Level Waste Pretreatment

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

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 by June 1, 2000, until a permit is obtained, and pending completion of an Environmental Impact Statement on the path forward for treatment and disposal of the liquid sodium bearing waste and calcine. This Environmental Impact Statement also addresses closure of the Idaho Nuclear Technology and Engineering Center waste facilities.

- Operate the tank farm to store radioactive liquid waste.
- Operate the High Liquid Level Waste Evaporator to empty pillar and panel tanks to heel level.
- Operate the Filter Leach and Debris Treatment processes to further reduce backlogs and meet milestones.
- Perform waste characterization and analysis to support the Idaho Nuclear Technology and Engineering Center processing and the Resource Conservation and Recovery Act permitting activities.
- Continue to reduce generation of new liquid wastes.
- Initiate conceptual design on a maximum achievable control technology upgrade project for the calciner.
- Initiate conceptual design on a project to provide new Resource Conservation and Recovery Act - compliant tankage to support future operations.

ID-HLW-101	38,863	46,692	40,311

Metrics			
High-Level Waste			
Treatment (m^3)	385	304	1,815
Storage (m^3)	9,359	9,411	8,018
Key Milestones			

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# The Department provides written notice of decision/plans for calciner (June 2000).			
# Commence operation of debris treatment facility (September 2000).			

ID-HLW-103 / High-Level Waste Treatment and Storage

Calcine and the remaining liquid waste require additional treatment to be suitable for disposal in a geologic repository or other appropriate location. The work performed under this project is for new facilities required to complete the high-level waste mission and for demonstration projects and other development work necessary to implement the selected technology(ies).

To complete this mission, this project performs the high-level waste program planning environmental impact statement feasibility studies, project support, and technology development. This project also operates the facility needed to convert the pretreated waste and treat remaining liquid waste by FY 2035 to a final disposable form that is road ready to ship out of the State of Idaho.

The Department of Energy is currently preparing an Environmental Impact Statement, which will determine the path forward on treatment and disposal of remaining liquid waste and calcine. The Environmental Impact Statement also addresses closure of the Idaho Nuclear Technology and Engineering Center's high-level waste facilities. The Environmental Impact Statement is analyzing a full range of reasonable options for treating the waste, including options that depend on resuming pretreatment of waste and those which do not convert liquid waste to calcine. The Environmental Impact Statement treatment options consider various alternatives for treatment and disposal of the waste, including vitrification, ceramification, radionuclide separation, grouting the low activity fraction of the waste, and disposal in geologic repository, near surface disposal, or above ground disposal.

- Continue the long-term planning, process development work, and project planning required to implement the decisions identified in the Record of Decision.
- Continue working on the Resource Conservation and Recovery Act delisting, an incidental waste ruling and new facility permitting.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Continue conceptual design of the line-item project for a new pilot plant facility to develop and demonstrate the technology(ies) called for in the Environmental Impact Statement Record of Decision.			
ID-HLW-103	12,632	18,958	21,008

Metrics
This project has associated metrics; however, no metrics are reportable in the 3-year budget profile.
Key Milestones
Commence negotiating plan and schedule with State (December 1999).
Support Record of Decision (September 2000).

ID-HLW-105 / Closure and Stabilization Activities

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 treat and/or immobilize tank waste heels to support tank closures.

By FY 2005, the Department of Energy will immobilize the tanks heels in place for two of the eleven 300,000 gallon tanks in the high-level waste tank farm. This will be followed by the immobilization of tank heels and closure of additional tanks as they are emptied. All tanks are planned to be emptied by 2012 and closed by 2016. It is expected that grouting systems will be used to immobilize the tank heels and to fill the tanks and the open areas between the tank and the vault. Low-level waste grout may also be used for tank fill, if this is the preferred alternative of the Idaho High-Level Waste Environmental Impact Statement.

Begin title design.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Submit to Headquarters a tank closure plan that addresses waste incidental to reprocessing, composite analysis, and performance assessment requirements. Implement the tank closure plan requirements upon approval.			
ID-HLW-105	2,538	5,274	2,567

Key Milestones
Closure plan for at least one of the WM-182 through 186 tanks (December 2000).

ID-LRP-101 / Environmental Engineering and Science Center

Provides for activities under the Idaho Long-Range Plan, including complex-wide integration and systems engineering support.

No activity.

ID-LRP-101	61	0	0

ID-NAMP / National Analytical Management Program

This program is responsible for supporting EM programs to assure that credible, cost-effective sampling, and analytical needs are met, and the data vital for making decisions regarding waste management and environmental remediation meet the needs of EM, regulators, and the public.

In FY 2001, the following activities are supported:

Attend the National Analytical Management Program Sample Management meetings.

Attend the Integrated Contractor Procurement Team working group meetings.

Attend and participate in the General Electronic Data Deliverable workshops.

Attend the annual Bio-Assay and Analytical Environmental Radiochemistry Conference in Gaithersburg, Maryland.

Participate in the testing and utilization of the web-based information databases.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Support the Consolidated Audit Program by participating in teleconferences and in the planning and development of audit criteria.			
ID-NAMP	0	0	750

ID-OIM-101 / Site-wide Landlord Operations

This project performs core functions for site-wide base support, facility upgrades, and capital acquisitions initiatives. Also included in this project is the facility disposal initiative, which is to demolish and dispose of surplus non-radioactively contaminated buildings and facilities that are deteriorating and pose a possible physical hazard to site personnel. In addition, Site-Wide Base Support project activities for multiple and varied programs at the Idaho National Engineering and Environmental Laboratory include: U.S. Geological Survey monitoring, oversight/state permits, meteorological monitoring, integrated facility and land use planning, seismic monitoring, emergency preparedness, and safety and health corrective actions.

Continue Site-Wide Base Support Project activities.

Complete FY 1999 general plant projects/line-item construction projects and FY 2000 and FY 2001 general plant projects/line-item construction projects that will be in various stages of planning, design, and construction.

Complete FY 2000 capital equipment acquisitions. This involves the acquisition and installation of replacement or new equipment critical to maintain existing operations in a safe and stable condition. Upgrades and replacements involve core equipment including telecommunications, scientific and business computing, vehicles and heavy equipment, laboratory and calibration equipment, electronic measurement and security/safety and health equipment, and miscellaneous shop equipment. When completed the equipment will be fully operational. Capital equipment acquisitions for FY 2001 will be in various stages of procurement, delivery, and installation.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Under the facility disposal initiative all non-nuclear excess facilities approved and funded for demolition will be in process or completed. In addition, to non-nuclear activities, this program includes asbestos abatement and removal of underground lines and piping.			
ID-OIM-101	29,365	28,114	30,339

ID-OIM-102 / Idaho Nuclear Technology and Engineering Center (Formerly Idaho Chemical Processing Plant) Non-Process Plant Operations

This project is to perform the core functions required by multiple and varied programs at the Idaho Nuclear Technology and Engineering Center (formerly the Idaho Chemical Processing Plant) including operation, nuclear safety engineering environmental compliance, maintenance of the non-process plant facilities and services; including utilities and plant-wide infrastructure. 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.

Provide safeguards and security for special nuclear materials

Provide continuous utility service (steam, air, water, and electricity) for the Idaho Nuclear Technology Engineering Center operations.

Perform core function support activities.

Perform landlord activities (overall building upkeep and repairs) at the Idaho Nuclear Technology Engineering Center.

Complete or initiate planning for general plant projects such as: Telecommunication Switchgear Facility; Emergency Communication Facility; Sanitary Sewer Extension; Sewage Plant Upgrade; Deep Well Pump Replacement planning; and Craft Shop Safety Upgrade planning.

Update lifecycle planning packages.

ID-OIM-102	59,190	54,367	55,957

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

ID-OIM-116 / Environmental Legacy Compliance (VCO)

This project addresses existing Resource Conservation and Recovery Act noncompliance issues at the Idaho National Engineering and Environmental Laboratory. The Department of Energy and the State of Idaho Division of Environmental Quality are currently finalizing a Voluntary Consent Order covering 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.

- Complete the Voluntary Consent Order FY 2001 activities at the Test Reactor Area including: complete hazardous waste determinations and disposition second 25 percent of Test Reactor Area legacy waste; and implement closure activities for the Engineering Test Reactor Sodium Loop and the Test Reactor Area 730 catch tanks per approved Resource Conservation and Recovery Act Closure Plans.
- Finalize the Idaho Nuclear Technology and Engineering Center, hazardous waste determinations on the CPP-603 Basin Water Sand Filter and Demineralization System and negotiate actions; and complete transfer of the New Waste Calcining Facility calcine to CPP-601 D-Cell and disposition calcine handling tools.
- Finalize site-wide tanks and system identification for all tanks on the tank list; and complete hazardous waste determinations or verification of empty on 5 percent of the tanks.

ID-OIM-116	0	9,077	9,757

ID-PP / Pollution Prevention

The Department's pollution prevention mission is to reduce or eliminate all wastes and pollutants in order to minimize the impact of the Department's operations on the environment, to reduce operational cost, and improve the safety and health of its operations.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
Pollution prevention is the Department's preferred approach to reducing waste, mitigating health risks, and protecting the environment, in accordance with the Pollution Prevention Act of 1990. This was evidenced by the Secretary's November 1999 establishment of aggressive source reduction, recycling, and affirmative procurement goals, to be achieved by 2005. Pollution prevention applied within EM can significantly reduce wastes, allowing the cost savings to be used to accelerate the cleanup effort. As in industry, pollution prevention is a core program that helps DOE achieve maximum environmental benefits.			
The Pollution Prevention program was supported in the Multi-Site account in FY 1999 and FY 2000.			
In FY 2001, the following activities are supported:			
# Maintain field pollution prevention/waste minimization programs to comply with Federal/State laws and regulations.			
# Track and report on waste generation and affirmative procurement activities.			
# Coordinate pollution prevention activities with the waste generating organization to reduce waste generation.			
ID-PP	0	0	283

(dollars in thousands)

FY 1999	FY 2000	FY 2001

ID-SC-101-LT / Validation and Verification Program

The Validation and Verification program at the Idaho National Engineering and Environmental Laboratory conducts basic research in subsurface and related science(s) to provide the new technology necessary for remediation, ongoing operations, and long-term environmental stewardship in the complex that are scheduled to continue after FY 2006. The program includes studies into the fate and transport of contaminants in fractured rock, the nonintrusive analysis of contaminants in-situ, and ex-situ characterization and treatment of remote-handled wastes. Particular emphasis is placed on understanding phenomena in the deep vadose zone within fractured rock at the arid Western sites in the complex. The program also includes a systematic analysis of ongoing and proposed EM operations leading to the final remediation and disposition of wastes from the DOE complex, and the long-term stewardship of sites from the complex. Research in the program is driven and justified by the long-term technology needs identified by the operational program through: 1) the Site Technology Coordination Groups; 2) the waste stream disposition analysis continuing in the Environmental Management Integration processes; and 3) the ongoing analysis leading to a National Vadose Zone Roadmap and a Long-Term Stewardship Science and Technology Roadmap that are both scheduled for completion in FY 2001. The program is funded at a total of $18,692,000 with $5,000,000 to perform the Environmental Management Integration analysis.

- Integrate technologies from the Environmental Management Science Program into the Validation and Verification Program for further development.
- Perform external peer review for review of all program areas.
- Continue to provide technical and program management assistance to the Office of Science and Technology Focus Area.
- Initiate research to support future DOE needs in Characterization Science, the Chemistry of Environmental Surfaces; Materials Dynamics; Computational Simulation of Mechanical and Chemical Systems; and the Facilitated Transport of Contaminants through fractured rock.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Further develop the technology roadmaps and technology gap-identification from integration analysis to define DOE long-term technology needs for post 2006 remediation, operations continuing after 2006, and long-term stewardship.			
ID-SC-101-LT	0	0	18,692

ID-SNF-101 / National Spent Nuclear Fuel Program

This project is to facilitate implementation of the Department of Energy's National Spent Nuclear Fuel Program through integration, research, development, and testing of technologies for treatment, shipment, and disposal. Participate in and coordinate the National Spent Nuclear Fuel Program and DOE-EM's input to the Office of Civilian Radioactive Waste Management for the final repository license application preparation and review.

Continue analysis on smaller quantity miscellaneous spent nuclear fuel to demonstrate that it will be in compliance with the Office of Civilian Radioactive Waste Management repository license application submittal criteria.

Complete specification for the DOE-EM spent nuclear fuel transportation system.

Initiate a procurement with the award of a contract for design and certification of spent nuclear fuel transport casks.

Issue data package guidelines for DOE spent nuclear fuel acceptance in the repository to the DOE spent nuclear fuel sites.

Continue long-term release rate testing of DOE spent nuclear fuel as a demonstration that DOE spent nuclear fuel is meeting the repository criteria.

Design baskets for use with the DOE standardized canister set will be released for DOE spent nuclear fuel site implementation.

Continue program implementation activities such as: the maintenance of the National Spent Nuclear Fuel Database; the master logic schedule; records management system; qualification and retention of the Office of Civilian Radioactive Waste Management accepted quality assurance programs at DOE spent nuclear fuel sites and within the National Spent Nuclear Fuel program.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Complete design and prototype testing of the Multi-Detector Analysis System demonstrating the ability to make fissile measurements on a wide variety of DOE spent nuclear fuel.			
ID-SNF-101	26,292	17,316	18,238

ID-SNF-102 / Integrated Spent Nuclear Fuel Program

This project is to support on-site compliance with the Idaho Settlement Agreement through 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 site support for the privatized Spent Nuclear Fuel Dry Storage Facility through initiation of the Utilities Interface Project and provision of spent nuclear fuel data and other interface information.

Improve overall program plans for vulnerabilities correction, interim dry storage, fuel receipts, and shipment to the repository through detailed planning, integration, and program management.

Ensure the Idaho National Engineering and Environmental Laboratory spent nuclear fuel will be acceptable at the repository by providing spent nuclear fuel data to the National Spent Nuclear Fuel Program for inclusion in the repository Nuclear Regulatory Commission license application, review of the repository development documentation and preparation of the site specific compliance plan for meeting the repository waste acceptance systems requirements document.

Continue technology development for preparation of the Idaho National Engineering and Environmental Laboratory spent nuclear fuel for interim storage and packaging into standardized canisters that will meet the repository acceptance criteria, including deployment of gamma measurement technology and development of epoxy removal technology.

Receive routine shipments of foreign research reactor spent nuclear fuel over the time frame from FY 2001 through FY 2009.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Initiate detailed preparations for receipt of the spent nuclear fuel from the Oak Ridge Operations Office planned in FY 2002 and continued development of the Idaho National Engineering and Environmental facilities spent nuclear fuel acceptance criteria to ensure program requirements are passed to the spent nuclear fuel shippers.			
ID-SNF-102	8,224	7,289	15,179

ID-SNF-103 / Emptied Spent Nuclear Fuel Facilities

This project is to accomplish 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 CPP-603 and CPP-666 underwater storage basins; 2) Test Area North TAN-607 underwater storage basin and dry cask storage; 3) Idaho Nuclear Technology and Engineering Center CPP-749 underground dry storage vault; 4) Idaho Nuclear Technology and Engineering Center CPP-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 CPP-1774 Nuclear Regulatory Commission-licensed Independent Spent Fuel Storage Installation.

Continue surveillance and management of all spent nuclear fuel in existing storage facilities.

Complete stabilization and movement of the Three Mile Island Unit-2 spent nuclear fuel from Test Area North-607 to CPP-1774.

Receive and place the West Valley Nuclear Services 125 spent nuclear fuel assemblies into Test Area North dry cask storage.

Turn CPP-603 over to decontamination and decommissioning.

Receive spent nuclear fuel from Navy and the Advanced Test Reactor.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Upgrade the CPP-666 heating, ventilation, and air conditioning and steam systems to ensure safe wet storage of DOE and Navy spent nuclear fuel through 2011.			
# Receive 42 shipments of spent nuclear fuel from the Deactivation program at the Materials Testing Reactor underwater storage basin and place into CPP-603 Irradiated Fuel Storage Facility.			
ID-SNF-103	38,930 [a]	42,689 [a]	39,209 [a]

Metrics			
Spent Nuclear Fuel			
Move to Dry Storage (MTHM)	0	35	47
Key Milestones			
# Complete removal of all spent nuclear fuel from underwater storage at CPP-603 (December 2000).			
# Complete transfer of Three-Mile-Island spent nuclear fuel from Test Area North to the Dry Storage Facility (June 2001).			

ID-TM / Transportation and Packaging Management

The National Transportation and Packaging program develops and maintains the DOE baseline transportation resources, including the coordination and development of DOE-wide transportation policy to assure the availability of safe, regulatory compliant, economical, efficient transportation for DOE materials.

The Department's transportation and packaging activities are one of the most heavily regulated functions because of the hazardous materials (particularly radioactive) that are shipped. Noncompliance with regulations carries heavy penalties (both criminal and civil). Transportation is an area of public scrutiny due to the perceived hazards associated with the transportation of the DOE materials.

In FY 2001, the following activities are supported:

[a] In addition to this funding, the Department's Cost of Work for Others program includes $3,100,000 in FY 1999 and $1,800,000 in FY 2000 and $1,500,000 in FY 2001 of revenues received for the Foreign Research Reactor receipt program at Idaho.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Assure a safe and regulatory compliant transportation system and operations.			
# Continue to provide improved and effective transportation and packaging systems engineering and analysis support services to the DOE waste and material disposition programs to help anticipate transportation issues and forecast future needs.			
# Integrate institutional outreach and stakeholder involvement activities with other DOE program offices.			
# Provide technical packaging and transportation assistance to resolve packaging issues, to identify packaging needs and to develop packaging concepts or alternatives to ensure that future transportation requirements are met.			
ID-TM	0	0	764

ID-WM-105 / AMWTP Production Operations

The Idaho Settlement Agreement requires a minimum of 3,100 m^3 of stored transuranic waste to be shipped out of the State of Idaho by December 2002 (discussed under ID-WM-103 in the Defense Site/Project Completion Budget account). The approximately 61,900 m^3 of stored transuranic waste remaining will be treated in the privatized Advanced Mixed Waste Treatment Project to meet the Waste Isolation Pilot Plant waste analysis plan requirements or other appropriate disposal facility requirements before it is shipped for disposal.

This project supports Phase I of the Privatized Advanced Mixed Waste Treatment Project, including preliminary facility and process design activities; environmental regulatory permitting; National Environmental Policy Act evaluation; the Department of Energy environment, safety and health authorization; other project/technical support; and Phase III of the project, which includes payments to the vendor for operating the facility after construction.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
The capital asset acquisition of the Advanced Mixed Waste Treatment Project (ID-WM-104) is discussed in the Defense Environmental Management Privatization budget account. All stored transuranic waste is planned to be removed from Idaho by December 31, 2015, but no later than December 31, 2018, as required by the Idaho Settlement Agreement.			
The Advanced Mixed Waste Treatment Project will treat mixed waste streams identified in the Idaho National Engineering and Environmental Laboratory Site Treatment Plan required by the Federal Facility Compliance Act of 1992. The Advanced Mixed Waste Treatment Project will undergo decontamination and decommissioning and the Resource Conservation and Recovery Act closure after scheduled completion of treatment in FY 2015, unless DOE extends the contract to treat additional Idaho National Engineering and Environmental Laboratory and non-Idaho National Engineering and Environmental Laboratory waste.			
# Provides for project and technical support for the Advanced Mixed Waste Treatment Project for Phase II (construction) efforts. The Advanced Mixed Waste Treatment Project will be in Phase II of the project, facility construction, which is discussed in ID-WM-104 Advanced Mixed Waste Treatment Project Asset Acquisition. Activities associated with this project will begin again in FY 2003 once the facility becomes operational.			
ID-WM-105	8,904	1,357	653

Metrics
This project has associated metrics; however, no metrics are reportable in the 3-year budget profile.

ID-WM-106 / INEEL Site-wide Environmental Protection

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

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.

- Support environmental, safety, health, quality, and risk assessments and audits.
- 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.
- Submit the annual State of Idaho well permit application.
- Complete environmental monitoring activities to support DOE Orders 5400.1 and 435.1.
- Begin required groundwater monitoring and associated support tasks to support Wastewater Land Application Permit.

ID-WM-106	7,137	6,740	7,480

ID-WM-108 / Integrated Waste Operations Program

This project enables the performance of integrated environmental management/waste management compliance and program management tasks that cannot be achieved or are not cost-effective when solely performed by each individual project. It is designed to achieve cost efficiencies in performing these functions that would not otherwise be achieved.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Establish, control, and report on waste management projects to meet the commitments set forth in the Idaho Settlement Agreement with the State of Idaho and Federal Facility Compliance Act that mandated the Idaho National Engineering and Environmental Laboratory Site Treatment Plan (provide for base program management control, execution, and reporting systems along with funds management systems).			
# Pursue waste management related activities that support the objectives of the Idaho National Engineering and Environmental Laboratory long-range plan.			
# 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.			
# Provide for assessment of programmatic compliance with applicable environmental regulations, safety and health protection, and quality and the evaluation of ecological risk assessment issues.			
# Provide funding for independent oversight activities.			
ID-WM-108	9,805	9,765	4,143
Total, Idaho	309,462	289,290	348,711

Explanation of Funding Changes from FY 2000 to FY 2001

	FY 2001 vs. FY 2000 ($000)
HQNP-SI01-ID / Security Investigations	
# Minor increase in Security Clearance estimates.	77
ID-ER-102 / Test Reactor Area Remediation (WAG 2)	
# Funding increased to support remediation at four new sites.	322
ID-ER-103 / Idaho Chemical Processing Plant Remediation (WAG 3)	

	FY 2001 vs. FY 2000 ($000)
# Increase reflects Post-Record of Decision, construction activities in Remedial Action Groups (1, 4, and 5), start up of Operable Unit 3-14, and completion of 30 percent and 90 percent designs for the Idaho Comprehensive Environmental Response, Compensation, and Liability Act disposal facility and its support facility.	9,279
ID-ER-106 / Radioactive Waste Management Complex Remediation (WAG 7)	
# An increase of $31,047,000 of new budget authority is for the Pit 9 phased alternative approach effort, but is offset below the line with Pit 9 uncosted carryover. Decrease reflects completed major field work in Operable Unit 7-13/14 (drilling/coring/treatability/studies/new wells).	29,156
ID-ER-107 / Pit 9 Remediation	
# Decrease reflects no new funding requested. An increase of $2,434,000 of new budget authority is for closeout of the original Pit 9 Project, but is offset below the line with Pit 9 uncosted carryover.	-3,478
ID-ER-108 / Sitewide Monitoring Area Remediation	
# Decrease in funding reflects work scope shifted to outyears (schedule shift) per regulatory agency direction and approval.	-476
ID-ER-109 / Remediation Operations	
# Increase in funding reflects the Federal Facility Agreement and Consent Order mandated grants for the State of Idaho institutional support of the integrated safety management system implementation and work control revisions, program wide support of integrated planning, budget and reporting, the Comprehensive Environmental Response, Compensation, and Liability Act required maintenance of the Administrative Record and Information Reporting, Development and End-State Planning.	4,318
ID-ER-110 / Decontamination and Decommissioning	
# Increase in funding reflects completion of two facilities in FY 2001 and assessment completion of three facilities.	2,531
ID-HLW-101 / High-Level Waste Pretreatment	
# Decrease reflects no more calciner or calciner off gas sampling, although project work for future processes may to some extent offset the operational decrease.	-6,381
ID-HLW-103 / High-Level Waste Treatment and Storage	
# Increase for technology development efforts for Sodium Bearing Waste/calcine treatment and project design for technology development pilot plant.	2,050
ID-HLW-105 / Closure and Stabilization Activities	

	FY 2001 vs. FY 2000 ($000)
# Decrease reflects waste tank closure studies to complete performance assessments, composite analyses, incidental waste rulings, and general closure approach no longer required	-2,707
ID-NAMP / National Analytical Management Program	
# This program, formerly supported in the Multi-Site account, is transferred to the Idaho Operations Office.	750
ID-OIM-101 / Site-wide Landlord Operations	
# Increase reflects consolidation of site wide activities including U.S. Geological Survey, permits, Sho-Ban agreements, Citizen's Advisory Board and National Oceanic and Atmospheric Administration.	2,225
ID-OIM-102 / Idaho Nuclear Technology and Engineering Center (formerly Idaho Chemical Processing Plant) Non-Process Plant Operations	
# Increase reflects necessary general plant projects, and facility upgrades.	1,590
ID-OIM-116 / Environmental Legacy Compliance (VCO)	
# Increase provides for additional Resource Conservation and Recovery Act corrective actions required to bring the Idaho National Engineering and Environmental Laboratory into regulatory compliance.	680
ID-PP / Pollution Prevention	
# This program, formerly supported in the Multi-Site account, is transferred to the Idaho Operations Office.	283
ID-SC-101-LT / Validation and Verification Program	
# Increase is due to transfer of scope from the Science and Technology program.	18,692
ID-SNF-101 / National Spent Nuclear Fuel Program	
# Increase reflects the needed additional effort to support placing DOE Spent Nuclear Fuel in the National Repository including developing a cask transportation system, shipment planning, and quality assurance requirements.	922
ID-SNF-102 / Integrated Spent Nuclear Fuel Program	
# Increase to support utilities and operations support for the privatized Spent Nuclear Fuel Dry Storage project and new scope transferred from PBS ID-SNF-103 (management of domestic and foreign reactor spent fuel receipts) and increased technology development activities.	7,890
ID-SNF-103 / Emptied Spent Nuclear Fuel Facilities	

	FY 2001 vs. FY 2000 ($000)
# Decreased due to scope transferred to PBS ID-SNF-102 (management of domestic and foreign reactor spent fuel receipts). The CPP-603 basins are closed down and have been turned over to deactivation.	-3,480
ID-TM / Transportation and Packaging Management	
# This program, formerly supported in the Multi-Site account, is transferred to the Idaho Operations Office.	764
ID-WM-105 / AMWTP Production Operations	
# Change is due to management and operating contractor support scope transferred from PBS ID-WM-108 in FY 2001 and funding of public outreach office in Jackson, Wyoming in FY 2000.	-704
ID-WM-106 / INEEL Site-wide Environmental Protection	
# Increase due to addition of scope to support the Idaho National Engineering and Environmental Laboratory Waste Water Land Application permitting and monitoring activities.	740
ID-WM-108 / Integrated Waste Operations Program	
# Decrease due to transfer of Waste Generator Services activities to the Low-Level Waste/Mixed Low-Level Waste Project (ID-WM-101); transfer of U.S. Geological Survey, permits, and Sho-Ban activities to the Site Wide Landlord Operations (ID-OIM-101); and reduced EM integration activities.	-5,622
Total Funding Change, Idaho	59,421

Major Issues

None.

Nevada

Mission Supporting Goals and Objectives

Program Mission

The mission of the Defense Environmental Management (EM), Post 2006 Completion program, 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 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.

The mission of the Pollution Prevention program is to establish and implement National and Departmental policies to reduce or eliminate all wastes and pollutants in order to minimize the impact of the Department's operations on the environment, to reduce operational cost, and improve the safety and health of its operations.

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.

The Pollution Prevention program is to comply with waste minimization, pollution prevention, affirmative procurement, and recycling requirements under Federal/State statutes, Executive Orders, and DOE Orders; and reduce waste generated through implementation of cos-effective pollution prevention projects.

Program Objectives

The key objective of the Nevada Operations Office Environmental Management Program is to address the legacy of contamination resulting from approximately 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. The Industrial Sites Project addresses contamination resulting from use of 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 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.

Agreements-in-Principle/Grants provide funding for state oversight activities and support of Department initiatives. 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.

The pollution prevention activities focus National attention on areas that impact the EM goals and planned efforts across the Department of Energy complex.

Performance Measures

Performance Measures are provided at an aggregate level after the Funding by Site table; as well as at a project level, in the Detailed Program Justification.

The Executive Budget Summary and the Metrics Summary provide a consistent set of high-level performance measures. The more detailed project-level justification provides a description of significant activities for each project including detailed project performance measures and key project milestones, as applicable.

Significant Accomplishments and Program Shifts

Completed preparation of an As Low As Reasonably Achievable analysis for soil cleanup action levels to be used at Clean Slates 2 and 3 (FY 1999).

Completed characterization of Clean Slates 1, 2, and 3 (FY 1999).

Completed Frenchman Flat Contaminant Boundary Modeling Report, Value of Information Analysis for Yucca Flats and the Corrective Action Investigation Plan for Frenchman Flat (FY 1999).

Completed installation of seven deep groundwater monitoring wells for monitoring contaminated groundwater flow toward Oasis Valley, Nevada, from the Nevada Test Site (FY 1999). Complete installation of one additional well (FY 2000).

Completed the Project Salmon Site, Mississippi subsurface Record of Decision (FY 1999).

Initiate remediation of surface sites at the Central Nevada Test Area in Nevada (FY 2000).

Developed draft groundwater model for Amchitka Island, Alaska (FY 1999).

Completed assessment of 41, and remediation of 28, Resource Conservation and Recovery Act Industrial Sites on the Nevada Test Site and Tonopah Test Range (FY 1999). Complete assessment of 17 release sites, and remediation of 42, Resource Conservation and Recovery Act Industrial Sites on the Nevada Test Site and Tonopah Test Range (FY 2000). Completed closure of four Corrective Action Sites at the Offsites (FY 1999).

Completed disposal of 17,125 m^3 (FY 1999) of Department of Energy complex low-level waste at the Nevada Test Site. Complete disposal of approximately 11,491 m^3 of low-level waste (FY 2000).

Processed 830 mixed transuranic waste drums, radiographed 360 drums, and repackaged 130 drums (FY 1999). Repack 195 drums (FY 2000).

Issued Technical Reports on Intermodal (rail and truck) Transportation of Low-Level Waste to the Nevada Test Site, which addresses stakeholder concerns associated with waste transportation through the densely populated Las Vegas corridor and heavily traveled Hoover Dam bypass (FY 1999).

Tested segmented gate radioactive separation technology (FY 1999).

Administer the Pollution Prevention programs to achieve site plan goals (FY 2001).

The Pollution Prevention program was supported in the Multi-Site account in FY 1999 and FY 2000.

Funding Schedule

	(dollars in thousands)		
	FY 1999 Current Appropriation	FY 2000 Current Appropriation	FY 2001 Request
NV202 / Agreements in Principle/Grants	3,473	7,196	4,831
NV211 / Soils	1,072	1,222	846
NV212 / Underground Test Area (UGTA)	30,863	31,335	33,936
NV214 / Industrial Sites	13,107	13,992	15,877
NV240 / Off-sites	7,702	11,085	11,323
NV350 / TRU/Mixed TRU	6,105	5,614	6,632
NV360 / Mixed Low-Level Waste	744	1,244	677
NV370 / Low-Level Waste	4,329	5,347	5,721
NV400 / Program Integration	12,686	10,436	10,157
NV401 / Pollution Prevention	0	0	212
Total, Nevada	80,081	87,471	90,212

Funding by Site

	(dollars in thousands)				
	FY 1999	FY 2000	FY 2001	$ Change	% Change
Nevada Test Site	72,379	76,386	78,889	2,503	3.3%
Nevada Operations Office	7,702	11,085	11,323	238	2.1%
Total, Nevada	80,081	87,471	90,212	2,741	5.4%

Metrics Summary

	FY 1999	FY 2000	FY 2001
Remedial Action/Release Site			
Assessments	41	17	7
Cleanups	28	42	52
Mixed Low-Level Waste			
Treatment (m^3)	12	0	0
Disposal (m^3)	2	0	1
Low-Level Waste			
Disposal (m^3)	17,125	14,491	11,072

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 approximately 1,054 historical above-ground and below-ground nuclear tests, which were conducted primarily at the Nevada Test Site. In addition to surface cleanup, the regional groundwater model indicates a high 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 15 currently approved generators are permitted to dispose of waste at the Nevada Test Site.

Detail Program Justification

(dollars in thousands)

FY 1999	FY 2000	FY 2001

The Nevada Operations Office Environmental Management Program is managed through a performance-based management and operating contract and a cost-plus incentive fee architect-engineer service 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. The scope planned for FY 2001 has been reviewed by both DOE/Nevada Operations Office and DOE/Headquarters and developed with input from the Nevada Division of Environmental Protection and Stakeholder groups and is appropriate to meet the goals of the site as outlined in the *Accelerating Cleanup: Paths to Closure*. Costs 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

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

NV202 / Agreements in Principle/Grants

This project provides support for grants and various agreements with the 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 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. Activities include:

- Continue funding the State of Nevada fees for oversight as directed by the Federal Facility Agreement and Consent Order.
- Continue support of Agreements-in-Principle with Alaska, Mississippi, and Nevada for monitoring of DOE/Nevada assessment and characterization activities at sites for which DOE/Nevada is responsible.
- Provide technical support, land access, and review of plans and permits.
- Continue funding to support the Nevada Environmental Research Park Program.
- Provide support to local community emergency response and preparedness training.
- Continue work conducted by the Harry Reid Center for Environmental Studies and the Nevada Risk Assessment Management Program.
- Continue to provide research opportunities for students and faculty in support of technical programs conducted at the Nevada Test Site.

NV202	3,473	7,196	4,831

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

NV211 / Soils

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 the historic Department of Energy, Nevada Operations Office aboveground and near-surface nuclear detonations, safety shot tests, rocket engine development, and hydronuclear tests. The contaminants of concern are primarily americium, plutonium, depleted uranium as well as other transuranic, radionuclides, and fission products. In addition, there are potential sites where metals, particularly lead, will be of concern. The Soils Project will complete characterization of all sites comprising the project, complete remediation of surface soils to negotiated levels and remediate only the hot spots located within sites identified as potential future testing zones at the Nevada Test Site. Access control will be maintained for the sites.

NV211	1,072	1,222	846

Metrics			
Release Sites			
Cleanup	0	0	2

Key Milestones

Completion of Corrective Action Unit 411 Closure Report (February 2001).

Completion of Corrective Action Unit 412 Closure Report (February 2001).

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

NV212 / Underground Test Area

The Underground Test Area Project focuses on the 921 underground nuclear detonations that were conducted in 88 shafts and tunnels on the Nevada Test Site between 1951 and 1992. The underground test areas have been grouped into six units, each of which is based upon geography and other elements common to the detonation locations. The six corrective actions units have contaminant sources that differ from each other and hydro-geologic characteristics specific to their geographic location. Tritium is the contaminant for primary measurement 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.

NV212	30,863	31,335	33,936

Key Milestones

- # Submit Corrective Action Investigation Plan for Yucca Flat (July 2000).
- # Drill one well for Frenchman Flat (February 2000).
- # Develop and test eight wells between Pahute Mesa and Oasis Valley (August 2000).
- # Drill two wells in Frenchman Flat (September 2001).
- # Conduct geophysical surveys in Frenchman Flat (September 2001).

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
NV214 / Industrial Sites			
The Industrial Sites Project includes buildings, structures, equipment, and areas used in support of past nuclear testing activities. 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 over 256 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.			
NV214	13,107	13,992	15,877

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
Metrics			
Remedial Action/Release Sites			
Assessments	7	17	7
Cleanups	28	42	16
Remediation Waste			
Disposed (m^3)	738	0	0

Key Milestones

- Complete Corrective Action Unit 143 Corrective Action Decision Document (July 2000).
- Complete Corrective Action Unit 254 Corrective Action Decision Document (June 2000).
- Complete Corrective Action Unit 428 Corrective Action Decision Document (February 2000).
- Complete Corrective Action Unit 429 Closure Report (March 2000).
- Complete Corrective Action Unit 406 Closure Report (March 2000).
- Complete Corrective Action Unit 429 Corrective Action Decision Document (March 2000).
- Complete Corrective Action Unit 406 Corrective Action Decision Document (March 2000).
- Complete Corrective Action Unit 490 Corrective Action Decision Document (July 2001).
- Complete Corrective Action Unit 110 Closure Report (August 2001).
- Complete Corrective Action Unit 135 Closure Report (April 2001).
- Complete Corrective Action Unit 407 Closure Report (April 2001).
- Complete Corrective Action Unit 428 Closure Report (July 2001).
- Complete Corrective Action Unit 486 Closure Report (April 2001).

NV240 / Off-Sites

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
In addition to the Nevada Test Site, underground nuclear testing activities have been conducted at eight locations in five different states as part of the Nuclear Weapons Testing, the Vela Uniform, and the Plowshare Programs. Characterization of both the surface and subsurface environment will be conducted in order to minimize risk to the public and environment. If necessary, remediation activities will be conducted to allow release of the surface areas for alternative use. Subsurface areas will be modeled and monitored. Subsurface restrictions will remain in effect to prohibit access to radioactive contamination, and groundwater is assumed to be monitored for a period of 100 years to ensure lack of access to contaminated groundwater. Corrective actions at off-site locations within the State of Nevada are required under terms of an agreement negotiated with the state regulator. Parameters of corrective activities are identified within the Corrective Action strategy appendix to the agreement. Corrective measures are not established with the other four States, but are expected to parallel those established for the off-site locations within the State of Nevada. Cleanup levels required at each site will be negotiated with individual host states.			
NV240	7,702	11,085	11,323

Metrics			
Remedial Action/Release Sites			
Assessments	34	0	0
Cleanups	0	0	34
Key Milestones			
# Complete Corrective Action Unit 417 Corrective Action Plan (April 2000).			
# Complete Corrective Action Unit 417 Closure Report (January 2001).			

NV350 / Transuranic Waste/Mixed Transuranic Waste

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
The Transuranic/Mixed Transuranic project will store, characterize, segregate, repackage, and ship declassified transuranic and mixed transuranic waste for disposal at the Waste Isolation Pilot Plant in order to meet the requirements of the Resource Conservation and Recovery Act. Additionally, the Rocky Flats waste stream stored at the Nevada Test Site must be declassified before it can be treated and shipped to the Waste Isolation Pilot Plant for disposal. Previously disposed transuranic and mixed transuranic waste in the Greater Confinement Disposal Facility at the Nevada Test Site will be addressed in a Performance Assessment to determine the potential for future environmental and health risks. Planning, data collection, and analysis related to completion of the Performance Assessment, and subsequent permanent closure of the Greater Confinement Disposal Facility, are part of the planned activities. Based on the results of this Performance Assessment, the Department of Energy will determine whether the waste may be closed in place or otherwise managed appropriately. Shipments of transuranic waste for disposal to the Waste Isolation Pilot Plant are scheduled to begin in FY 2002.			
NV350	6,105	5,614	6,632

Metrics			
Transuranic Waste			
Treatment (m^3)	78	180	0
Storage (m^3)	671	671	671

Key Milestones

- # Transuranic/Mixed Transuranic- Storage of 671 m^3 (September 2000).
- # Transuranic/Mixed Transuranic - Storage of 671 m^3 (September 2001).
- # Submit “Part A” of GCD Composite Analysis Document to Headquarters (April 2000).
- # Conduct characterization of Transuranic/Mixed Transuranic drums (September 2000).
- # Continue characterization of Transuranic/Mixed Transuranic (September 2001).

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

NV360 / Mixed Low-Level Waste

This project manages the Nevada Test Site's mixed low-level waste in accordance with the Nevada Test Site Federal Facilities Compliance Act, Site Treatment Plan, and Mutual Consent Agreement and to protect against potential risk to human health and the environment.

Management of mixed low-level waste includes researching treatment options, selecting preferred and alternative treatment methods, verifying that the waste meets the applicable Waste Acceptance Criteria required by treatment and disposal site(s), shipping the waste to the selected site, and tracking the waste through disposal.

The newly generated mixed low-level waste is stored temporarily as needed within the time frame negotiated with the State of Nevada pending treatment and disposal. Tracking, reporting, and coordination with the State of Nevada are accomplished by periodic meetings, annual updates, reporting of waste movement, and maintenance of database.

NV360	744	1,244	677

Metrics			
Mixed Low-Level Waste			
Treatment (m^3)	13	0	0
Storage (m^3)	13	1	0
Disposal Ship to - DOE Disposal Site (m^3)	0	0	1

Key Milestones

- # Submit status to the State of Nevada on similar remediation Waste Streams, which may be tried with Picatinny waste (October 1999).
- # Submit final Resource Conservation and Recovery Act Part B Permit renewal application to the State of Nevada (November 1999).
- # Submit the draft Site Treatment Plan Annual update to the State of Nevada (January 2000).
- # Submit the final Site Treatment Plan Annual update to the State of Nevada (April 2000).
- # Submit the Resource Conservation and Recovery Act, Part B permit modifications/revisions to the Sate of Nevada (September 2000).

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Submit the draft Site Treatment Plan Annual update to the State of Nevada (January 2001).			
# Submit the final Site Treatment Plan Annual update to the State of Nevada (April 2001).			
# Submit the Resource Conservation and Recovery Act, Part B permit modifications/revisions to the Sate of Nevada (September 2001).			

NV370 / Low-Level Waste

This project operates and maintains a low-level waste disposal facility in a manner that ensures safety, efficiency, and compliance with all applicable regulations. It will accomplish cradle to grave tasks from the acceptance of low-level waste through closure of waste disposal units at the Nevada Test Site.

The major activity is the disposal of low-level waste generated at the Nevada Test Site and other Department of Energy and Department of Defense sites, at two disposal units in Areas 3 and 5. With the natural conditions of closed desert basins, low rainfall, high aridity, great depths to groundwater, and relatively slow movement of groundwater off-site, the Nevada Test Site is ideally suited for this role as the disposer of low-level waste. Primary tasking is to maintain 500,000 cubic feet of disposal capacity for low-level waste.

Supporting tasks include the on-site waste generator project, the integrated waste disposal units closure project, base operations and maintenance, technical support, routine site monitoring, maintaining performance assessments, site characterization, update the National Environmental Policy Act requirements, general plant projects, and capital equipment. The Nevada Test Site low-level waste disposal capabilities are anticipated to be needed through FY 2070 to support the remaining cleanup of radioactive waste left after 50 years of U.S. production of nuclear weapons and other related new radioactive waste generating activities.

Disposal and permanent closure of specific filled disposal units will continue through FY 2070. Long-term surveillance and maintenance of disposal units will be conducted through FY 2100.

NV370	4,329	5,347	5,721

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
Metrics			
Mixed Low-Level Waste			
On-Site Disposal (m^3)	2	0	0
Low-Level Waste			
On-site Disposal (m^3)	17,125	14,491	11,072
Key Milestone			
# Submit Asbestiform Low-Level Waste Disposal Annual Report to State of Nevada (March 2000).			
# 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 2000).			
# Submit Area 5 Annual Groundwater Monitoring Report to State of Nevada (March 2001).			

NV400 / Program Integration

Program Integration provides financial, professional, administrative, and crosscutting support of environmental management activities at the Nevada Test Site, Tonopah Test Range, and eight off-site locations in Alaska, Colorado, Mississippi, Nevada, and New Mexico. Overall management is most efficiently accomplished by integrating the functions that are common to all project activities. These functions include administrative support, strategic initiatives, budget formulation, project planning and control, baseline revision and maintenance, Quality Assurance, Health and Safety, and stakeholder involvement activities. Activities include:

- Update the project baseline.
- Continue support of the Paths to Closure initiative and site internal project control system.
- Complete Paths to Closure data submission.
- Provide annual programmatic health and safety support, including management, surveillance, record-keeping/maintenance, training, and Environmental Management Health and Safety Project Plan maintenance.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# 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.			
# Perform project reviews and program evaluations.			
# Continue support of various Department project management initiatives.			
NV400	12,686	10,436	10,157

NV401 / Pollution Prevention

The Department's pollution prevention mission is to reduce or eliminate all wastes and pollutants in order to minimize the impact of the Department's operations on the environment, to reduce operational cost, and improve the safety and health of its operations.

Pollution prevention is the Department's preferred approach to reducing waste, mitigating health risks, and protecting the environment, in accordance with the Pollution Prevention Act of 1990. This was evidenced by the Secretary's November 1999 establishment of aggressive source reduction, recycling, and affirmative procurement goals, to be achieved by 2005. Pollution prevention applied within EM can significantly reduce wastes, allowing the cost savings to be used to accelerate the cleanup effort. As in industry, pollution prevention is a core program that helps DOE achieve maximum environmental benefits.

The Pollution Prevention program was supported in the Mult-Site account in FY 1999 and FY 2000.

In FY 2001, the following activities are supported:

Maintain field pollution prevention/waste minimization programs to comply with Federal/State laws and regulations.

Track and report on waste generation and affirmative procurement activities.

Coordinate pollution prevention activities with the waste generating organization to reduce waste generation.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
NV401	0	0	212
Total, Nevada	80,081	87,471	90,212

Explanation of Funding Changes from FY 2000 to FY 2001

	FY 2001 vs. FY 2000 ($000)
NV202 / Agreements in Principle / Grants	
# Funding reduced due to redirect for higher priority activities.	-2,365
NV211 / Soils	
# Funding decreased to redirect to accelerate higher priority projects.	-376
NV212 / Underground Test Area	
# Funding increased for well drilling activities.	2,601
NV214 / Industrial Sites	
# Funding increased to cover required corrective actions.	1,885
NV240 / Off-sites	
# Funding increased to initiate project acceleration.	238
NV350 / TRU/Mixed TRU	
# Funding increased due to increased transuranic and mixed transuranic activities.	1,018
NV360 / Mixed Low-Level Waste	
# Funding reduced due to decreased mixed low-level waste activities.	-567
NV370 / Low-Level Waste	
# Funding increased for finalizing site characterizations.	374
NV400 / Program Integration	

	FY 2001 vs. FY 2000 ($000)
# Funding reduced to redirect for higher priority activities.	-279
NV401 / Pollution Prevention	
# This program, formerly supported in the Multi-Site account, is transferred to the Nevada Operations Office.	212
Total Funding Change, Nevada	2,741

Oak Ridge

Mission Supporting Goals and Objectives

Program Mission

The mission of the Defense Post 2006 Completion Environmental Management (EM) 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 17 percent of the total Department of Energy complex low-level waste storage inventory, 41 percent of the complex-wide mixed low-level waste inventory, and 80 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.

The mission of the National Analytical Management Program is to establish and implement National and Departmental policies to assure that credible, cost-effective sampling, and analytical needs are met, and the data vital for making decisions regarding waste management and environmental remediation meet the needs of EM, regulators, and the public.

The mission of the Nuclear Criticality Safety Training program is to support and implement the Implementation Plan for the Defense Nuclear Facilities Safety Board Recommendation 97-2, Nuclear Criticality Safety Training, approved by the Secretary of Energy on December 12, 1997.

The mission of the Pollution Prevention program is to establish and implement National and Departmental policies to reduce or eliminate all wastes and pollutants in order to minimize the impact of the Department's operations on the environment, to reduce operational cost, and improve the safety and health of its operations.

The mission of the Transportation and Packaging program, which includes the National Transportation program and the Transportation Emergency Preparedness program, is to establish and implement National and Departmental policies associated with the transport of hazardous materials.

Program Goal

The Oak Ridge Operations Office is committed to have all spent nuclear fuel shipped to the Idaho National Engineering and Environmental Laboratory and the Savannah River Site for long-term storage by FY 2003, have all legacy transuranic waste treated and disposed by FY 2007, have all legacy mixed waste treated and disposed by FY 2009, have all remedial action sites completed by FY 2013, and have all legacy low-level waste disposed by FY 2011. Remedial action at the Oak Ridge Operations Offsite projects will be completed by FY 2006. This significant acceleration of the low-level waste program resulted from cost efficiencies 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.

The program goal of the National Analytical Management Program is to ensure that the laboratory analyses being performed are of sufficient quality to: meet the needs and requirements of the EM program and the regulatory community; be scientifically and legally defensible; provide the basis for returning the DOE environment to the public domain; and to assist in meeting the objectives of the *Accelerating Cleanup: Paths to Closure* plan.

The program goal of the Nuclear Criticality Safety Training program is to implement and enforce the criticality safety programs as established through the Department's Implementation Plan for the Defense Nuclear Facilities Safety Board Recommendation 97-2.

The Pollution Prevention program is to comply with waste minimization, pollution prevention, affirmative procurement, and recycling requirements under Federal/State statutes, Executive Orders, and DOE Orders, and reduce waste generated through implementation of cost-effective pollution prevention projects.

The National Transportation Program develops and maintains DOE's baseline transportation resources, including the coordination and development of DOE-wide transportation policy, to assure the availability of safe, regulatory compliant, economical, and efficient transportation for DOE materials, including radioactive and other hazardous materials and wastes. Goals for an integrated program mission include: achieving a forward-looking, system-wide assessment of the Department's transportation and packaging needs; assuring a safe, environmentally compliant, and cost-effective transportation management system and operations; performing as a service center for transportation campaigns across the Department's complex; focusing expertise from the Department's transportation and packaging technical base program to solve transportation and packaging requirements; and enhancing transportation relationships and coordinating transportation communication throughout the Department.

The Transportation Emergency Preparedness Program is a National DOE-wide program. Issues related to the transportation of hazardous materials of all types have become more heightened in recent years. This is particularly true for radioactive materials. As a high-visibility shipper of radioactive materials, the Department of Energy and its transportation activities have come under intense scrutiny from Congress, states, tribes, local governments, and the public. An issue of universal concern, however, is whether adequate emergency preparedness exists at all levels of government. The Transportation Emergency Preparedness Program will prepare the Department of Energy and other Federal, state, tribal, and local authorities to respond to a transportation incident involving Department of Energy shipments of radioactive material. The DOE policy is being developed to address concerns regarding transportation emergency management issues. This policy will be included in a revision to DOE Order 151.1, Comprehensive Emergency Management System. In addition, EM in coordination with DOE's Office of Emergency Management, is developing protocols addressing transportation emergency planning, notification, and response.

Program Objectives

By FY 2006, 78 percent of Oak Ridge's legacy transuranic waste will be treated and disposed, 92 percent of all legacy mixed waste will be treated and disposed, and 60 percent of all legacy low-level waste will be disposed. Additionally, Oak Ridge is involved in innovative technology demonstrations to identify more effective and efficient ways to treat waste. Remedial actions will be completed, including the Oak Ridge National Laboratory gunite tanks, cleanup of off-site properties, and an 85 percent reduction in the Environmental Management footprint of the Oak Ridge Reservation. These activities assume a cumulative enhanced performance efficiency of about 30 percent.

The National Analytical Management Program activities focus National attention on areas that impact the Environmental Management goals and planned efforts across the Department of Energy complex.

The objective of the Nuclear Criticality Safety Training program is to ensure that Secretarial Commitments in the Department's Implementation Plan for the Defense Nuclear Facilities Safety Board Recommendation 97-2 are met.

The pollution prevention activities focus National attention on areas that impact the EM goals and planned efforts across the Department of Energy complex.

The Transportation and Packaging program activities focus National attention on areas that impact the Environmental Management goals and planned efforts across the Department of Energy complex.

Performance Measures

Performance Measures are provided at an aggregate level after the Funding by Site table; as well as, at a project level in the Detailed Program Justification.

The Executive Budget Summary and the Metrics Summary provide a consistent set of high-level performance measures. The more detailed project-level justification provides a description of significant activities for each project including detailed project performance measures and key project milestones, as applicable.

Significant Accomplishments and Program Shifts

Awarded the Environmental Impact Statement preparation contract for the Transuranic Privatization treatment project (FY 1999).

Issued decision documents to conduct removal actions for the Upper East Fork Poplar Creek plume (FY 1999).

Eliminated 37 percent of the legacy mixed waste stored on the three Oak Ridge sites, Paducah, and Portsmouth (FY 1999).

Completed spent nuclear fuel vulnerability resolution for facility 7823A (FY 1999).

Emptied all known failed spent nuclear fuel storage positions (FY 1999).

Retrieved 25 spent nuclear fuel packages from below-grade storage and completed repackaging of eight spent nuclear fuel canisters (FY 1999).

Transferred ten spent nuclear fuel canisters from the hot cell to interim storage (FY 1999).

Awarded seven waste operations subcontractors resulting in an almost 20 percent savings from the old management and operations baseline (FY 1999).

Construction completed for two line-item projects (FY 1999).

Award contract for the Privatized Oak Ridge Environmental Management/Waste Management Disposal Facility design completion/construction/operations (FY 2000).

Issue Phase I Record of Decision for the Bear Creek Valley Watershed (FY 2000).

Complete spent nuclear fuel vulnerability resolution for Solid Waste Storage Area 5N storage facilities (FY 2000).

Complete repackaging of 30 spent nuclear fuel canisters (FY 2000).

Transfer 30 spent nuclear fuel canisters and the nine intact Peach Bottom fuel elements to interim storage (FY 2000).

Reduce the Resource Conservation and Recovery Act storage facility footprint by 20 percent from end of FY 1999 (FY 2000).

For the first time, achieve disposition of all newly generated mixed low-level waste reversing the list of accumulation (FY 2000).

For the first time, initiate low-level waste shipments to the DOE disposal sites (subject to access) (FY 2000).

Award the Toxic Substances Control Act incinerator and mixed waste disposal subcontract (FY 2000).

Issue the Record of Decision for the Transuranic Privatization Treatment project (FY 2000).

Complete fabrication and testing of uranium conversion equipment at the Molten Salt Reactor Experiment at the Oak Ridge Reservation (FY 2000).

Complete planning, design, and documentation for the fuel salt removal process, which will lead to the removal and conversion of uranium in FY 2002, meeting a commitment to the Defense Nuclear Facility Safety Board under recommendation 94-1 (FY 2000).

Complete removal of a 2.6 kilogram uranium deposit from the auxiliary charcoal bed of the Molten Salt Reactor Experiment (FY 2000).

Complete spent nuclear fuel repackaging activities (FY 2001).

Complete transfer of repackaged spent nuclear fuel canisters to interim storage and begin shipment to the Idaho National Engineering and Environmental Laboratory (FY 2001).

Complete removal of activated material from the Bulk Shielding Reactor pool (FY 2001).

Achieve disposal of all newly generated low-level waste (FY 2001).

At Oak Ridge Reservation complete all Site Treatment Plan milestones (FY 2001).

Complete design and begin construction of the transuranic treatment facility (FY 2001).

Complete Resource Conservation Recovery Agreement closure for the Transportable Vitrification System (FY 2001).

Complete construction and begin operation of the on-site disposal facility for the Comprehensive Environmental Response, Compensation, and Liability Act generated waste streams (FY 2001).

Complete initial cleanup under the watershed Records of Decision for the Upper East Fork Poplar Creek and Bear Creek Valley (FY 2001).

Complete installation of innovative bioremediation treatment system to address the only area of off-site groundwater contamination at the Oak Ridge Reservation (FY 2001).

Complete early actions at the Oak Ridge National Laboratory, significantly reducing health and environmental risks (Gunite Tank Waste Transfer, Surface Impoundments), and watershed Records of Decision remedial action of the Melton Valley Burial Grounds (FY 2001).

Complete remediation of old hydrofracture facility tanks, pond and waste sludge basin in Bethel Valley (FY 2001).

Develop guidelines that will allow reference laboratories to establish a direct link to the national standard (National Institute of Science and Technology) in analytical measurement processes and the preparation of secondary standards. The guidelines delineate the process of establishing a reference or secondary laboratory according to requirements established by the American National Standards Institute (FY 2001).

The National Analytical Management Program was supported in the Multi-Site account in FY 1999 and FY 2000.

Provide support to the Nuclear Criticality Safety Training program (FY 2001).

This program was supported in the Multi-Site account in FY 1999 and FY 2000.

Administer pollution prevention activities to achieve site plan goals (FY 2001).

The Pollution Prevention program was supported in the Multi-Site account in FY 1999 and FY 2000.

Develop and maintain a partnership with the U.S. Department of Transportation to perform safety assessments on Department of Energy motor carriers (FY 2001).

Maintain an efficient regulatory compliance training program (FY 2001).

Implement a complex-wide system to ensure internal and external notification of high visibility shipments to appropriate stakeholder officials, and provide public awareness of unclassified shipments; continue transportation focused forums and communications, with internal program activities and external stakeholders, to identify and resolve transportation issues and participate in specific transportation shipment planning; establish DOE-wide protocols for notification, planning, inspection, and other functions with states and tribal governments; and provide technical support to field and program offices and to state, tribal, and local governments in preparing for and executing hazardous materials shipping campaigns (FY 2001).

Maintain DOE’s automated transportation systems in support of efficient shipping and tracking throughout the DOE complex. These systems include the DOE tracking system, the real-time and historical shipment database, and the hazardous materials routing system (FY 2001).

Maintain DOE's transportation and packaging technical base program to establish DOE's position on regulatory issues related to transportation and packaging, and to provide transportation and packaging testing and materials infrastructure for DOE (FY 2001).

Provide improved effective transportation support services to the DOE Waste Material Disposition Programs through Systems Engineering practices (FY 2001).

The Transportation and Packaging program was supported in the Multi-Site account in FY 1999 and FY 2000.

Funding Schedule

	FY 1999 Current Appropriation	FY 2000 Current Appropriation	FY 2001 Request
	(dollars in thousands)		
HQNP-SI01-LT-OR / Security Investigations	968	563	613
OR-151 / ORR Legacy Waste	84,165	88,578	94,356
OR-171 / Environmental Management Waste Management Facility	3,630	3,907	12,323
OR-191 / Non-Recurring Contractor Transition	8,933	12,134	5,476
OR-211 / Y-12 Waste Operations	17,866	26,384	27,047
OR-221 / Y-12 Remedial Action	3,270	7,547	13,242
OR-241 / Y-12 Surveillance and Maintenance	4,080	5,464	6,266
OR-311 / ORNL Waste Operations	5,048	16,612	11,048
OR-321 / ORNL Remedial Action	0	24,439	20,610
OR-331 / ORNL Decontamination and Decommissioning	0	12,871	28,046
OR-341 / ORNL Surveillance and Maintenance	0	9,232	8,985
OR-381 / ORNL Nuclear Materials and Facilities Stabilization	3,558	4,080	4,113
OR-411 / ETTP Waste Operations	31,392	31,834	25,035
OR-431 / ETTP Decontamination and Decommissioning	2,362	0	0
OR-441 / ETTP Surveillance and Maintenance	5,680	8,720	9,575
OR-821 / Off-site Projects	1,826	3,692	14,442
OR-891 / Directed Support	4,892	6,790	7,384
OR-NAMP / National Analytical Management Program	0	0	100
OR-NCST / Nuclear Criticality Safety Training	0	0	2,514
OR-PP / Pollution Prevention	0	0	1,061
OR-TM / Transportation and Packaging Management	0	0	1,660
Total, Oak Ridge	177,670	262,847	293,896

Funding by Site

	FY 1999	FY 2000	FY 2001	$ Change	% Change
	(dollars in thousands)				
ETTP	39,434	40,554	34,610	-5,944	-14.7%
Oak Ridge Off-Site Locations	1,826	3,692	14,442	10,750	291.2%
Oak Ridge Operations Office	5,860	7,353	13,332	5,979	81.3%
Oak Ridge National Laboratory	8,606	67,234	72,802	5,568	8.3%
Oak Ridge Reservation	96,728	104,619	112,155	7,536	7.2%
Y-12 Plant	25,216	39,395	46,555	7,160	18.2%
Total, Oak Ridge	177,670	262,847	293,896	31,049	11.8%

Metrics Summary

	FY 1999	FY 2000	FY 2001
Remedial Action/Release Site			
Assessments	104	98	4
Cleanups	12	79	12
Facility Decommissioning			
Assessments	12	44	0
Cleanups	0	2	5
Facilities Deactivated			
Deactivated During Period	2	0	0
Mixed Low-Level Waste			
Treatment (m^3)	2,459	2,213	1,862
Disposal (m^3)	2,093	2,234	2,452
Low-Level Waste			
Disposal (m^3)	172	1,152	479

Site Description

Oak Ridge Reservation

The Oak Ridge Reservation encompasses about 37,000 acres and is comprised of three facilities: the Y-12 Plant, which was a uranium processing facility and now dismantles nuclear weapons components and serves as the nation's storehouse for special nuclear materials; the East Tennessee Technology Park, which was a uranium enrichment facility and is now being transitioned through reindustrialization; and the Oak Ridge National Laboratory, which conducts applied and basic research in energy technologies and in the physical and life sciences.

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.

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, mixed low-level, hazardous, sanitary, and industrial waste are managed at the three Oak Ridge Reservation facilities. Although the operations are different, the waste generated from these operations is essentially the same.

Due to past efforts conducted at these facilities, funding for annual assessment/cleanup has been split between two appropriation accounts, the Defense Environmental Restoration and Waste Management and the Non-Defense Environmental Management. In FY 2001 support will be funded under the Defense Environmental Restoration and Waste Management Appropriation.

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 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.

Off-site

The Off-Site Program is not on the Oak Ridge Reservation and includes the Lower East Fork Poplar Creek, the Clinch River/Poplar Creek, the Atomic City Auto Parts Site, the Oak Ridge Tool and Engineering Site, and the David Witherspoon Site.

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.

Detail Program Justification

(dollars in thousands)

	FY 1999	FY 2000	FY 2001
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. The scope planned for FY 2001 has been reviewed and is appropriate to meet the goals of the site, as outlined in the *Accelerating Cleanup: Paths to Closure*. The projects included in this section of the budget have had an independent lifecycle cost review by Project Time and Cost Inc. These funds requested for FY 2001 are appropriate based on awarded fixed-price contracts and some project cost estimates reviewed by Project Time and Cost Inc.			
HQNP-SI01-LT-OR / Security Investigations			
Funding will be used to perform new security investigations and re-investigations for non-Federal employees in accordance with DOE Order requirements for the Oak Ridge East Tennessee Technology Park site.			
# At this level of funding, 191 initial investigations and 100 re-investigations can be completed.			
HQNP-SI01-LT-OR	968	563	613

OR-151 / ORR Legacy Waste

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
The legacy waste project consists of collection, storage and disposition of both legacy and newly-generated low-level, mixed low-level, hazardous, and transuranic waste. The critical path for legacy waste disposition began with approval of the Site Treatment Plan for mixed low-level waste and mixed transuranic waste, which has enforceable milestones for disposition. Stored legacy low-level wastes are in the footprint and thus on the critical path for certain remedial actions. Hazardous waste is regulatory driven, and must be dispositioned within one year of generation. The Legacy Waste Project is a key element in the critical path of the overall EM Mission at Oak Ridge and is important for mortgage reduction. Continued implementation of fixed-price subcontracts will enable achievement of end-state goals. # All newly generated low-level waste will be disposed of, preventing an increase in low-level waste inventory. # Funding in FY 2001 allows a two-fold increase in mixed low-level waste treatment to comply with regulatory requirements.			
OR-151	84,165	88,578	94,356

Metrics			
Mixed Low-Level Waste			
Treatment (m^3)	1,600	650	1,862
Storage (m^3)	21,423	11,273	6,618
Commercial Disposal (m^3)	2,023	621	2,121
Low-Level Waste			
Treatment (m^3)	0	1,300	101
Storage (m^3)	50,477	55,834	54,130
Commercial Disposal (m^3)	87	806	479
Ship to DOE Disposal Site (m^3)	0	0	7,116
Transuranic Waste			
Storage (m^3)	1,923	2,081	2,171
Key Milestones			
# Complete all FY 2000 Site Treatment Plan Milestones (September 2000).			

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Reduce the Resource Conservation and Recovery Act storage facility footprint by 20 percent from that which existed on September 30, 1999 (September 2000).			
# Complete all FY 2001 Site Treatment Plan Milestones (September 2001).			

OR-171 / Environmental Management Waste Management Facility

The Environmental Management Waste Management Facility will be an on-site disposal cell for the Comprehensive Environmental Response, Compensation, and Liability Act waste from the Oak Ridge Reservation. A split funded project, this Project Baseline Summary addresses the operationally funded activities such as: project management; the Comprehensive Environmental Response, Compensation and Liability Act documentation, plans and permits; procurement activities; health and safety and quality oversight; and cell operations. Availability of the disposal facility in FY 2001 is critical to support the overall Oak Ridge Reservation's compliance-driven cleanup schedule. Substantial efforts will be taken during FY 2000 and FY 2001 to accelerate the design and construction schedule. The final detail design and construction and the final capping of the 400,000 cubic yard configuration, are privatized and addressed in PBS OR-174-Environmental Management Waste Management Facility Privatization.

Continue management and integration activities.

Complete construction of the 400,000 cubic yard cell configuration (privatized) and its associated oversight and management activities.

Approve the contractor's plans and procedures, conduct an operational readiness assessment, and commence operations.

OR-171	3,630	3,907	12,323

Metrics			
Release Sites			
Assessment	1	0	0

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

OR-191 / Non-Recurring Contractor Transition

This project includes one-time activities associated with transition from Management and Operating Contractor to the Management and Integration Contractor. All non-recurring contractor transition activities except for post-April 1, 1998, post-retirement medical benefits are scheduled to be completed in FY 2000. Key subprojects include information technology; environment, safety and health; project controls systems development; medical benefits and long-term disability; and reduction in force costs. Following the transition, the Bechtel Jacobs Company will be a more cost-effective, streamlined organization with the majority of the work transitioned to subcontractors. These policies and procedures assure subcontractors apply the same high standards for safety and effective progress tracking as Bechtel Jacobs Company. Funding shared with PBS OR-193.

The Management and Integration Contract was awarded to Bechtel Jacobs Company in December 1997. The contract period started on April 1, 1998. The Contractor Transition Period will be complete on March 31, 2000. At that time, all information technology, Integrated Safety Management System, and project controls systems implementation will be completed. Post April 1, 1998, post-retirement medical benefits and long-term disability will continue to be funded in this PBS and the UE D&D Fund PBS OR-193.

- Post-April 1, 1998, post-retirement medical benefits and long-term disability will continue to be funded in this PBS and the Uranium Enrichment D&D Fund PBS OR-193.

OR-191	8,933	12,134	5,476

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

OR-211 / Y-12 Waste Operations

The Y-12 Waste Operations comprises the work required to annually provide safe, compliant, and cost-efficient treatment for Y-12 Waste. This PBS is comprised of five waste operations facilities: West End Treatment Facility, Central Pollution Control Facility, Groundwater Treatment Facility, Uranium Chip Oxidation Facility, and Sanitary/Industrial Landfill. The objective of these facilities is to provide safe, compliant operations in support of Defense Programs' missions at the Y-12 Plant and Environmental Management projects throughout the Oak Ridge Reservation, and to support other Oak Ridge missions as required.

Treat 180 m^3 of low-level waste and dispose of 90 m^3 of mixed low-level waste.

OR-211	17,866	26,384	27,047

Metrics			
Low-Level Waste			
Treatment (m^3)	0	180	180
Commercial Disposal (m^3)	0	26	0
Mixed Low-Level Waste			
Commercial Disposal	0	1,479	90
Treatment	140	1,091	0
Storage	0	0	9

OR-221 / Y-12 Remedial Action

(dollars in thousands)

FY 1999	FY 2000	FY 2001

Cleanup of Y-12 will involve a combination of near-term removal actions and longer term remedial actions to address contaminated areas in the Bear Creek Valley and Upper East Fork Poplar Creek watersheds. Engineering Evaluation/Cost Analysis and Action Memorandums, or Records of Decisions, will be issued in accordance with the schedule of enforceable milestones contained in the Federal Facilities Agreement. Technology development and competitive fixed price contracting will be used to implement cost-effective cleanup decisions. Early actions generally confine the spread of contamination and reduce near-term health risks. Final actions will address long-term issues such as restoration of groundwater.

The remedial action subprojects include the Bear Creek Valley groundwater, Upper East Fork Poplar Creek groundwater, Mercury Reduction, the Bear Creek Valley Boneyard/Burnyard, Bear Creek Valley Burial Grounds, White Wing Scrap Yards, the Upper East Fork Poplar Creek Soils Remediation Phase I and II, the Upper East Fork Poplar Creek In-situ Remediation, Upper East Fork Poplar Creek Sediments Remediation Phases I and II, West End Mercury Remediation, Chestnut Ridge Soils Remediation, and the Bear Creek Valley Disposal Area Remedial Action/Soil Storage Facility.

- An innovative technology application will be implemented using a fixed-price design/build contract to perform in-situ bioremediation, combined with pump and treat, to address the off-site migration of contaminated groundwater under the East End Volatile Organic Compound project.
- Contaminated soil (hot spot) removal and hydraulic isolation measures will be implemented at the Bear Creek Valley Boneyard/Burnyard under the first phase of the Bear Creek Valley watershed Record of Decision, eliminating the most significant contribution to health risk in the Bear Creek Valley.
- Initiate soil remediation under the first phase of the Upper East Fork Poplar Creek watershed Record of Decision to address contaminated soils in the vicinity of Building 81-10 and the salvage yard.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Complete activities to reduce mercury levels being released through Y-12 plant effluents. Activities to date have successfully reduced the level of mercury releases to historically low levels.			
OR-221	3,270	7,547	13,242

Metrics			
Remedial Action/ Release Sites			
Assessments	1	15	0
Cleanup	4	1	1
Facilities Decommissioning			
Assessment	0	2	0

OR-241 / Y-12 Surveillance and Maintenance

The project ensures compliance with criteria/regulations protecting health, the environment, and DOE assets. Surveillance and maintenance covers Upper East Fork Poplar Creek, Bear Creek watersheds, and the Y-12 Alpha-4 facility. Surveillance and maintenance activities support the Comprehensive Environmental Response, Compensation, and Liability Act investigations/remedial actions, ensure compliance with the Resource Conservation Recovery Act post-closure permits for closed treatment, storage, and disposal facilities, and support maintenance. Groundwater monitoring objectives are to provide data/analysis for surface/groundwater management decisions and gauge the effectiveness of remedial actions; and, ensure compliance with the Comprehensive Environmental Response, Compensation, and Liability Act requirements for environmental monitoring.

Surveillance and Maintenance: Continue recurring assessments, surveillance, inspections, maintenance, and management activities for the Y-12 Alpha-4 building. Continue the above-listed activities plus the Resource Conservation and Recovery Act/Comprehensive Environmental Response, Compensation, and Liability Act integration for the sites and facilities within the Upper East Fork Poplar Creek and Bear Creek watersheds.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Groundwater monitoring: Issue annual Remediation Effectiveness Reports, issue annual Integrated Water Quality Program reports, and prepare annual Sampling and Analysis Plans.			
OR-241	4,080	5,464	6,266

OR-311 / ORNL Waste Operations

The Oak Ridge National Laboratory Waste Operations Project comprises the work required to annually provide safe, compliant and cost-efficient treatment for Oak Ridge National Laboratory waste. This project is comprised of five waste operations components: Oak Ridge National Laboratory Liquid Low-Level Waste Operations, Oak Ridge National Laboratory Gaseous Waste Operations, Oak Ridge National Laboratory Process Waste Operations, Out-of-Tank Evaporation, and the Chemical Detonation Facility. The primary objective of these facilities is to provide safe, compliant operations in support of the Office of Science mission at the Oak Ridge National Laboratory.

Treat 1,995 m^3 of low-level waste.

OR-311	5,048	16,612	11,048

Metrics			
Low-Level Waste			
Treatment (m^3)	2,065	0	1,995
On-Site Disposal (m^3)	85	0	0
Commercial Disposal (m^3)	0	304	0

OR-321 / ORNL Remedial Action

(dollars in thousands)

FY 1999	FY 2000	FY 2001

All of the surface water at the Oak Ridge National Laboratory drains into the White Oak Creek and then into the Clinch River, a source of public drinking water. This remedial action project addresses the cleanup of all contaminated areas located at the Oak Ridge National Laboratory. The project scope includes remediation of contaminated soil, sediment, surface water, groundwater, settling ponds, waste burial grounds, and liquid waste seepage pits and trenches. This PBS also addresses contaminated grout sheets (from the hydrofracture waste injections) that are located 900-1200 feet underground. Active operating facilities and inactive facilities are located in the same geographic area but are considered within the scope of PBS OR-331 (ORNL D&D).

Complete waste transfer and cleanup of eight aging tanks within the Gunite and Associated Tanks Project, using advanced robotic technologies. Removal of 88,000 gallons of mixed/transuranic waste sludge and 250,000 gallons of supernate, containing 63,000 curies of fission products, will significantly reduce potential worker and public health risks. The transuranic waste will be processed and then disposed at the Waste Isolation Pilot Plant. Submit Remedial Action Report (Federal Facilities Agreement enforceable agreement milestone) to regulators, documenting completion of the interim remedial action.

Complete remedial action of the Oak Ridge National Laboratory Main Plant Surface Impoundments A & B, removing risks posed by contaminated sediments in direct contact with groundwater adjacent to White Oak Creek. The impoundments will be drained, sediments removed, backfilled and revegetated using a competitively bid, fixed-price subcontract yielding a substantial savings over the original estimate by the former Management and Operating contractor. Submit Remedial Action Report (Federal Facilities Agreement enforceable agreement milestone) to regulators, documenting completion of the cleanup.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Submit Remedial Design Report/Remedial Action Work Plan for cleanup of the Melton Valley (Federal Facilities Agreement enforceable agreement milestone) and Bethel Valley (Federal Facilities Agreement enforceable agreement milestone) to regulators. Issue Record of Decision Report of Significant Difference and Remedial Design Work Plan for Waste Area Group 13 (Clinch River confluence with White Oak Creek). Initiate remedial action (hydraulic isolation/capping) of the Solid Waste Storage Area 4 and removal of soil/sediment hot spots in Melton Valley.			
# Continue removal of residues (sludge/supernate) from inactive tanks as part of the Federal Facilities Agreement tank project, in accordance with the provisions of the enforceable agreement. Content removal will minimize the potential for additional contamination of soils and groundwater. Submit annual Tank Implementation Plan and Schedule (Federal Facilities Agreement enforceable agreement milestone) to regulators.			
# Perform engineering studies to support cost-effective implementation of Bethel Valley groundwater cleanup actions.			
OR-321	0	24,439	20,610

Metrics			
Remedial Action/Release Site			
Assessment	79	83	4
Cleanup	8	72	11
Facilities Decommissioning			
Assessment	5	42	0
Cleanup	0	2	5
Transuranic Waste			
Storage (m^3)	382	382	382

Key Milestones

Core Hole 8 - Complete core hole 8 plume source removal action (May 2000).

Surface Impoundments Operable Unit - Complete treatment plant and begin processing radioactive sludge from Oak Ridge National Laboratory surface impoundments (September 2000).

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Bethel Valley - Complete radioactive sludge removal at Oak Ridge National Laboratory Gunite and Associated Tanks (September 2000). # Bethel Valley - Surface Impoundments Operable Unit - Complete sludge processing and closeout of SIOU (April 2001). # Bethel Valley Federal Facility Agreement Inactive Tanks - Complete radioactive sludge removal at the Federal Facility Agreement inactive tanks (September 2001). # Bethel Valley Record of Decision - Sign Record of Decision for Bethel Valley (September 2001). # Melton Valley Burial Grounds - Begin Solid Waste Storage Area four remedial action by September 30, 2001 (September 2001).			

OR-331 / ORNL Decontamination and Decommissioning

Many inactive facilities that were used for research and development activities require decontamination and decommissioning. These facilities include research reactors, tanks, auxiliary buildings and equipment, isotope processing buildings, surface facilities and wells associated with hydrofracture operations, and other radioactively contaminated structures. These buildings have been inactive for many years and contain contaminated equipment. As the buildings age, there is an increasing risk that contamination can migrate, causing risks to the Oak Ridge National Laboratory workers, the environment and the public. The purpose of the Oak Ridge National Laboratory Decontamination and Decommissioning Project is the decontamination and decommissioning of inactive facilities located at the Oak Ridge National Laboratory. In FY 1999, the scope of work associated with this PBS was funded in PBS OR-332 in the Non-Defense Post 2006 Completion appropriation.

Hydrofracture Decontamination and Decommissioning: Submit Remedial Design Report/Removal Action Work Plan, complete removal action, and submit Remedial Action Report. Complete Pond and Process Waste Sludge Basin Removal Action Work Plan and Removal Action. Initiate Pond and Process Waste Sludge Basin Removal Action Report.

Molten Salt Reactor Experiment Decontamination and Decommissioning: Complete equipment installation and readiness assessment for fuel salt removal. Convert uranium captured in the NaF traps, to a stable oxide for storage.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Small Facilities Decontamination and Decommissioning: Finalize and submit Shielded Transfer Tanks Remedial Design Report/Removal Action Work Plan, complete removal action, and submit Remedial Action Report. Submit Solid Waste Storage Area Four Facility Remedial Design Report/Removal Action Work Plan, complete removal action, and initiate Remedial Action Report.			
# Metal Recovery Facility: Submit the Draft 2 Removal Action Work Plan.			
OR-331	0	12,871	28,046

Metrics			
Release Sites			
Assessment	23	0	0
Cleanup	0	6	0
Facilities/Decommissioning			
Assessment	7	0	0
Key Milestones			
# Molten Salt Reactor Experiment D&D - Complete Molten Salt Reactor Experiment uranium deposit removal (September 2000).			

OR-341 / ORNL Surveillance and Maintenance

(dollars in thousands)

FY 1999	FY 2000	FY 2001

The Oak Ridge National Laboratory Surveillance and Maintenance Project includes the remedial action sites, surplus facilities, and surveillance and maintenance of sites and facilities after completion of the Comprehensive Environmental Response, Compensation and Liability Act cleanup. The Oak Ridge National Laboratory Surveillance and Maintenance program provides an integrated surveillance and maintenance function at remedial action sites and decontamination and decommissioning facilities to ensure that they remain in compliance with requirements of the Work Smart Standards including but not limited to the Price Anderson Amendment Act (10CFR820) and its quality assurance (10CFR830.120) and occupational radiation protection requirements (10CFR835), Resource Conservation and Recovery Act (40CFR260-280), the Clean Water Act (40CFR122), and the Comprehensive Environmental Response, Compensation and Liability Act. In FY 1999, the scope of work associated with this PBS was funded in PBS OR-342 in the Non-Defense Post 2006 Completion appropriation.

- Prepare FY 2001 sampling and analysis plan, covering environmental monitoring of groundwater, surface water, and sediment throughout the Bethel Valley and Melton Valley watersheds.
- Prepare/issue annual Waste Area Group 6 Groundwater Quality Report, required by the Resource Conservation and Recovery Act.
- Oak Ridge National Laboratory Decommissioning Surveillance and Maintenance: Maintain 45 surplus facilities in a safe, stable and environmentally sound manner.
- Oak Ridge National Laboratory Remedial Action Surveillance and Maintenance: Accomplish routine surveillance and maintenance of 650 acres to ensure compliance with the Federal Facilities Agreement.
- Oak Ridge National Laboratory Long-Term Surveillance and Maintenance: Perform routine surveillance and maintenance of remedial action sites after remediation and operation/maintenance of active remediation systems. Prepare annual surveillance and maintenance reports.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
OR-341	0	9,232	8,985

OR-381 / ORNL Nuclear Materials and Facilities Stabilization

The purpose of the Oak Ridge National Laboratory Nuclear Materials and Facilities Stabilization Project is to place excess facilities at the Oak Ridge National Laboratory in a safe and stable condition as quickly and economically as possible. These facilities will be prepared for an extended period of minimal surveillance and maintenance pending eventual transfer for decontamination and decommissioning. Surveillance and maintenance for the facilities will be performed by this project during the period of deactivation and for one year after deactivation has been completed. The Spent Nuclear Fuel Project provides for the management of the spent nuclear fuel on the Oak Ridge Reservation. Spent nuclear fuel will be repackaged, certified, and placed in interim storage until it can be shipped to the Idaho National Engineering and Environmental Laboratory. In FY 1999 and FY 2000 a portion of the scope of work associated with this PBS was funded in PBS OR-382 in the Non-Defense Post 2006 Completion appropriation.

- Spent Nuclear Fuel: Complete procedures, practice loading, and finalize readiness assessment for shipment of the spent nuclear fuel canisters to the Idaho National Engineering and Environmental Laboratory. Begin spent nuclear fuel shipments by August 30, 2001.
- Isotopes Facilities Deactivation Project: Perform routine surveillance and maintenance activities in Buildings 3038 and 3517.
- High Ranking Facilities Deactivation Project: Perform routine surveillance and maintenance at the Bulk Shielding Facility, and its five ancillary facilities, and the Tower Shielding Facility, and its 12 ancillary facilities.

OR-381	3,558	4,080	4,113

Metrics			
Facilities Deactivated			
Deactivated During Period	2	0	0

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
Nuclear Materials Stabilized			
Other Nuclear Materials Solution	492	0	0
Nuclear Materials Made Disposition Ready			
Other Nuclear Materials Solution	492	0	0
Other Forms of Nuclear Materials	0	1	0
Key Milestones			
# Spent Nuclear Fuel - Begin spent nuclear fuel shipments (August 2001).			

OR-411 / ETTP Waste Operations

Comprises the work required to annually provide safe, compliant, and cost-efficient treatment for the East Tennessee Technology Park Waste Operations. This project is comprised of three waste operations facilities; Toxic Substances Control Act Incinerator; Central Neutralization Facility, and Transportable Vitrification System. The objective of these facilities is to provide safe, compliant operations in support of EM projects throughout the Oak Ridge Reservation and support other Oak Ridge missions as required.

Complete Resource Conservation and Recovery Act closure for the Transportable Vitrification System.

Dispose of 241 m^3 of Toxic Substance Control Act Incinerator mixed low-level waste residues.

OR-411	31,392	31,834	25,035

Metrics			
Low-Level Waste			
Treatment (m^3)	7	0	0
Commercial Disposal	0	16	0
Mixed Low-Level Waste (m^3)			
Treatment	719	472	0
Commercial Disposal	70	134	241
Storage	0	0	72

OR-431 / ETTP Decontamination and Decommissioning

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
Complete the Comprehensive Environmental Response, Compensation and Liability Act activities for environmental hazards at the East Tennessee Technology Park. Scope consists of the Centrifuge Equipment Removal subproject including facility radiation characterization and decontamination activities, stripping out inside building components, and demolishing auxiliary support facilities. The centrifuge facilities were not used for production scale enrichment and are therefore not funded by the UE D&D Fund. The surveillance and maintenance of these facilities is included in PBS OR-441. Facilities not demolished will be available for reindustrialization. The overall decontamination and decommissioning approach is to award fixed-price subcontracts for discrete work packages, issue facility completion reports, use the integrated safety management system, and conduct health physics surveys of materials to be removed, characterize rad-contaminated materials for uranium content using non-destructive assay, characterize hazardous materials, dispose of waste appropriately, and perform work under a Comprehensive Environmental Response, Compensation, and Liability Act Engineering Evaluation/Cost Analysis-Action Memo. The Sitewide Record of Decision will recognize these response actions.			
# For the Centrifuge Equipment Removal Project minimal decontamination and decommissioning activities will be accomplished in FY 2001 utilizing uncosted carryover as available.			
OR-431	2,362	0	0

Metrics
This project has associated metrics; however, no metrics are reportable in the 3-year budget profile.

OR-441 / ETTP Surveillance and Maintenance

(dollars in thousands)

FY 1999	FY 2000	FY 2001

The surveillance and maintenance PBS scope includes all elements of work required to ensure adequate containment and control of deactivated facilities that await decontamination and decommissioning or reuse. This PBS represents scope that is conducted in conjunction with PBS OR-443 under the Uranium Enrichment D&D Fund because dual funding sources are utilized to carry out these activities. There are several subprojects and/or work elements that comprise the total scope of this PBS.

The technical approach to accomplishing this work is through a systematic program of facility inspections (walkthroughs and exterior inspections), routine surveillance, asbestos surveys, and instrument calibration, with routine and/or "as needed" maintenance. The surveillance and maintenance program maintains facilities in a baselined "minimum safe" conditions until such time decontamination and decommissioning is initiated or a facility is transitioned to a private tenant for reuse. Deficiencies are corrected using a risk-based priority approach. Additionally, the surveillance and maintenance program maintains compliance with the Comprehensive Environmental Response, Compensation, and Liability Act requirements at facilities that have been remediated or await remediation.

Other elements of this PBS involve a portion of those base activities, services, and/or functions necessary to support site operations. These include security, fire protection, utilities, environmental, safety and health programs (permit compliance, medical, etc.), real property management (maintenance of active facilities), custodial services, reindustrialization support, and infrastructure improvement/repair projects. Improvement and repair projects are only conducted if they have a short-term payback (3-4 years), mitigate safety and health concerns, necessary to support site-wide operations, and/or vital to meeting the site's end-use vision.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
The overall strategy for this PBS scope is to complete all work in an efficient and cost-effective manner while incorporating the integrated safety management system. Also, the goal is to reduce the cost of these "mortgage" activities to allow more remedial action and decontamination and decommissioning work to be conducted. As remedial and decontamination and decommissioning progresses and is completed, the need for some of these activities will diminish, or less rigorous levels of these activities will be needed, thus lowering the mortgage for the site. This activity is split funded by the Defense Environmental Restoration and Waste Management and the Uranium Enrichment D&D Fund Appropriations (Total FY 2001 Funding Request $34,625,000).			
# Centrifuge Facility Surveillance and Maintenance - 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.			
# 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.			
# Start K-1225 Roof Replacement. Start and complete K-1004L Heating, Ventilation, and Air Conditioning Replacement.			
# Start and complete K-1041 Roof Ventilation Hoods Repair.			
# Start and complete K-1034A Sprinkler System Installation.			
# Complete personnel protection area reconfiguration: radcon protection, security protection controls, and emergency notification projects.			
OR-441	5,680	8,720	9,575

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
OR-821 / Off-site Projects			
Perform environmental actions associated with Tennessee Department of Environment and Conservation sites and other sites located off the DOE-Oak Ridge Reservation that may be contaminated as a result from activities at the DOE-Oak Ridge Reservation. Typically, DOE's involvement with these sites resulted from selling surplus equipment and/or material that has been later determined to be radiologically and/or chemically contaminated. Contaminants identified include primarily uranium, heavy metals, dioxins/furans and PCBs.			
# Reimburse the Tennessee Department of Environment and Conservation for their administration of a contract to complete an early removal action at the Atomic City Auto Parts site. Begin work on the Remedial Investigation/Feasibility Study and continue site surveillance and maintenance.			
# Prepare Remedial Design Work Plan, Remedial Design Report and Remedial Action Work Plan to support the Record of Decision issued by the Tennessee Department of Environmental Conservation for cleanup of the David Witherspoon 901 and 1630 sites. Continue site surveillance and maintenance.			
# Construction of a Low Temperature Thermal Desorption plant at the Oak Ridge Reservation to treat mercury contaminated soil from David Witherspoon-901 and David Witherspoon-1630 sites, necessary to meet land disposal restrictions.			
OR-821	1,826	3,692	14,442

Metrics

This project has associated metrics; however, no metrics are reportable in the 3-year budget profile.

(dollars in thousands)

FY 1999	FY 2000	FY 2001

OR-891 / Directed Support

This project consists of subprojects that are managed by DOE directly managed. They include Agreements-in-Principle grants to the States of Kentucky and Tennessee, DOE Oak Ridge Operations Office Program Management Support, the National Center of Excellence for Metals Recycle, and funds for the termination of the Management and Operating Contractor. The Department of Energy provides grants to Tennessee and Kentucky for independent support of environmental programs at the Oak Ridge Reservation and Paducah Gaseous Diffusion Plant. The Agreements-in-Principle grants are 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 Metal Recycle facilitates the cost effective recycle of clean and decontaminated metals at DOE sites across the country. Funding shared with PBS OR-893 in the Uranium Enrichment D&D Fund.

The Agreement-in-Principles include support to conduct independent monitoring and sampling to provide support in a number of emergency response planning initiatives, including cooperative planning, conducting joint training exercises, and developing public information regarding preparedness activities. The Federal Facilities Agreement grants support Tennessee and Kentucky in the review and response to the Federal Facilities Agreement documents, including remedial investigations/feasibility studies, remedial designs, and decision documents (Records of Decision and Action Memoranda). The National Center of Excellence for Metals Recycle has already participated in six large projects and several smaller actions that resulted in the recycling of 11,000 tons of metal and an estimated savings of $9,900,000. The Lockheed Martin Energy Systems Contract Closeout funding supported the closeout of numerous subcontracts awaiting Defense Contracts Audit Agency audit. The Department Oak Ridge Operations Office program management support continues.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# The Agreements-in-Principles include support to conduct annually independent monitoring and sampling, both on-site and off-site and to provide support in a number of emergency response planning initiatives, including cooperative planning, conducting joint training exercises, and developing public information. The National Center of Excellence for Metal Recycle will continue to facilitate the recycle of metal throughout the DOE complex. The Department Oak Ridge Operations Office Program Management Support continues. The Lockheed Martin Energy Systems contract closeout will continue closing subcontracts, supporting litigation activities etc.			
OR-891	4,892	6,790	7,384

OR-NAMP / National Analytical Management Program

This program is responsible for supporting EM programs to assure that credible, cost-effective sampling, and analytical needs are met, and the data vital for making decisions regarding waste management and environmental remediation meet the needs of EM, regulators, and the public.

In FY 2001, the following activity is supported:

Establish and maintain cost-effective sampling and analytical quality and assurance programs.

OR-NAMP	0	0	100

OR-NCST / Nuclear Criticality Safety Training

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

This activity provides support to the Nuclear Criticality Safety Training program. The Implementation Plan for Recommendation 93-2, "The Need for Critical Experiment Capability," established a program to maintain the viability of the Department's critical experiments program and improve the knowledge base underlying prediction of criticality. This resulted in the five-element Nuclear Criticality Predictability Program. Ongoing activities have been included under the program established for the Defense Nuclear Facilities Safety Board Recommendation 97-2, Nuclear Criticality Safety Training, which supports the efficient integration and functioning of criticality safety programs across all DOE operations involving fissile materials.

The Nuclear Criticality Safety Training program was supported in the Multi-Site account in FY 1999 and FY 2000.

In FY 2001, the following activities are supported:

The Environmental Management-funded segments of the Defense Nuclear Facilities Safety Board Recommendation 97-2, consist of three elements:
  - < nuclear data;
  - < calculational methods; and
  - < guidance on applicability of bounding curves/data.

OR-NCST	0	0	2,514

OR-PP / Pollution Prevention

The Department's pollution prevention mission is to reduce or eliminate all wastes and pollutants in order to minimize the impact of the Department's operations on the environment, to reduce operational cost, and improve the safety and health of its operations.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

Pollution prevention is the Department's preferred approach to reducing waste, mitigating health risks, and protecting the environment, in accordance with the Pollution Prevention Act of 1990. This was evidenced by the Secretary's November 1999 establishment of aggressive source reduction, recycling, and affirmative procurement goals, to be achieved by 2005. Pollution prevention applied within EM can significantly reduce wastes, allowing the cost savings to be used to accelerate the cleanup effort. As in industry, pollution prevention is a core program that helps DOE achieve maximum environmental benefits.

The Pollution Prevention program was supported in the Mult-Site account in FY 1999 and FY 2000.

In FY 2001, the following activities are supported:

- Maintain field pollution prevention/waste minimization programs to comply with Federal/State laws and regulations.
- Track and report on waste generation and affirmative procurement activities.
- Coordinate pollution prevention activities with the waste generating organization to reduce waste generation.

OR-PP	0	0	1,061

OR-TM / Transportation and Packaging Management

The National Transportation and Packaging program develops and maintains the DOE baseline transportation resources, including the coordination and development of DOE-wide transportation policy to assure the availability of safe, regulatory compliant, economical, efficient transportation for DOE materials.

The Department's transportation and packaging activities are one of the most heavily regulated functions because of the hazardous materials (particularly radioactive) that are shipped. Noncompliance with regulations carries heavy penalties (both criminal and civil). Transportation is an area of public scrutiny due to the perceived hazards associated with the transportation of the DOE materials.

In FY 2001, the following activities are supported:

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Assure a safe and regulatory compliant transportation system and operations.			
# Continue to provide improved and effective transportation and packaging systems engineering and analysis support services to the DOE waste and material disposition programs to help anticipate transportation issues and forecast future needs.			
# Integrate institutional outreach and stakeholder involvement activities with other DOE program offices.			
# Provide technical packaging and transportation assistance to resolve packaging issues, to identify packaging needs and to develop packaging concepts or alternatives to ensure that future transportation requirements are met.			
OR-TM	0	0	1,660
Total, Oak Ridge	177,670	262,847	293,896

Explanation of Funding Changes from FY 2000 to FY 2001

	FY 2001 vs. FY 2000 ($000)
HQNP-SI01-LT-OR / Security Investigations	
# No significant change.	50
OR-151 / ORR Legacy Waste	
# The increase is due to a significant increase in mixed and low-level waste disposition, partially offset by a decrease in funding requirements for the Transuranic Waste Privatization project.	5,778
OR-171 / Environmental Management Waste Management Facility	
# The increase is due to additional activities to support initial startup of waste disposal operations under the Privatized contract.	8,416

	FY 2001 vs. FY 2000 ($000)
OR-191 / Non-Recurring Contractor Transition	
# Decrease due to completed transition from the Management and Operating contractor to a new Management and Integration contractor in FY 2000.	-6,658
OR-211 / Y-12 Waste Operations	
# No significant change.	663
OR-221 / Y-12 Remedial Action	
# The increase is due to field activities related to the start of soil remediation cleanup activities at the Upper East Fork Poplar Creek watershed and East End Volatile Organic Compound plume removal action implementing an innovative technology.	5,695
OR-241 / Y-12 Surveillance and Maintenance	
# The increase is due to additional surveillance and maintenance requirements for completed cleanup projects in the Bear Creek Valley and the Upper East Fork Poplar Creek watersheds.	802
OR-311 / ORNL Waste Operations	
# Decrease in low-level waste disposal and subcontracting efficiencies in liquid low-level treatment plant operations.	-5,564
OR-321 / ORNL Remedial Action	
# The decrease is due to completion of Bethel Valley and Melton Valley watershed assessments and completion of early actions at Oak Ridge National Laboratory (Corehole 8, Gunite Tanks, Surface Impoundments).	-3,829
OR-331 / ORNL Decontamination and Decommissioning	
# The increase is due to increased activities associated with the Molten Salt Reactor experiment D&D project, as well as initiation of field work in the Metal Recovery Facility, the Old Hydrofracture Facility, and three facilities at the Solid Waste Storage Area IV in FY 2001.	15,175

	FY 2001 vs. FY 2000 ($000)
OR-341 / ORNL Surveillance and Maintenance	
# No significant change.	-247
OR-381 / ORNL Nuclear Materials and Facilities Stabilization	
# No significant change.	33
OR-411 / ETTP Waste Operations	
# The decrease is due to completion of Toxic Substances Control Act Incinerator trial burns in FY 2000 and the initiation of variable cost chargeback to off-site incinerator user generators in FY 2001, and subcontracting savings in operation of the Toxic Substance Control Act incinerator, partially offset by an increase for the Transportable Vitrification System Resource Conservation Recovery Act closure.	-6,799
OR–441 / ETTP Surveillance and Maintenance	
# The net increase for PBSs OR-443, in the Uranium Enrichment D&D Fund, and OR-441 is attributable to an increase level of landlord construction, landlord infrastructure support, and surveillance and maintenance. The FY 2001 funding is required to maintain the East Tennessee Technology Park site until cleanup is largely completed..	855
OR-821 / Off-site Projects	
# The increase is due to one-time costs associated with the construction and infrastructure of the Low Temperature Thermal Desorption plant to treat mercury contaminated soils.	10,750
OR-891 / Directed Support	
# The net decrease of $1,535,000 for PBSs OR-891 and OR-893, in the Uranium Enrichment D&D Fund, which both fund Directed Support, is due to the completion of many of the Management and Operating closeout activities, and a reduction of Agreements-in-Principles support request based on historical costs.	594
OR-NAMP / National Analytical Management Program	
# This program, formerly supported in the Multi-Site account, is transferred to the Oak Ridge Operations Office.	100
OR-NCST / Nuclear Criticality Safety Training	

	FY 2001 vs. FY 2000 ($000)
# This activity was previously funded under Multi-Site. Amount requested reflects a decrease of $500,000 from the amount appropriated in FY 2000.	2,514
OR-PP / Pollution Prevention	
# This program, formerly supported in the Multi-Site account, is transferred to the Oak Ridge Operations Office.	1,061
OR-TM / Transportation and Packaging Management	
# This program, formerly supported in the Multi-Site account, is transferred to the Oak Ridge Operations Office.	1,660
Total Funding Change, Oak Ridge	31,049

Oakland

Mission Supporting Goals and Objectives

Program Mission

The mission of the Defense Environmental Management (EM) Post 2006 Completion program 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 the administration of State and educational grants funded by this appropriation.

The mission of the Pollution Prevention program is to establish and implement National and Departmental policies to reduce or eliminate all wastes and pollutants in order to minimize the impact of the Department's operations on the environment, to reduce operational cost, and improve the safety and health of its operations.

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. The current schedule is to have cleanup completed at the Lawrence Livermore National Laboratory's Main Site in 2007 and at Site 300 by FY 2008. The completion date for the Separations Process Research Unit site remains 2014.

The Pollution Prevention program is to comply with waste minimization, pollution prevention, affirmative procurement, and recycling requirements under Federal/State statutes, Executive Orders, and DOE Orders; and reduce waste generated through implementation of cost-effective pollution prevention projects.

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; and develop, demonstrate, test and evaluate new cleanup technologies. 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 by FY 2014.

The Oakland Operations Office has identified several innovative technologies to be evaluated and used for cleanup at the Lawrence Livermore National Laboratory. For example, field demonstrations using innovative technologies, such as in situ hydrous pyrolysis, Electrical Resistance Tomography, and biofiltration as scheduled at the Lawrence Livermore National Laboratory main site. Electro-osmosis will be used as an initial remedial innovative technology to remove volatile organic compounds from the Lawrence Livermore National Laboratory main site in addition to the traditional pump and treat. At the Lawrence Livermore National Laboratory Site 300, a passive iron filings wall will be installed to intercept contaminated groundwater using the experience gained at another DOE site (Kansas City).

The pollution prevention activities focus National attention on areas that impact the EM goals and planned efforts across the Department of Energy complex.

Performance Measures

Performance Measures are provided at an aggregate level after each Funding by Site table, as well as at the project level in the Detailed Program Justification.

The Executive Budget Summary and the Metrics Summary provide a consistent set of high-level performance measures. The more detailed project-level justification provides a description of significant activities for each project including detailed project performance measures and key project milestones, as applicable.

Significant Accomplishments and Program Shifts

Maintain operation of four permanent treatment facilities and 11 portable treatment units, begin operation of the Treatment Facility E-West mini portable treatment unit and treatment facility 406-South, consistent with implementation of the remediation strategy as defined in the Record of Decision and subsequent Explanations of Significant Differences to the Record of Decision at the Lawrence Livermore National Laboratory Main Site (FY 2001).

- Continue operation and maintenance of existing groundwater and soil vapor extraction treatment systems at General Services Areas and Building 834, prepare and submit site-wide Final Interim Record of Decision to regulators, and prepare final characterization report for Building 854 at the Lawrence Livermore National Laboratory Site 300 (FY 2001).
- Continue storage, treatment, and some off-site disposal of low-level, mixed low-level, and transuranic waste at the Lawrence Livermore National Laboratory (FY 2001).
- Complete off-site fabrication of Large Container Processing Unit (FY 2001).
- Begin pilot scale processing of DOE waste at a commercial facility (FY 2001).
- Prepare Community Relation Plan and the Resource Conservation and Recovery Act Facility Investigation Work Plan for the Separation Process Research Unit (FY 2001).
- Conduct 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).
- Conduct pollution prevention activities required by state and local agencies at the Department of Energy sites (FY 2001).
- In FY 2000, the Department changed the way the Pollution Prevention program is managed. Funds for the Headquarters controlled National Pollution Prevention Program were significantly reduced from the FY 1999 level. The field is expected to provide the resources required to continue implementing high return-on-investment and cost-effective projects and compliance with Executive and DOE Orders.
- Administer pollution prevention programs to achieve site plan goals (FY 2001).
- The Pollution Prevention program was supported in the Multi-Site account in FY 1999 and FY 2000.

Funding Schedule

	(dollars in thousands)		
	FY 1999 Current Appropriation	FY 2000 Current Appropriation	FY 2001 Request
OK-001LT / Lawrence Livermore National Laboratory Main Site Remediation	0	0	11,613
OK-002LT / Lawrence Livermore National Laboratory Site 300 Remedial Action	0	0	11,919
OK-021LT / Lawrence Livermore National Laboratory Base Program	0	0	23,268
OK-026LT / Lawrence Livermore National Laboratory General Plant Projects	0	0	900
OK-040-DLT / State Grants	0	0	350
OK-041LT / Accelerated Waste Treatment	0	0	800
OK-043LT / Separations Process Research Unit	0	0	2,500
OK-HQPP / Pollution Prevention	0	0	532
Total, Oakland	0	0	51,882

Funding by Site

	(dollars in thousands)				
	FY 1999	FY 2000	FY 2001	$ Change	% Change
Lawrence Livermore National Laboratory (CA)	0	0	48,500	48,500	>999.9
Separations Process Research Unit (NY)	0	0	2,500	2,500	>999.9
Oakland Operations Office	0	0	882	882	>999.9
Total, Oakland	0	0	51,882	51,882	>999.9

Metrics Summary

	FY 1999	FY 2000	FY 2001
Remedial Action/Release Site			
Assessment	0	0	20
Cleanups	0	0	20
Mixed Low-Level Waste			
Treatment (m^3)	0	0	92
Disposal (m^3)	0	0	25
Low-Level Waste			
Disposal (m^3)	0	0	26

Site Description

Lawrence Livermore National Laboratory

The Lawrence Livermore National Laboratory is a multi-disciplinary research laboratory specializing in weapons research and development 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. In addition, characterization of a large portion of the legacy transuranic waste inventory is dependent on the completion of the Large Container Packaging Unit in FY 2001. 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.

Separations Process Research Unit

The Separations Process Research Unit located in Schenectady, New York is an inactive complex that requires decontamination and decommissioning. To date, no decontamination and decommissioning has been performed and the facilities have been placed in safe shutdown with the Nuclear Energy Naval Reactor Program maintaining landlord responsibilities. In FY 2000, surveillance and maintenance of these facilities will become the responsibility of the EM program. In addition to surveillance and maintenance, a basic health and safety program (radiation safety, industrial hygiene, industrial and nuclear safety) will be developed and implemented. Completion of the decontamination and decommissioning and remediation of the surrounding soil are planned for FY 2014.

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. Also, the Oakland

Operations Office provides funds and grants to support various activities, such as tribal colleges and universities, the Center for Environmental Excellence, independent reviews, and Hispanic scholarships.

Detail Program Justification

(dollars in thousands)

	FY 1999	FY 2000	FY 2001
The Lawrence Livermore National Laboratory Livermore Main 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. The scope planned for cleanup activities in FY 2001 has been reviewed and is appropriate to meet the goals of the site as outlined in the *Accelerating Cleanup: Paths to Closure*. These activities have had an independent cost review of the scope by the Corps of Engineers and the funds requested for FY 2001 are appropriate to perform the activities based on historical level of effort costs.			
OK-001LT / Lawrence Livermore National Laboratory Main Site Remediation			
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.			
# The major accomplishments planned for FY 2001:			
< Continue operation and maintenance of groundwater and soil vapor treatment facilities			
< Expand use of electro-osmosis technology at multiple source areas by using a commercial partner.			
< Begin operation of Treatment Facility E-West mini Portable Treatment Unit.			
< Begin operation of Treatment Facility 406-South Solar Powered Water Activated-Carbon Treatment Unit.			
< Install Treatment Facility D-Northwest Pipeline for operation.			
OK-001LT	0	0	11,613

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
Metrics			
Remedial Action/Release Site			
Assessments	0	0	17
Cleanups	0	0	17
Key Milestones			
# Begin operation of Treatment Facility-E Southeast mini Portable Treatment Unit (January 2001).			
# Begin operation of Treatment Facility-E West Portable Treatment Unit (April 2001).			
# Begin operation of Treatment Facility-D Northwest pipeline (July 2001).			
# Begin operation of Treatment Facility 5475 Catalytic Reductive Dehalogenation (phase 3) (September 2001).			

OK-002LT / Lawrence Livermore National Laboratory Site 300 Remedial Action

This project's mission is to identify existing contamination from past operations, control contaminated groundwater migration, and effectively remediate soil and groundwater where contaminants exceed regulatory limits at Site 300. This project consists of eight operable units and 73 release sites.

- # Continue operation and maintenance of groundwater and soil treatment systems at the Central and Eastern General Services Areas and Building 834.
- # Prepare and submit site-wide Final Interim Record of Decision to regulators.
- # Prepare final characterization report for Building 854.
- # Install additional monitoring wells and conduct hydraulic tests for Building 865, Building 812, and Pits 3 and 5.
- # Begin Five Year Review of Federal Facility Agreement commitments and requirements (Operable Unit 8).

OK-002LT	0	0	11,919

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
Metrics			
Remedial Action/Release Site			
Assessment	0	0	3
Cleanups	0	0	3

Key Milestones

- # Submit draft of final Site Wide (Operable Unit #8) Interim Record of Decision (November 2000).
- # Site Wide (Operable Unit #8) Final Interim Record of Decision (December 2000).
- # Site Wide (Operable Unit #8) Draft Remedial Design Work Plan (May 2001).
- # Site Wide (Operable Unit #8) Draft Final Remedial Design Work Plan (September 2001).

OK-021LT / Lawrence Livermore National Laboratory Base Program

This project will formulate a centralized waste management program at Lawrence Livermore National Laboratory to ensure waste handling practices from the generating source through final disposition are consistent to ensure 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

- < Prepare safety analysis documents for Large Container Packaging Unit.
- < Continue preparation of safety and closure documentation for Area 514 and three units within Area 612 -- closures will occur in sequence between the years FY 2000-2002.
- < Prepare new or revise existing procedures, lesson plans, on-the-job-training, and emergency drills to conform with Decontamination Waste Treatment Facility occupancy.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Accelerate Mortgage Reduction Driven Activities			
< Continue segregating and repackaging of legacy waste in Size Reduction Unit to allow off-site disposition.			
< Initiate commercial sorting and stabilization of organic laboratory trash (mixed low-level legacy waste).			
< Initiate on-site treatment of reactive and pyrophoric waste (mixed low-level legacy waste) using bleaching and high pressure oxidation.			
< Continue readiness review preparation for Large Container Packaging Unit to allow repackaging on non-standard transuranic waste containers.			
< Continue preparation (e.g., non-destructive assay, non-destructive examinations, headspace gas analysis, etc.) of transuranic waste for disposal at the Waste Isolation Pilot Plant.			
# Reduce Unit Operating Costs			
< Continue commercial disposition of mixed low-level/low-level waste to reduce long-term storage costs, accelerate disposition, and meet regulatory milestones.			
< Continue development and testing of treatment technology for diverse waste streams to develop solutions for problematic wastes.			
< Continue efforts to streamline Waste Accumulation Area activities and conduct direct shipments from these accumulation areas.			
OK-021LT	0	0	23,268

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
Metrics			
Transuranic Waste			
Storage (m^3)	0	0	349
Mixed Low-Level Waste			
Storage (m^3)	0	0	384
Treatment (m^3)	0	0	92
Commercial Disposal (m^3)	0	0	25
Low-Level Waste			
Storage (m^3)	0	0	1,400
Treatment (m^3)	0	0	436
Commercial Disposal (m^3)	0	0	26
Ship to DOE Disposal Site (m^3)	0	0	390

OK-026LT / Lawrence Livermore National Laboratory
General Plant Projects

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.

Complete off-site fabrication of the Large Container Packaging Unit.

OK-026LT	0	0	900

OK-040-DLT / State Grants

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.

Award funds to the Department of Toxic Substance Control for the Lawrence Livermore National Laboratory Main Site and Site 300.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Award funds to the Central Valley Regional Water Quality Control Board for the Lawrence Livermore National Laboratory Site 300 grant.			
# Award funds to the San Francisco Regional Water Quality Control Board for the Lawrence Livermore National Laboratory Main Site.			
OK-040DLT	0	0	350

OK-041DLT / Accelerated Waste Treatment

Activities in this project are to accelerate the waste treatment process. Molten Salt Oxidation Technology will be implemented by a commercial vendor to treat mixed low-level waste.

# Treat pilot scale batches of waste for the Resource Conservation and Recovery Act permit at the commercial facility.			
# Support documentation and reports of the Resource Conservation and Recovery Act permit application.			
OK041DLT	0	0	800

OK-043LT / Separations Process Research Unit

This project will remove radiological and hazardous contamination from the Separations Process Research Unit . Approximately eight release sites will be remediated and 11 facilities will be decontaminated and decommissioned.

# Continue preparing the plans, reports/documents and obtain the necessary permits for executing Phase I characterization activities.			
# Develop the Health and Safety Program for the Separations Process Research Unit Project.			
# Prepare and publish the Community Relations Plan for the Separations Process Research Unit Project.			
# Begin preparation of the Resource Conservation and Recovery Act Facility Investigation Work Plan.			
OK-043LT	0	0	2,500

Metrics

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
This project has associated metrics; however, no metrics are reportable in the 3-year budget profile.			

OK-PP / Pollution Prevention

The Department's pollution prevention mission is to reduce or eliminate all wastes and pollutants in order to minimize the impact of the Department's operations on the environment, to reduce operational cost, and improve the safety and health of its operations.

Pollution prevention is the Department's preferred approach to reducing waste, mitigating health risks, and protecting the environment, in accordance with the Pollution Prevention Act of 1990. This was evidenced by the Secretary's November 1999 establishment of aggressive source reduction, recycling, and affirmative procurement goals, to be achieved by 2005. Pollution prevention applied within EM can significantly reduce wastes, allowing the cost savings to be used to accelerate the cleanup effort. As in industry, pollution prevention is a core program that helps DOE achieve maximum environmental benefits.

The Pollution Prevention program was previously funded in the Multi-Site account in FY 1999 and FY 2000.

In FY 2001, the following activities are supported:

- Maintain field pollution prevention/waste minimization programs to comply with Federal/State laws and regulations.
- Track and report on waste generation and affirmative procurement activities.
- Coordinate pollution prevention activities with the waste generating organization to reduce waste generation.

OK-PP	0	0	532
Total, Oakland	0	0	51,882

Explanation of Funding Changes from FY 2000 to FY 2001

	FY 2001 vs. FY 2000 ($000)
OK-001LT / Lawrence Livermore National Laboratory Main Site Remediation	
# The most recent estimates indicate that funding will be necessary beyond FY 2006 for project completion. Therefore, this project has been moved from the Defense Site/Project Completion account, consistent with the budget structure. The amount requested reflects an increase of $1,905,000 over the amount appropriated in FY 2000 to implement the source area cleanup with electro-osmosis technology and the installation of treatment units to meet the Record of Decision requirements.	11,613
OK-002LT / Lawrence Livermore National Laboratory Site 300 Remedial Action	
# The most recent estimates indicate that funding will be necessary beyond FY 2006 for project completion. Therefore, this project has been moved from the Defense Site/Project Completion account, consistent with the budget structure. The amount requested reflects an increase of $934,000 over the amount appropriated in FY 2000 for the addition of a portable treatment unit off-site at the General Services area to reduce source area contamination and monitoring wells at Pits 3 and 5 to delineate the tritium plume	11,919
OK-021LT / Lawrence Livermore National Laboratory Base Program	
# The most recent estimates indicate that funding will be necessary beyond FY 2006 for project completion. Therefore, this project has been moved from the Defense Site/Project Completion account, consistent with the budget structure. The amount requested reflects an increase of $2,893,000 over the amount appropriated in FY 2000 for legacy waste packaged and disposed and transuranic waste characterized and package for shipment to the Waste Isolation Pilot Plant.	23,268
OK-026LT / Lawrence Livermore National Laboratory General Plant Projects	
# The most recent estimates indicate that funding will be necessary beyond FY 2006 for project completion. Therefore, this project has been moved from the Defense Site/Project Completion account, consistent with the budget structure. The amount requested reflects a decrease of $-757,000 below the amount appropriated in FY 2000 for the general plant project funding due to less requirements for facility upgrades – only the Large Container Processing Unit funding required for FY 2001.	900

	FY 2001 vs. FY 2000 ($000)
OK-040-DLT / State Grants	
# The most recent estimates indicate that funding will be necessary beyond FY 2006 for project completion. Therefore, this project has been moved from the Defense Site/Project Completion account, consistent with the budget structure. The amount requested reflects a decrease of $-433,000 below the amount appropriated in FY 2000 for grants for universities, colleges, and state payments.	350
OK-041LT / Accelerated Waste Treatment	
# The most recent estimates indicate that funding will be necessary beyond FY 2006 for project completion. Therefore, this project has been moved from the Defense Site/Project Completion account, consistent with the budget structure. The amount requested reflects a decrease of $-922,000 below the amount appropriated in FY 2000 due to completion of Molten Salt Technology Demonstration and support from commercial partner.	800
OK-043LT / Separations Process Research Unit	
# The most recent estimates indicate that funding will be necessary beyond FY 2006 for project completion. Therefore, this project has been moved from the Defense Site/Project Completion account, consistent with the budget structure. The amount requested reflects an increase of $2,011,000 over the amount appropriated in FY 2000 due to moving from surveillance and maintenance mode to initiating characterization activities with contractor selected in FY 2000.	2,500
OK-PP / Pollution Prevention	
# This program, formerly supported in the Multi-Site budget, is transferred to the Oakland Operations Office.	532
Total Funding Change, Oakland	51,882

Hanford Site - Richland Operations Office

Mission Supporting Goals and Objectives

Program Mission

The Hanford Site is the nation's largest former nuclear weapons production site, and the Hanford cleanup project is the largest, most technically complex, environmental cleanup project yet undertaken. The Richland Operations Office manages the Hanford Site except for the Tank Waste Remediation System project, which is now managed by the Office of River Protection as a separate field office (see section titled "Hanford Site – Office of River Protection").

The Richland Operations Office mission is to protect the health and safety of Hanford workers, the surrounding public, and the environment. Its diverse activities are organized along three distinct and widely-supported outcomes: restoration of the Columbia River corridor (the majority of the Hanford land, including the river shoreline); transition of Hanford's 200 Area "central plateau" to long-term waste treatment and storage; and putting the government's Hanford assets, including the Pacific Northwest National Laboratory, land, unique facilities, cleanup technologies and experience to work for the taxpayers. Under the Defense Environmental Management, Post 2006 Completion account, the office manages surface land and water, the vadose zone, groundwater, facilities, property and special nuclear materials inventories for the purpose of cleaning up the contaminated material and preventing further contamination of the Columbia River.

The major site efforts included in this part of the budget primarily serve the first two Hanford outcomes -- restoring the river corridor and transitioning the central plateau. Environmental Restoration activities include the decontamination and decommissioning of reactors and facilities in the 100 Area along the Columbia River and the cleanup of the contaminated soil and water throughout the site.Waste Management activities, carried out primarily in the site's 200 and 300 Areas, include: treatment, storage, and disposal of solid and liquid radioactive and hazardous waste for all Hanford contractors, including the Pacific Northwest National Laboratory; and management of Hanford's on-site analytical laboratories. The Landlord program maintains the site real estate and infrastructure, performs site level operations, and provides technical support services and stakeholder assistance. Work efforts also include initiatives to prepare site assets for disposition, thus reducing the overall costs of cleanup.

The mission of the National Analytical Management Program is to establish and implement National and Departmental policies to assure that credible, cost-effective sampling, and analytical needs are met, and the data vital for making decisions regarding waste management and environmental remediation meet the needs of EM, regulators, and the public.

The mission of the Pollution Prevention program is to establish and implement National and Departmental policies to reduce or eliminate all wastes and pollutants in order to minimize the impact of the Department's operations on the environment, to reduce operational cost, and improve the safety and health of its operations.

The mission of the Transportation and Packaging program, which includes the National Transportation program and the Transportation Emergency Preparedness program, is to establish and implement National and Departmental policies associated with the transport of hazardous materials.

Program Goal

The ultimate program goal at the Hanford site is to protect the Columbia River from radioactive and hazardous contamination, protect the public health and safety, and safeguard the environment. This program activity addresses: cleanup of surface contamination along the Columbia River for safe disposal in the central area of the site; monitoring, mitigation, and remediation of chemical and radioactive contaminants that have migrated into the vadose zone and groundwater beneath the site; management of large volumes of liquid and solid wastes generated as a result of site cleanup; and management of the site infrastructure for the duration of the cleanup, which will go on for many years. 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.

Hanford also intends to clean up the contaminated soil and buildings to levels supportive 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 and to aggressively clean up the contaminated soil and buildings in the 100 and 300 Areas. Remediation waste will be disposed of in the on-site Environmental Restoration Disposal Facility. Hanford currently has 1,547 release sites awaiting remediation and 701 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.

In addition, Hanford will dispose of solid and/or liquid wastes consistent with national policies for management of transuranic, low-level, low-level mixed, and hazardous wastes. Hanford will continue to receive on-site and off-site wastes for disposal in the 200 Area. Retrieved transuranic waste will be processed and shipped off-site to the Waste Isolation Pilot Plant.

The program goal of the National Analytical Management Program is to ensure that the laboratory analyses being performed are of sufficient quality to: meet the needs and requirements of the EM program and the regulatory community; be scientifically and legally defensible; provide the basis for returning the DOE environment to the public domain; and to assist in meeting the objectives of the *Accelerating Cleanup: Paths to Closure* plan.

The Pollution Prevention program is to comply with waste minimization, pollution prevention, affirmative procurement, and recycling requirements under Federal/State status, Executive Orders, and DOE Orders; and reduce waste generated through implementation of cost-effective pollution prevention projects.

The National Transportation Program develops and maintains DOE's baseline transportation resources, including the coordination and development of DOE-wide transportation policy, to assure the availability of safe, regulatory compliant, economical, and efficient transportation for DOE materials, including radioactive and other hazardous materials and wastes. Goals for an integrated program mission include: achieving a forward-looking, system-wide assessment of the Department's transportation and packaging needs; assuring a safe, environmentally compliant, and cost-effective transportation management system and operations; performing as a service center for transportation campaigns across the Department's complex; focusing expertise from the Department's transportation and packaging technical base program to solve transportation and packaging requirements; and enhancing transportation relationships and coordinating transportation communication throughout the Department.

The Transportation Emergency Preparedness Program is a National DOE-wide program. Issues related to the transportation of hazardous materials of all types have become more heightened in recent years. This is particularly true for radioactive materials. As a high-visibility shipper of radioactive materials, the Department of Energy and its transportation activities have come under intense scrutiny from Congress, states, tribes, local governments, and the public. An issue of universal concern, however, is whether adequate emergency preparedness exists at all levels of government. The Transportation Emergency Preparedness Program will prepare the Department of Energy and other Federal, state, tribal, and local authorities to respond to a transportation incident involving Department of Energy shipments of radioactive material. The DOE policy is being developed to address concerns regarding transportation emergency management issues. This policy will be included in a revision to DOE Order 151.1, Comprehensive Emergency Management System. In addition, EM in coordination with DOE's Office of Emergency Management, is developing protocols addressing transportation emergency planning, notification, and response.

Program Objectives

The near-term program objective for the Environmental Restoration program 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 and disposed in the Environmental Restoration disposal Facility. The program will implement a science and technology roadmap for the Groundwater/Vadose Zone Integration program to support site assessment and remediation and system assessment capability development.

Hanford will continue processing transuranic and low-level mixed waste through the Waste Receiving and Processing facility and ship transuranic waste to the Waste Isolation Pilot Plant. Hanford will also continue to dispose of low-level mixed and low-level wastes, including low-level waste received from off-site generators. The near-term objective of the landlord project is to provide the minimum level of services and readiness needed to support the accelerated cleanup. Capital projects will focus resources on facilities with long-term uses. Support personnel and operations will be consolidated in order to eliminate unnecessary office leases off-site and low occupancy facilities on-site to reduce overhead costs. Excess property will be cleaned up for reuse or disposed of to further reduce costs and schedules. The long-term objective is to normalize custodian responsibilities outside of the central plateau (200 Area) and implement efficient, low-cost support services within the central plateau. Long-term activities will include the disposition of more than 1,100 facilities that are assigned to the landlord and environmental restoration projects and expected to become vacant during clean up. The surplus facilities and the associated equipment will either be cleaned up for reuse, demolished or disposed of by other means.

The National Analytical Management Program activities focus National attention on areas that impact the Environmental Management goals and planned efforts across the Department of Energy complex.

The pollution prevention activities focus National attention on areas that impact the EM goals and planned efforts across the Department of Energy complex.

The Transportation and Packaging program activities focus National attention on areas that impact the Environmental Management goals and planned efforts across the Department of Energy complex.

Performance Measures

Performance Measures are provided at an aggregate level after the Funding by Site table; as well as, at a project level in the Detailed Program Justification.

The Executive Budget Summary and the Metrics Summary provide a consistent set of high-level performance measures. The more detailed project-level justification provides a description of significant activities for each project including detailed project performance measures and key project milestones, as applicable.

Significant Accomplishments and Program Shifts

In FY 1999, completed 15 waste site remediations in the Hanford 100 Areas with 212,121 m^3 (455,000 tons) of soil removed, thereby reducing risk of mixed low-level contamination from reaching the Columbia River and meeting the Tri-Party Agreement commitments. In FY 2000, 27 waste site remediations are scheduled, with 169,231 m^3 (363,000 tons) of soil removed. In addition, backfill of ten waste sites will be completed. In FY 2001, will complete 11 waste site remediations in the Hanford 100 Areas with 224,640 m^3 (498,871 tons) of soil removed, thereby reducing risk of mixed low-level contamination from reaching the Columbia River.

In FY 1999, completed the 200 Area implementation plan thereby meeting the Tri-Party Agreement commitments.

Completed one waste site remediation at the Hanford 300 Area with 110,023 m^3 (236,000 tons) of soil removed in FY 1999, reducing risk and meeting the commitments of the Tri-Party Agreement. In FY 2000, plan fourteen waste site completions with 5,128 m^3 (11,000 tons) of soil to be sent to the Environmental Restoration Disposal Facility. In FY 2001, will complete two waste site remediations at the Hanford 300 Area with 9,631 m^3 (20,086 tons) of soil removed to the Environmental Restoration Disposal Facility, thereby meeting the commitments of the Tri-Party Agreement.

The Environmental Restoration Disposal Facility received 323,288 m^3 (102,000 tons) of contaminated soil and debris and completed construction of Cells 3 and 4 (FY 1999), thereby safely

storing the environmental restoration waste and meeting the commitments of the Tri-Party Agreement. In FY 2000, the interim closure of Cells 1 and 2 will be complete, and 175,857 m^3 (389,000 tons) of soil will be disposed of. In addition, will complete permitting of completed Cells 3 and 4. In FY 2001, the Environmental Restoration Disposal Facility will receive 240,025 m^3 (530,597 tons) of contaminated soil and debris, thereby safely storing the environmental restoration waste and meeting the commitments of the Tri-Party Agreement.

The Facility Surveillance and Maintenance project completed the stabilization of five waste sites, preventing potential spread of contaminants (FY 1999), thereby reducing environmental risk. In FY 2000 and FY 2001, the project plans to continue surveillance and maintenance, remediation of radiation areas, and stabilization of more than 1,200 waste sites and 700 facilities, in order to reduce environmental, safety and health risks.

The Hanford decontamination and decommissioning project continued activities to attain interim safe storage of 105-F and 105-DR Reactors (FY 1999), thereby reducing mortgage, reducing environmental risk, protecting the Columbia River, and meeting the commitments of the Tri-Party Agreement. In FY 2000, work continued on the 233-S and 233-SA buildings and interim safe storage activities of 105-F and 105-DR reactors. Characterization of the 224B facility was initiated. In FY 2001, the decommissioning of 233-S continues and the decommissioning of 224-B is initiated.

The groundwater project continued operations of five pump and treat systems to reduce contamination and contain flow of plumes, and continued operation of the carbon tetrachloride vapor extraction system (FY 1999/FY 2000), thereby reducing the risk of low-level contamination from reaching the Columbia River, and meeting the commitments of the Tri-Party Agreement. In FY 2001, groundwater monitoring, drilling, well decommissioning and associated activities will continue. Phase 2 of the In-situ Redox Manipulation remediation process will be implemented.

The Hanford Site Groundwater/Vadose Zone Integration Project is a science-based project that includes participation of the DOE national laboratories and incorporates peer review. In FY 1999 the project has implemented the Science and Technology Roadmap in cooperation with the Department of Energy national laboratories; established a nationally recognized expert review panel; defined an assessment tool to address the impact of all Hanford Site wastes; and issued the draft project specification and long-range plan. In FY 2000, implementation of the science and technology roadmap to support site assessment and remediation

and system assessment capability development commenced. In FY 2001 the project will continue the public involvement process, all high priority activities, and maintain consistency and configuration controls relative to risk/performance assessment data and processes.

The waste management project started up the mixed low-level waste disposal trench operations, the retrieval of buried transuranic waste years ahead of schedule, and the 2706-T facility operation in FY 1999.

Prepared 24 m^3 of non-mixed transuranic waste for shipment to the Waste Isolation Pilot Plant for disposal in FY 2000 (FY 1999). In FY 2000, first shipment of transuranic waste to the Waste Isolation Pilot Plant will take place. In FY 2001, 55 m^3 of transuranic waste will be shipped to the Waste Isolation Pilot Plant for disposal.

In FY 1999, the landlord project diverted over twelve million gallons of waste water discharge away from contaminated soil columns in the 200 Area, disposed of four contaminated rail cars and three non-compliant underground oil storage tanks, eliminated chlorine gas hazards in the 300 Area, cleaned up and released two pieces of large equipment for reuse, and deactivated fifty facilities. In FY 2000, plan shut down of twenty vacant facilities, deactivation of twenty-five facilities, perform surveillance and maintenance on sixty inactive facilities, clean up two rail cars for reuse, and continue infrastructure projects throughout the site to maintain operational readiness and reduce costs. In FY 2001, prior year levels of clean up and readiness activities are continued, and the project begins integrated vegetation and animal control to help prevent contamination releases.

Develop guidelines that will allow reference laboratories to establish a direct link to the national standard (National Institute of Science and Technology) in analytical measurement processes and the preparation of secondary standards. The guidelines delineate the process of establishing a reference or secondary laboratory according to requirements established by the American National Standards Institute (FY 2001).

The National Analytical Management Program was supported in the Multi-Site account in FY 1999 and FY 2000.

Administer pollution prevention programs to achieve site plan goals (FY 2001).

The Pollution Prevention program was supported in the Multi-Site account in FY 1999 and FY 2000.

Develop and maintain a partnership with the U.S. Department of Transportation to perform safety assessments on Department of Energy motor carriers (FY 2001).

Maintain an efficient regulatory compliance training program (FY 2001).

Implement a complex-wide system to ensure internal and external notification of high visibility shipments to appropriate stakeholder officials, and provide public awareness of unclassified shipments; continue transportation focused forums and communications, with internal program activities and external stakeholders, to identify and resolve transportation issues and participate in specific transportation shipment planning; establish DOE-wide protocols for notification, planning, inspection, and other functions with states

and tribal governments; and provide technical support to field and program offices and to state, tribal, and local governments in preparing for and executing hazardous materials shipping campaigns (FY 2001).

Maintain DOE's automated transportation systems in support of efficient shipping and tracking throughout the DOE complex. These systems include the DOE tracking system, the real-time and historical shipment database, and the hazardous materials routing system (FY 2001).

Maintain DOE's transportation and packaging technical base program to establish DOE's position on regulatory issues related to transportation and packaging, and to provide transportation and packaging testing and materials infrastructure for DOE (FY 2001).

Provide improved effective transportation support services to the DOE Waste Material Disposition Programs through Systems Engineering practices (FY 2001).

The Transportation and Packaging program was supported in the Multi-Site account in FY 1999 and FY 2000.

Funding Schedule

(dollars in thousands)

	FY 1999 Current Appropriation	FY 2000 Current Appropriation	FY 2001 Request
HQNP-SI01-LT-RL/Security Investigations	1,166	800	800
RL-ER01 / 100 Area Remedial Action	23,501	27,364	27,694
RL-ER02 / 200 Area Remedial Action	2,092	3,534	0
RL-ER03 / 300 Area Remedial Action	7,812	3,157	10,182
RL-ER04 / Environmental Restoration Disposal Facility	29,966	16,146	17,917
RL-ER05 / Facility Surveillance and Maintenance	13,881	11,970	11,867
RL-ER06 / Decontamination and Decommissioning	13,810	18,445	9,198
RL-ER07 / Post Closure Surveillance and Maintenance	59	47	48
RL-ER08 / Groundwater Management	18,285	19,394	20,749
RL-ER10 / Program Management and Support	30,833	29,303	30,727
RL-HM01 / HAMMER	5,800	5,900	5,965
RL-NAMP / National Analytical Management Program	0	0	350
RL-OT01 / Mission Support	26,459	25,659	27,983
RL-OT04 / RL Directed Support	23,774	17,962	16,670
RL-PP / Pollution Prevention	0	0	850
RL-RG01 / TWRS Regulatory Unit	4,289	5,663	6,526
RL-ST01 / PNNL Waste Management	14,620	13,681	14,874
RL-TM / Transportation and Packaging Management	0	0	2,521
RL-TP02 / WESF Sub-Project	10,900	13,206	12,476

	FY 1999 Current Appropriation	FY 2000 Current Appropriation	FY 2001 Request
	(dollars in thousands)		
RL-TP13 / Landlord Project	12,697	13,225	19,000
RL-VZ01 / Sitewide Groundwater/Vadose Zone Integration Project	5,761	11,325	13,657
RL-WM03 / Solid Waste Storage and Disposal	28,611	32,503	35,359
RL-WM04 / Solid Waste Treatment	32,511	26,440	32,708
RL-WM05 / Liquid Effluents Project	26,485	28,860	29,950
RL-WM06 / Analytical Services	26,952	25,363	27,242
Total, Richland Operations Office	360,264	349,947	375,313

Funding by Site

(dollars in thousands)

	FY 1999	FY 2000	FY 2001	$ Change	% Change
Hanford	316,415	311,841	332,722	20,881	6.7%
PNNL	14,620	13,681	14,874	1,193	8.7%
Richland Operations Office	29,229	24,425	27,717	3,292	13.5%
Total, Richland Operations Office	360,264	349,947	375,313	25,366	7.2%

Metrics Summary

	FY 1999	FY 2000	FY 2001
Remedial Action/Release Site			
Assessments	0	167	0
Cleanups	16	41	13
Facilities Deactivated			
Deactivated During Period	51	21	7
Facilities Decommissioning			
Cleanups	42	14	12
Transuranic Waste			
Shipped to WIPP for Disposal (m^3)	0	55	55
Mixed Low-Level Waste			
Treatment (m^3)	16	1,060	967
Disposal (m^3)	182	835	1,052
Low-Level Waste			
Disposal (m^3)	6,080	6,936	4,761

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 Tank Waste Remediation System, in Southeastern Washington State. The 1,465 square kilometer (560 square mile) site is bounded on the north by over 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 will remain operational -- to process remaining plutonium materials. Other areas of the site include the Fast Flux Test Facility (400 Area) (currently budgeted and managed by the Office of Nuclear Energy) research and development activities by the 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 communities.

The Hanford mission is now site cleanup and environmental restoration, including the groundwater/vadose zone integration project to protect the Columbia River. The cleanup is covered by a 1989 consent agreement between the Department of Energy, the Environmental Protection Agency, and the Washington State Department of Ecology. This Tri-Party Agreement contains enforceable milestones for bringing Hanford into compliance with the Comprehensive Environmental Response, Compensation, and Liability Act and the Resource Conservation and Recovery Act. Most of the Hanford budget is directed at compliance with these milestones. 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 1999	FY 2000	FY 2001

The site is managed through an incentivized management and integration contract, to assure the most cost efficient service to the Government. The scope planned for FY 2001 has been reviewed and is appropriate to meet the goals of the site as outlined in the *Accelerating Cleanup: Paths to Closure*. Approximately 50 percent of the projects included in this section of the budget, and over 90 percent of the compliance costs, have had an independent cost review, and the funds requested for FY 2001 are appropriate to perform the activities based on estimated project progress and accumulated cost management success.

HQNP-SI01-LT-RL/Security Investigations

Funding will be used to perform new security investigations and re-investigations for non-Federal employees in accordance with DOE Order requirements for the Hanford Site.

Provide for contractor security investigations and re-investigations.

HQNP-SI01-LT-RL	1,166	800	800

RL-ER01 / 100 Area Remedial Action

This project's mission is to accomplish the remediation of over 400 past practice waste sites, in six separate reactor areas of the Hanford site to release the property for other beneficial use.

Continue excavation, backfill, and revegetation activities in the 100 DR, HR, NR, FR, and B/C areas along the Columbia River.

< 100 DR - Complete backfill of the DR South pipelines and revegetation of the DR1 and DR2 remedial action areas.

< 100 HR - Complete backfill of the 116-H-7 waste site and revegetation of the HR-1 remedial action area.

< 100 NR - Complete excavation of the 116-N-3 waste site and start excavation of 116-N-1.

< 100 FR - Complete excavation of the 100-F-19 pipelines and the 126-F-1, 100-F-35, 116-F-3, 116-F-4, 116-F-5, and 116-F-11 waste sites. In addition, complete backfill of the 100-F-19, 100-F-35, 116-F-3, 116-F-4, and 116-F-5 waste sites.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
< 100 B/C - Continue excavation of the 100 B/C pipelines.			
# The above activities will be performed in support of regulatory requirements including FY 2001 milestone M-16-26B, complete remediation and backfill of 51 waste sites and process effluent pipelines in the 100-BC-1, 100-DR-1, 100-DR-2, and 100-HR-1 operable units but does not complete requirements.			
RL-ER01	23,501	27,364	27,694

Metrics			
Remedial Action/Release Site			
Assessments	0	46	0
Cleanups	15	27	11

Key Milestones

- # Complete remediation and backfill of ten liquid waste sites (August 2000).
- # Complete remediation and backfill of 15 waste sites (100-BC-1) (March 2000).
- # Complete remediation and backfill of 15 waste sites 100-DR-1 Operable Unit (April 2000).

RL-ER02 / 200 Area Remedial Action

This project's mission is to accomplish the remediation of over 700 past practice waste sites, located in the 200 East and 200 West Areas of the Hanford Site.

No characterization or remedial investigations will be performed.

RL-ER02	2,092	3,534	0

Key Milestones

- # Submit 200 U Pond/Z-Ditches Cooling Water Group Work Plan (December 1999).
- # Submit the Uranium Rich Process Waste Group Work Plan (April 2000).
- # Submit the General Process Waste Group Work Plan (August 2000).

RL-ER03 / 300 Area Remedial Action

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
This project's mission is to accomplish the remediation of over 100 past practice waste sites, just North of the City of Richland and adjacent to the Columbia River at the Hanford Site to release the property for other beneficial (industrial) use.			
# Will complete excavation and backfill of the 618-4 burial ground in the 300-FF-1 operable unit. Complete verification revegetation of 618-4.			
# Will complete treatment and disposal activities on the 1500 barrels of uranium shavings discovered in the 618-4 burial site.			
# The above activities will be performed in support of regulatory requirements, including FY 2001 milestone M-16-03E, complete remediation of waste in 300-FF-1 operable unit.			
RL-ER03	7,812	3,157	10,182

Metrics			
Remedial Action/Release Sites			
Assessments	0	121	0
Cleanups	1	14	2
Key Milestones			
# Submit 300-FF-2 Focused Feasibility Study Report and proposed Plan for regulatory review (November 1999).			
# Complete all 300 Area operable unit pre-record of decision site investigations (November 1999).			

RL-ER04 / Environmental Restoration Disposal Facility

This project's mission is to provide for the long-term Comprehensive Environmental Response, Compensation, and Liability Act waste disposal needs of the Hanford Environmental Restoration Program. The facility is located in between the 200 East and 200 West Areas. The Environmental Restoration Disposal Facility operation/transportation activities support 100/300 Area remedial action (soils excavation) and the decontamination and decommissioning (debris activities).

Continue operations and transportation activities at the on-site waste disposal facility on the Hanford Central Plateau (Environmental Restoration Disposal Facility).

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
< Receive over 240K m^3 (530K tons) of contaminated soil and debris at the Environmental Restoration Disposal Facility.			
< Transport over 10.019 million ton-miles of waste to the Environmental Restoration Disposal Facility for disposal.			
# The above activities will be performed in support of regulatory requirements including remedial action Tri-Party Agreement milestones for the 100 and 300 Areas.			
RL-ER04	29,966	16,146	17,917

Key Milestones

Environmental Restoration Disposal Facility Cells 3 and 4 ready to accept remediation waste (December 1999).

RL-ER05 / Facility Surveillance and Maintenance

This project's mission is to provide surveillance and maintenance of over 1,200 waste sites and 700 facilities assigned to the Environmental Restoration Project. The sites and facilities are located throughout the Hanford Site.

Continue surveillance and maintenance of 100, 200, and 300 Area inactive facilities.

Continue radiation remedial action activities.

Complete selective stabilization activities.

Complete Pu loadout hood removal.

RL-ER05	13,881	11,970	11,867

RL-ER06 / Decontamination and Decommissioning

This project's mission is to decontaminate and decommission inactive facilities and to provide for interim safe storage and final disposition of the surplus reactors.

Ongoing decontamination and decommissioning of the 233-S Plutonium Concentration Facility in the 200 Area.

Initiate decontamination and decommissioning of the 224-B facility in the 200 Area.

RL-ER06	13,810	18,445	9,198

	FY 1999	FY 2000	FY 2001
	(dollars in thousands)		

Metrics

This project has associated metrics; however, no metrics are reportable in the 3-year budget profile.

Key Milestones

Issue B-Reactor Phase II Feasibility Study Engineering Design Report (June 2000).

RL-ER07 / Post Closure Surveillance and Maintenance

This project's mission is to provide long-term surveillance and maintenance of waste sites after the completion of remediation, and of facilities, after decontamination and decommissioning. Post remediation monitoring is required under the Resource Conservation and Recovery Act and Comprehensive Environmental Response, Compensation, and Liability Act.

Continue long-term post-remediation surveillance and monitoring.

RL-ER07	59	47	48

RL-ER08 / Groundwater Management

This project's mission is the remediation of groundwater and the long-term protection of the groundwater resources of the Hanford site.

Continue groundwater treatment activities and vapor extractions activities for 100-KR-4, 100-HR-3, 100-NR-2, and 200-ZP 1,2.

Continue In-Situ Redox Manipulation remediation process (Phase 2).

Continue groundwater monitoring, drilling, well decommissioning, and associated activities, supporting Tri-Party Agreement milestones for well installation and decommissioning.

RL-ER08	18,285	19,394	20,749

Key Milestones

Install the Resource Conservation and Recovery Act groundwater monitor wells at a rate of up to 50 in FY 1999 (February 2000).

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Issue Hanford Site groundwater monitoring for FY 1999 (March 2000). # Issue Hanford Site groundwater monitoring for FY 2000 (March 2001).			

RL-ER10 / Program Management and Support

This project's mission is to provide programmatic oversight for individual Environmental Restoration Project Areas by ensuring that requisite management systems, project infrastructure and regulatory framework are in place and maintained until project completion.

- # Maintain the automated procurement tracking system, small business program, and continue the balanced score card.
- # Participate in public involvement activities.
- # Complete Environmental Compliance Assessments/Surveillance Audits.
- # Identify technology needs, and develop technology action plans and proposals that support project technology needs.
- # Develop project-wide studies and methodologies for Human Health/Ecological Assessment.
- # Ensure protection to natural and cultural resources. Integrate ecological/cultural values into project-wide planning.
- # Coordinate site-wide strategies and policies, and provide consistent restoration/revegetation approaches.
- # Provide support to site investigations, DQO process, and site closure process.
- # Provide sample and data management support to the Environmental Restoration Contractor projects.
- # Prepare input to environmental reports required by environmental statutes, regulations, permits, and DOE Orders.
- # Provide Ecology Grant under Comprehensive Environmental Response, Compensation, and Liability Act.

RL-ER10	30,833	29,303	30,727

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

RL-HM01 / HAMMER

This project's mission is to provide employees of the Department and its contractors with the safety and health training required for working on-site, as well as the hazardous materials and emergency response training necessary for operations. Realistic, hands-on props boost student achievement and help to improve cleanup efficiency. Training costs are reduced by using advanced training technologies and training provided by non-DOE, organizations.

Continue to increase support to the Hanford Site hands-on training needs by providing 30,000 students days of health and safety training.

RL-HM01	5,800	5,900	5,965

RL-NAMP / National Analytical Management Program

This program is responsible for supporting EM programs to assure that credible, cost-effective sampling, and analytical needs are met, and the data vital for making decisions regarding waste management and environmental remediation meet the needs of EM, regulators, and the public.

In FY 2001, the following activities are supported:

Data quality objective electronic template development.

Data quality assessment process development and implementation.

Direct planning/management quality objectives/planning and budget managers system tool development (VSP/Samp TOOL).

Statistical support to Bechtel for updating the quantitative aspects of their data quality objectives and data quality assurance workbooks.

Data quality objectives and data quality assurance and workbooks.

Data quality assurance tool prototype.

Visual sample plan and environmental statistics courses.

RL-NAMP	0	0	350

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

RL-OT01 / Mission Support

This project's mission is to: provide environmental surveillance, including effluent monitoring; perform environmental/ecological/cultural management; maintain regulatory technical baselines; monitor risks to public safety; provide technical systems required for operating the site; and integrate contractor activities.

Site Planning and Integration
  - < Update integrated site baseline plans for lifecycle work scope, schedule and cost changes.
  - < Analyze and update Hanford Strategic Plan.
  - < Issue monthly and annual Hanford Site performance reports.

Environmental Compliance
  - < Submit mandatory state and federal environmental reports.
  - < Provide focal point for regulator issue resolution.
  - < Support Tri-Party Agreement negotiations, public repositories, and regulator data access.

Public Safety and Resource Protection
  - < Conduct environmental surveillance and oversight activities.
  - < Manage Hanford cultural resources in compliance with the National Historic Preservation Act.
  - < Develop summary of geology, hydrology, ecology, and population data for the National Environmental Protection Agency documentation.

Systems Engineering
  - < Conduct requirements analysis for maintenance of the Hanford Site Technical Database.
  - < Refine and apply system analyses.

RL-OT01	26,459	25,659	27,983

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

Key Milestones

- # Issue annual report on environmental releases (for FY 2000-FY 2046) (August 2000).
- # Provide CY 2000 Site Environmental Report to Richland/Public (September 2001).
- # Resource Conservation and Recovery Act General Facility Inspections (For FY 2000 - FY 2046) (September 2000).

RL-OT04 / Richland Directed Support

This project's mission is to provide support for contract closure activities, stakeholder activities, and public entitlement and assistance programs.

- # Continue support for former contractors' defense in the downwinder litigation court proceedings.
- # Continue making Payments-in-Lieu-of-Taxes.

RL-OT04	23,774	17,962	16,670

RL-PP / Pollution Prevention

The Department's pollution prevention mission is to reduce or eliminate all wastes and pollutants in order to minimize the impact of the Department's operations on the environment, to reduce operational cost, and improve the safety and health of its operations.

Pollution prevention is the Department's preferred approach to reducing waste, mitigating health risks, and protecting the environment, in accordance with the Pollution Prevention Act of 1990. This was evidenced by the Secretary's November 1999 establishment of aggressive source reduction, recycling, and affirmative procurement goals, to be achieved by 2005. Pollution prevention applied within EM can significantly reduce wastes, allowing the cost savings to be used to accelerate the cleanup effort. As in industry, pollution prevention is a core program that helps DOE achieve maximum environmental benefits.

The Pollution Prevention program was supported in the Multi-Site account in FY 1999 and FY 2000.

In FY 2001, the following activities are supported:

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Maintain field pollution prevention/waste minimization programs to comply with Federal/State laws and regulations.			
# Track and report on waste generation and affirmative procurement activities.			
# Coordinate pollution prevention activities with the waste generating organization to reduce waste generation.			
RL-PP	0	0	850

RL-RG01 / TWRS Regulatory Unit

This project funds the Richland Regulatory Unit that regulates the Tank Waste Remediation System (TWRS) Privatization Contractor in the areas of nuclear, radiological, and process safety. The Regulatory Unit develops regulatory guidance, and reviews and approves contractor submittals to assure the contractor achieves adequate safety. This project will end if the Nuclear Regulatory Commission assumes regulatory authority. This is not expected to occur before FY 2006.

# Complete reviews of the Limited Construction Authorization Request, the revised Standards Approval Package, and the comprehensive review of the Construction Authorization Request to permit the contractor to begin construction.			
# Continue workscope on independent safety regulation oversight through the execution of the comprehensive inspection program.			
RL-RG01	4,289	5,663	6,526

Key Milestones

- # Complete the Quality Assurance Plan review (June 2000).
- # Complete construction authorization approval for the British Nuclear Fuels Limited (June 2001).
- # Issue the Construction Authorization Approval (June 2001).
- # Complete the Quality Assurance Plan review (July 2001).

RL-ST01 / PNNL Waste Management

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
This project provides the Pacific Northwest National Laboratory with waste management services and compliant operations in support of science and technology development for the multi-program needs. # Continue the base operations surveillance and maintenance program to assure minimum safe condition and safe containment of radioactive materials in the Pacific Northwest National Laboratory facilities. # Continue essential services and base operations programs for waste and effluent management and to meet regulatory requirements and operation permits. Continue management and limited disposition of remaining legacy waste from past research operations. # Collect, store, package, and transport currently generated Pacific Northwest National Laboratory waste (annual average 283 m^3 of low-level waste, 34 m^3 of mixed low-level waste, 7 m^3 of transuranic waste, and 50 metric tons of hazardous waste) for treatment and/or disposal.			
RL-ST01	14,620	13,681	14,874

Metrics			
Nuclear Materials / Stabilized			
U-in other Forms (kg/B)	17	0	0
Nuclear Materials / Made Disposition			
Ready - Other Forms of Nuclear Material	12	0	0
Key Milestones			
# High dose low-level waste and remote-handled-transuranic legacy waste disposition complete (July 2000).			
# Radiochemical Processing Laboratory Building bowling ball cask waste removal complete (September 2001).			

RL-TM / Transportation and Packaging Management

The National Transportation and Packaging program develops and maintains the DOE baseline transportation resources, including the coordination and development of DOE-wide transportation policy to assure the availability of safe, regulatory compliant, economical, efficient transportation for DOE materials.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

The Department's transportation and packaging activities are one of the most heavily regulated functions because of the hazardous materials (particularly radioactive) that are shipped. Noncompliance with regulations carries heavy penalties (both criminal and civil). Transportation is an area of public scrutiny due to the perceived hazards associated with the transportation of the DOE materials.

In FY 2001, the following activities are supported:

- Assure a safe and regulatory compliant transportation system and operations.
- Continue to provide improved and effective transportation and packaging systems engineering and analysis support services to the DOE waste and material disposition programs to help anticipate transportation issues and forecast future needs.
- Provide technical packaging and transportation assistance to resolve packaging issues, to identify packaging needs and to develop packaging concepts or alternatives to ensure that future transportation requirements are met.
- Integrate institutional outreach and stakeholder involvement activities with other DOE program offices.

RL-TM	0	0	2,521

RL-TP02 / WESF Sub-Project

Provides for safe, compliant, and cost effective storage of about 134,000,000 curies of encapsulated high-level radioactive cesium and strontium until it can be treated at the Tank Waste Remediation System Phase II high-level waste vitrification program in the FY 2013 - FY 2017 time period and followed by a permanent disposal at the national repository.

- Provide operations and maintenance for a safe and compliant facility for the storage of about 1,936 cesium and strontium capsules in the Waste Encapsulation and Storage Facility pool cell area.

RL-TP02	10,900	13,206	12,476

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

Metrics
This project has associated metrics; however, no metrics are reportable in the 3-year budget profile.
Key Milestones
Submit the Waste Encapsulation and Storage Facility safety analysis report to Richland for review (September 2001).
Complete Hot Cell Deactivation (September 2001).

RL-TP13 / Landlord Project

This project's mission is to maintain, upgrade, replace, construct, purchase, perform surveillance on, deactivate and dispose of general purpose infrastructure and capital equipment throughout the Hanford site to support cleanup.

- # Continue the support services described above at the minimum levels necessary to maintain safe site operation, which include:
  - < Shutdown 15 vacant buildings.
  - < Dispose of two fuel bunkers.
  - < Purchase Aerial Ladder truck for fire protection.
  - < Dispose of one contaminated well car.
  - < Renovate Patrol Training Academy water system.
- # Begin integrated vegetation and animal control to prevent contamination releases.

RL-TP13	12,697	13,225	19,000

Metrics			
Facility Deactivated			
Buildings Deactivated During Period	51	21	7
Facility Decommissioning			
Cleanup	42	14	12

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

RL-VZ01 / Groundwater/Vadose Zone Integration Project

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 the public involvement process.
- Implement the high priority activities identified in the Science and Technology Plan and Roadmap.
- Refine and run System Assessment Capability to support Hanford Site Projects interim or final cleanup decisions.
- Continue meeting with the expert panel and establish sub-panels.
- Continue working with the National Labs and the project to infuse science, and maintain interfaces with the National programs providing science and technology.
- Maintain consistency and configuration controls relative to risk/performance assessment data and processes.

RL-VZ01	5,761	11,325	13,657

RL-WM03 / Solid Waste Storage and Disposal

Provides centralized facilities for the interim storage of mixed low-level and transuranic wastes and for disposal of solid low-level, and mixed low-level waste for on-site and off-site generators. Included are management operations, surveillance, monitoring and limited maintenance of facility building, burial grounds, and current waste inventories, and receipt of waste from on-site and off-site generators.

- Provide for minimum safe and compliant condition for receipt and interim storage of low-level waste, mixed low-level waste, and transuranic waste. Provide for disposal of low-level waste, mixed low-level waste, and hazardous waste from on-site and off-site generators.
- Continue disposal of mixed low-level waste in the lined Mixed Waste Disposal Trenches.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Transfer Building 616 to the Infrastructure Project for redeployment or demolition.			
RL-WM03	28,611	32,503	35,359

Metrics			
Transuranic Waste			
Storage (m^3)	16,300	16,333	16,545
Mixed Low-Level Waste			
Storage (m^3)	9,100	7,852	7,542
On-site Disposal (m^3)	182	835	1,052
Low-Level Waste			
Storage (m^3)	180	180	180
On-Site Disposal (m^3)	6,080	6,936	4,761
Hazardous Waste			
Disposal Commercial Waste (MT)	96	32	32

RL-WM04 / Solid Waste Treatment

This project provides on-site and commercial off-site mixed low-level waste treatment, waste verification and repackaging, and decontamination services to customers throughout the Hanford Site. The work is performed in existing facilities at Hanford including the Waste Receiving and Processing Facility and limited decontamination services at the T-Plant complex.

Continue low-level waste, mixed low-level waste, transuranic waste, and transuranic-mixed waste processing, characterization, and verification in the Waste Receiving and Processing Facility.

Maintain the Waste Isolation Pilot Plant certification and continue shipment of transuranic waste to the Waste Isolation Pilot Plant.

Initiate thermal treatment of mixed low-level waste with commercial contract (717 m^3).

Continue non-thermal treatment of mixed low-level waste with commercial contract (approx. 150 m^3).

Dispose of 183H basin solidified solids (936 m^3).

Complete a new transuranic waste facility (M-91) functional design criteria.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Continue to provide limited decontamination of Hanford Site equipment and materials and limited waste treatment and verification activities at the T-Plant.			
RL-WM04	32,511	26,440	32,708

Metrics			
Transuranic Waste			
Treatment (m^3)	176	0	0
Shipped to WIPP for Disposal (m^3)	0	55	55
Mixed Low-Level Waste			
Treatment (m^3)	16	1,060	967
Key Milestones			
# Initiate thermal treatment of contact-handled-low-level mixed waste (December 2000).			
# Submit transuranic/transuranic mixed waste project management plan to Ecology (June 2000).			

RL-WM05 / Liquid Effluents Project

Manages and integrates the current and future generated radioactive and non-radioactive liquid effluent waste streams on the Hanford site through the timely storage, treatment, and disposal in a safe and environmentally-compliant manner.

Reduce about 6,620 m3 of high-level liquid tank waste through two campaigns at the 242-A Evaporator to support tank waste remediation program.

Continue to receive, treat, and dispose of wastewater in five liquid effluent facilities at the 200 and 300 Areas to support cleanup activities for the integrated environmental management program at the Hanford site. This includes support to: the Spent Nuclear Fuel Project; Environmental Restoration Project; Facility Stabilization Project; Waste Management Project; and the Tank Waste Remediation Project.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
RL-WM05	26,485	28,860	29,950

Metrics			
High-Level Waste (m^3)			
Treatment	3,830	3,600	6,620
Key Milestones			
# Submit to the Environmental Protection Agency and Ecology the evaluation of development status of tritium treatment technology (August 2000).			

RL-WM06 / Analytical Services

Provides for integrated waste and environmental sample analysis, process control support, field and sampling services, development services and expertise through on-site analytical laboratories or commercial services. Of significance is the analytical support to the River Protection Project, formerly the Tank Waste Remediation System; spent nuclear fuel program; as well as solid waste, liquid effluent, and environmental restoration activities.

Continue to provide site-wide analytical services through two on-site laboratories and maintain commercial laboratory contracts.

RL-WM06	26,952	25,363	27,242
Total, Richland Operations Office	360,264	349,947	375,313

Explanation of Funding Changes from FY 2000 to FY 2001

	FY 2001 vs. FY 2000 ($000)
RL-ER01 / 100 Area Remedial Action	
# No significant change.	330
RL-ER02 / 200 Area Remedial Action	

	FY 2001 vs. FY 2000 ($000)
# Decrease of funding reflects reprioritization of restoration activities in the 200 Area.	-3,534
RL-ER03 / 300 Area Remedial Action	
# Increase supports resuming excavation of the 618-4 burial ground (estimated 1200-1500 barrels).	7,025
RL-ER04 / Environmental Restoration	
# Increase reflects additional volumes for the 100 and 300 areas being disposed at the Environmental Restoration Disposal Facility.	1,771
RL-ER05 / Facility Surveillance and Maintenance	
# Decrease reflects a reprioritization of activities in this program.	-103
RL-ER06 / Decontamination and Decommissioning	
# Decrease reflects a reprioritization of activities in this program.	-9,247
RL-ER07 / Long-Term Surveillance and Maintenance	
# No significant change.	1
RL-ER08 / Groundwater Management	
# Supports increased efforts associated with implementation of the In-situ Redox Manipulation Remediation process.	1,355
RL-ER10 / Program Management and Support	
# Increase supports additional site services requirements and other program services, including audit support and increased sampling requirements.	1,424
RL-HM01 / HAMMER	
# Increase provides minimum allowance for cost increases and curriculum changes.	65
RL-NAMP / National Analytical Management Program	
# This program, formerly supported in the Multi-Site account, is transferred to the Hanford Site, Richland Operations Office.	350
RL-OT01 / Mission Support	

	FY 2001 vs. FY 2000 ($000)
# Increase provides for additional monitoring, analysis and reporting of site contamination levels and environmental, ecological and cultural compliance.	2,324
RL-OT04 / Richland Directed Support	
# Decrease reflects reductions in various permitting and other miscellaneous site support - related activities.	-1,292
RL-PP / Pollution Prevention	
# This program, formerly supported in the Multi-Site account, is transferred to the Hanford Site, Richland Operations Office.	850
RL-RG01 / TWRS Regulatory Unit	
# Small increase is needed for review of additional BNFL, Inc. deliverables. This project is mandatory because the Tank Waste Remediation System privatization contractor cannot proceed if the regulatory unit does not carry out its nuclear safety regulatory responsibilities.	863
RL-ST01 / PNNL Waste Management	
# Increase is for establishing the safety envelop for about 25 surplus, contaminated Pacific Northwest National Laboratory facilities and to support transfer activities to EM for long-term surveillance, deactivation, or final disposition.	1,193
RL-TM / Transportation and Packaging Management	
# This program, formerly supported in the Multi-Site account, is transferred to the Hanford Site, Richland Operations Office.	2,521
RL-TP02 / WESF Sub-Project	
# Reduction due to completion of cesium/strontium capsule leak detection system upgrades and facility safety documentation in FY 2000.	-730
RL-TP13 / Landlord Project	
# Cost increase is needed for utility and emergency vehicle replacements, automation upgrades, and road refurbishment and implementing integrated vegetation and animal control, site-wide.	5,775

	FY 2001 vs. FY 2000 ($000)
RL-VZ01 / Groundwater/Vadose Zone Integration Project	
# The increase in funding is to support the continued development of the system assessment capability, which will assess the impacts of all Hanford Site wastes and the implementation of the applied science aspects of the science and technology roadmap with specific emphasis on the vadose zone and inventory technical elements.	2,332
RL-WM03 / Solid Waste Storage and Disposal	
# Increase is for the low-level burial ground stabilization and minimal contamination control as well as the completion of FY 2000 essential service activities.	2,856
RL-WM04 / Solid Waste Treatment	
# Increase is for the thermal treatment and characterization of mixed low-level waste for thermal treatment as required by the Tri-Party Agreement.	6,268
RL-WM-05 / Liquid Effluents Project	
# Increase in funding supports going from one evaporator campaign to two campaigns based on increased requirements from tank farms and to needed capital equipment replacements. Will reduce additional 3,000 m^3 of high-level waste from tank farms.	1,090
RL-WM06 / Analytical Services	
# Increase funding is due to needed capital equipment replacements, some which are essential services and safety related.	1,879
Total Funding Change, Richland Operations Office	25,366

Hanford Site - Office of River Protection

Mission Supporting Goals and Objectives

Program Mission

The mission of the Office of River Protection, is to store, treat, and immobilize the highly radioactive Hanford site tank waste in a fully sound, safe, and cost-effective manner. 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. Under the Defense Environmental Management, Post 2006 Completion account, the Office of River Protection manages the Tank Waste Remediation System 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 Hanford site including the Tank Waste Remediation System is the largest, most technically complex, environmental cleanup project yet undertaken.

Program Goal

The ultimate program goal for the Hanford Site is to protect the Columbia River and there are several major efforts to accomplish this goal. This part of the budget describes the efforts of the Office of River Protection, which manages the Tank Waste Remediation System project. A major focus is to remove the high-level radioactive and hazardous waste stored in 177 underground tanks and to immobilize the waste for disposal. Low activity waste will be disposed in the Hanford central plateau; transuranic waste will be disposed at the Waste Isolation Pilot Plant, in Carlsbad, New Mexico; and immobilized high-level waste will be stored at Hanford pending ultimate disposal in the nation's geologic repository. The Department has adopted a privatization contract approach for treatment and immobilization of tank wastes and is planning to start operation of the privatization facility by FY 2006. By that time, all essential site infrastructure construction will be complete to support the operation of the treatment facilities and to receive immobilized wastes returned by the contractor. By FY 2018, approximately 10 percent of the wastes, involving about 25 percent of the highest activity wastes, will be safely immobilized and stored. The budget for the privatization contractor activities is provided in the section on Privatization.

Many 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 and to provide the retrieval and transfer systems needed to provide feed to the privatization contractor. These important actions to address urgent risks also will enable outstanding safety issues to be resolved.

The efforts above are governed by 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. In addition, interim tank stabilization activities necessary to remove pumpable liquids from single-shell tanks are subject to a Consent Decree administered by the Federal District Court in the State of Washington. The Consent Decree was negotiated as a result of a lawsuit that the State of Washington filed against DOE for not meeting the Tri-Party Agreement milestones.

Program Objectives

The most important near-term objective is to make the decision scheduled in August 2000 whether to proceed into the construction and operations portion of the Phase I Waste Processing and Immobilization Contract. Infrastructure development is part of the planned work for FY 2000.

A project update "Report to Congress, Treatment and Immobilization of Hanford Radioactive Tank Wastes" July 1998, described the program including the completion of Phase IA of the privatization contract.

Another near-term program objective for the Office of River Protection is to perform interim stabilization of the remaining 29 single shell tanks by pumping their contents to safer, newer double shell tanks by FY 2004. Also, the Office of River Protection will close the flammable gas safety issue.

Performance Measures

Performance Measures are provided at an aggregate level after the Funding by Site table; as well as, at a project level in the Detailed Program Justification.

The Executive Budget Summary and the Metrics Summary provide a consistent set of high-level performance measures. The more detailed project-level justification provides a description of significant activities for each project including detailed project performance measures and key project milestones, as applicable.

Significant Accomplishments and Program Shifts

- Signed and submitted a Consent Decree for tank interim stabilization with the Federal District Court in Seattle, Washington. This resolved the State of Washington's lawsuit with the Department of Energy. All FY 1999 Consent Decree milestones met (FY 1999).
- Completed all Tank Characterization Reports required by the Tri-Party Agreement commitments and completed implementing Defense Nuclear Facilities Safety Board Recommendation 93-5 (FY 1999).
- Commenced pumping from four single-shell tanks, meeting Tri-Party Agreement milestones (FY 1999).

- The planned schedule of activities by the privatization contractor for treatment and immobilization of tank wastes has changed since the FY 2000 Congressional Budget Request. Accordingly, activities supporting privatization have been re-prioritized.
- Completed documentation for tank and land turnover to the Phase I Privatization Contractor, finalized planning for construction of roads and decommissioning of a monitoring well that interferes with the privatization contractor's facility (FY 1999).
- Completed sludge waste retrieval demonstration in preparation for feed delivery to the privatization contractor; additional vadose zone characterization will allow further definition of tank retrieval and closure requirements (FY 1999).
- Completed the Final Safety Analysis Report (FY 1999).
- Resolved the organic complexant safety issue and criticality safety issue (FY 1999).
- Completed the Immobilized Low Activity Waste Disposal Facility conceptual design and validated the project for additional disposal capacity; established processing parameters for incorporation of the vitrification of Cs/Sr capsule contents into the Phase II Privatization scope; and revalidated Immobilized High-Level Waste Storage project (FY 1999).
- Issued the annual update on the Multi-Year Work Plan; submitted the Project Baseline Summaries; upgraded Systems Engineering Management Plan; and updated and issued final Management Support Project transition plan (FY 1999).
- Complete turnover of privatization site to privatization contractor (FY 2000).
- Complete transfer of waste from Tank SY-101 and remediate the surface level rise issue and resolve the associated unreviewed safety question (FY 2000).
- Safely commence saltwell pumping and retrieval of liquid waste from four organic complexant single-shell tanks (FY 2000).
- Resolve organic solvent, high-heat and flammable gas safety issues (FY 2000).
- Complete sluicing of sludge waste from high heat tank C-106 (FY 2000).
- Complete mixer pump test in tank AZ-101 as a waste retrieval technology demonstration (FY 2000).
- Complete AN tank farm upgrades under Tank Farm Restoration and Safe Operations Line-Item project 97-D-402 (FY 2000).
- Complete six tank characterization reports based on samples taken in FY 2000 (FY 2000).

Funding Schedule

(dollars in thousands)

	FY 1999 Current Appropriation	FY 2000 Current Appropriation	FY 2001 Request
RL-TW01 / Tank Waste Characterization	34,016	29,556	30,036
RL-TW02 / Tank Safety Issue Resolution Project	32,627	24,088	18,629
RL-TW03 / Tank Farms Operations	133,141	146,737	188,156
RL-TW04 / Retrieval Project	60,071	52,641	73,979
RL-TW05 / Process Waste Support	7,223	12,032	10,138
RL-TW08 / Process Waste Privatization Infrastructure	11,225	17,088	12,222
RL-TW09 / Immobilized Tank Waste Storage and Disposal Project	4,575	8,578	10,544
RL-TW10 / TWRS Management Support	27,567	47,737	38,435
Total, Office of River Protection	310,445	338,457	382,139

Funding by Site

(dollars in thousands)

	FY 1999	FY 2000	FY 2001	$ Change	% Change
Office of River Protection	310,445	338,457	382,139	43,682	12.9%
Total, Office of River Protection	310,445	338,457	382,139	43,682	12.9%

Metrics Summary

	FY 1999	FY 2000	FY 2001
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 Tank Waste Remediation System 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, Washington, site. The manager of this Office is a Senior Executive Service Departmental management official responsible for managing all aspects of the Tank Waste Remediation System Project, including the privatized contract for treatment and immobilization of tank waste and the non-privatized operations, maintenance, engineering and construction activities in the 200 Area tank farms. 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 containing the high-level radioactive waste from past processing operations. The Office of River Protection manager reports directly to the Assistant Secretary of Environmental Management and receives administrative support from the Manager, Richland Operations Office. The Department was further required by Congress to provide an "integrated management plan for all aspects of the Hanford tank farm operations including roles, responsibilities, and reporting relationships." This plan, entitled "The Office of River Protection Integrated Management Plan for the Hanford Tank Waste Remediation System," has been delivered to the Senate Committee on Armed Services, the House Committees on Commerce and on Armed Services, and both the House and Senate Energy and Water Development Appropriations subcommittees. The plan describes the Tank Waste Remediation System Project and provides details of the roles and responsibilities of key Department officials in executing this project. The Office of River Protection will manage the complex Tank Waste Remediation System Project activities and ensure proper integration of the non-privatized work scope with the needs of the privatization contract to lead to successful immobilization of high-level wastes and the ultimate protection of the Columbia River resources.

Detail Program Justification

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

The site is managed through an incentivized management and integration contact, with fixed-price subcontracts, to assure the most cost-effective services to the Government. The scope planned for FY 2001 has been reviewed and is appropriate to meet the goals of the site as outlined in the *Accelerating Cleanup: Paths to Closure*. Approximately 50 percent of the projects included in this section of the budget, and over 90 percent of the compliance costs, have had an independent cost review by an internal Hanford and Headquarters team (not staff tied to the project) of the scope, and the funds requested for FY 2001 are appropriate to perform the activities based on estimated project progress and accumulated cost management success.

RL-TW01 / Tank Waste Characterization

This project's mission is to provide characterization for tank waste safe storage, operations, and retrieval/disposal. Includes analysis and improvements of sampling equipment and methods, and also supports technology development needs.

- Maintain the Tank Waste Characterization program capability and capacity to support minimum safe operations including caustic and compatibility analysis, support to interim stabilization for consent decree ordered pumping of single-shell tanks waste volumes, and evaporator operations supporting waste volume reductions.
- Provide capability and capacity of 12 core and 12 grab samples of the Hanford Tank Waste by the Tank Waste Characterization Program.
- Issue 13 Tank Characterization Reports.
- Issue the FY 2002 Tri-Party Agreement required Waste Information Requirements Document to the State of Washington.

RL-TW01	34,016	29,556	30,036

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

Key Milestones

- # Submit the final Waste Information Requirements Document for FY 2001 to Ecology (August 2000).
- # Issue characterization deliverables consistent with the Waste Information Requirements Document developed for FY 2000 (September 2000).
- # Submit the final Waste Information Requirements Document for FY 2002 to Ecology (August 2001).
- # Issue characterization deliverables consistent with the Waste Information Requirements Document developed for FY 2001 (September 2001).

RL-TW02 / Tank Safety Issue Resolution Project

This provides an adequate safety basis for the management and storage of waste by the Tank Waste Remediation System Project; develops and maintains an integrated Authorization Basis; and resolves existing safety issues and associated unreviewed safety questions.

- # Mitigate/resolve tank safety issues for high priority Watch List tanks; this will document closure of unreviewed safety questions and complete the Tri-Party Agreement Milestone M-40-00.
- # Removal of tanks from the Watch List (except those requiring retrieval) and resolution of all Priority I safety issues identified as of September 30, 1993.

RL-TW02	32,627	24,088	18,629

Key Milestones

- # Mitigate/resolve tank safety issues for high priority watch list tanks (September 2001).

RL-TW03 / Tank Farm Operations

This project's mission is to operate, maintain, and upgrade tank farm facilities to safely receive and store waste until it is retrieved; operate the single-shell tank interim stabilization program.

- # Conduct cross-site transfers in support of Interim Stabilization and Evaporator Campaigns.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Operate the tank farm complex in a safe and efficient manner consistent with the Authorization Basis.			
# Continue to perform corrective and preventative maintenance at a level sufficient to reduce occurrences outside the Authorization Basis.			
# Install tank level indication instrumentation and connect to the Temperature Monitoring and Control System monitoring system for tanks in the tank farms.			
# Continue to reduce spurious/nuisance alarms through field verification/disposition.			
# Maintain upgrade of plant drawings through the Configuration Management Project.			
# Continue Interim Stabilization activities to include initiation of Salt Well Pumping on six single-shell tanks.			
# Initiate procurement and construction for the AW and AY tank farms for Tank Farm Restoration and Safe Operations line-item construction project 97-D-402. The funding totals for this PBS include $4,800,000 in FY 1999; $20,516,000 in FY 2000; and $46,023,000 in FY 2001 for the line-item project.			
# Initiate design, procurement, and construction of the AP farm for Tank Farm Restoration and Safe Operations.			
# Replace transfer pump in tank 104-AW.			
RL-TW03	133,141	146,737	188,156

Metrics			
High-Level Waste			
Stored	200,000	208,300	211,300
Key Milestones			
# Initiate Pumping of Tanks U-103, U-105, U-102, and U-109 (June 2000).			
# Start construction for upgrades in the 2nd tank farm (June 2000).			
# Reduce total organic complexed liquid to 38 percent of total volume of single-shell tanks (September 2000).			
# Initiate pumping of tanks A-101 and AX-101 (October 2000).			
# Start construction for upgrades in the 3rd tank farm (March 2001).			

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Initiate pumping of tanks SX-105, SX-103, SX-101, and U-106 (March 2001).			

RL-TW04 / Retrieval Project

This project's mission is to retrieve wastes from the single-shell and double-shell tanks and designated miscellaneous underground storage tanks, provide the waste to privatization contractor for treatment, and close waste tanks in accordance with regulatory requirements. Otherwise, the wastes cannot be successfully transferred, treated, and immobilized.

- Complete start-up activities, including a technical/management assessment of the readiness to begin delivery of high-level waste and low-level waste feed.
- Initiate retrieval system design for four tanks, including tank AZ-101.
- Start retrieval system design for tank AY-102 and initiate construction for tank AN-104 under the Initial Tank Retrieval System line-item construction project 94-D-407. The funding totals for this PBS include $8,561,000 in FY 1999; $4,060,000 in FY 2000; and $17,385,000 in FY 2001 for the line-item project.
- Initiate process testing on the remaining high-level waste /low-level waste feed batches.
- Initiate studies and demonstration testing on processing alternatives/technologies that are required to define Phase II requirements and architectures.
- Complete project definition and technical basis activities for five feed tanks.
- Issue final report on baseline spectral gamma logging of the single-shell tank farms.
- Complete the Single-Shell Tank Retrieval Project Plan, Technology Evaluation Strategy, and the Test/Evaluation Plan.
- Issue the single-shell tank component specifications.
- Write and issue to the state regulator, the Field Investigation Report for Waste Management Areas S/SX.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Complete the initial characterization of Waste Management Areas B/BX/BY.			
RL-TW04	60,071	52,641	73,979

Metrics
This project has associated metrics; however, no metrics are reportable in the 3-year budget profile.
Key Milestones
Complete sluicing retrieval of Tank 241-C-106 sludge (December 1999).
Submit annual progress report on waste tank leak monitor/detection and mitigation (September 2000).
Submit annual update of single-shell tank retrieval sequence document for Ecology approval (September 2000).
Complete system design and operation strategy for tank leak monitoring and mitigation (December 2000).
Submit annual progress report on waste tank leak monitor/detection and mitigation (September 2001).
Submit annual update of single-shell tank retrieval sequence document for Ecology approval (September 2001).

RL-TW05 / Process Waste Support

The Process Waste Support Project provides support to the Office of River Protection in management of Privatization Phases I and II, for the treatment and immobilization of the waste in the Hanford Tank Farms.

Support the establishment of the technical approach to privatization and developing and defining the work scope, conducts technical, regulatory, financial, and management analyses in support of evaluation of contractor deliverables, and strategic planning.

Support in the management of the contract with the performers, providing quality assurance, conducts regulatory analysis, identifies and coordinates the management of risks and decisions reviews and recommends changes to contractor deliverables, performs technical analysis and studies, identifies innovative technical solutions to DOE issues, and assists in the authorization decision at the end of Phase 1, part B-1.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Support DOE in establishing performance measures, develop product specification and acceptance plans, evaluates contractor products and performance against plans, and identifies innovative management, financial, and regulatory approached to accomplish the mission.			
# Support the development and management of interfaces between the privatization contractor and the Hanford Site contractors to ensure the smooth flow of data, requirements, and products.			
RL-TW05	7,223	12,032	10,138

Key Milestones

Update the Interface Control Document Implementation Plan (September 2000).

RL-TW08 / Process Waste Privatization Infrastructure

This provides the required facilities, physical interfaces and systems to assure integration of the privatization contractor with Hanford, and also covers the cost of water and electricity used by the privatization vendor. Failure to develop the infrastructure may cause delay or failure of the privatization effort, and risk imposition of significant penalties by the State of Washington.

Award the construction contract for the liquid effluent project, complete construction/startup site development/roads, and complete construction/startup of electrical systems under the Privatization Phase I Infrastructure Support line-item construction project 99-D-403. The funding totals for this PBS include $8,739,000 in FY 1999; $13,988,000 in FY 2000; and $7,812,000 in FY 2001 for the line-item project.

Provide support to the private contractor for definitive design, solid waste permitting activities, and solid waste burial trench design.

Upgrade 242-A Evaporator permitting and project support.

RL-TW08	11,225	17,088	12,222

Key Milestones

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Install seven mega-watt electric power supply and complete access roads for Privatization site (December 2000).			

RL-TW09 / Immobilized Tank Waste Storage and Disposal Project

Provides safe storage and final disposal at Hanford for immobilized low activity waste, interim storage for immobilized high-level waste, other high-level waste products, and provide disposition of glass samples from private vendors.

- # Complete the design requirements and the Advanced Conceptual Design Report.
- # Issue data packages and 2001 performance assessment.
- # Initiate detailed design, the Resource Conservation and Recovery Act Part B Permit, and initiate preliminary safety analysis report for the High-Level Waste Interim Storage Facility, line-item construction project 01-D-403. The funding totals for this PBS include $1,300,000 in FY 2001 for the line-item project.

RL-TW09	4,575	8,578	10,544

Metrics This project has associated metrics; however, no metrics are reportable in the 3-year budget profile.
Key Milestones # Initiate the Immobilized High-Level Waste Interim Storage Facility design (August 2001).

RL-TW10 / TWRS Management Support

The Management Support Project provides program management services and oversight for the Tank Waste Remediation System Project.

- # Issue annual update of the multi-year work plan.
- # Update and submit Project Baseline Summaries.
- # Achieve the Voluntary Protection Program star status, awarded for an outstanding occupational safety and health program per the Occupational Safety and Health Administration and DOE Orders.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Update the System Engineering Management Plan.			
# Complete the Work Management System implementation Phase I and II.			
# Update the River Protection Project Program Plan.			
# Update the construction projects executability integrated schedule.			
# Update the Mission Analysis Report.			
# Complete reengineering efforts on approximately ten reengineering process improvement workshops			
RL-TW10	27,567	47,737	38,435

Key Milestones

Issue the Office of River Protection FY 2002 Multi-Year Work Plan (August 2001).

Total, Office of River Protection	310,445	338,457	382,139

Explanation of Funding Changes from FY 2000 to FY 2001

	FY 2001 vs. FY 2000 ($000)
RL-TW01 / Tank Waste Characterization	
# No significant change	480
RL-TW02 / Tank Safety Issue Resolution Project	
# Decrease is due to the major work on Flammable Gas Safety Issue Resolution, will be completed before FY 2001.	-5,459
RL-TW03 / Tank Farms Operations	

	FY 2001 vs. FY 2000 ($000)
# Acceleration of Project 97-D-402 (W-314) tank upgrade to support privatization feed delivery mission and longer term operations focus in the areas of facility deactivation, removal of inactive systems from operations, tank structural issue resolution and upgrading of double-shell tank/single-shell tank hardware and technical baseline.	41,419
RL-TW04 / Retrieval Project	
# Planned ramp up to support the planned feed delivery schedule in the areas of Project 94-D-407 (W-211 and W-521) retrieval systems; as well as, acceleration of C-104 (single-shell tank) into the Phase I feed sequence.	21,338
RL-TW05 / Process Waste Support	
# Transfer of Planning Integration Office support to PBS RL-TW10 TWRS Management Support	-1,894
RL-TW08 / Process Waste Privatization Infrastructure	
# Decrease is due to the infrastructure construction in support of BNFL, Inc., will be nearing completion.	-4,866
RL-TW09 / Immobilized Tank Waste Storage and Disposal Project	
# Increase is due to planned annual design efforts to support the BNFL, Inc., schedule availability of storage facilities.	1,966
RL-TW10 / TWRS Management Support	
# The Planning Integration Office was established in FY 2000 to provide integration of the BNFL and CH2M-Hill contracts in the areas of developing an integrated baseline and lifecycle costing model for changing planning assumptions. Only maintenance costs will be incurred in FY 2001.	-9,302
Total Funding Change, Office of River Protection	43,682

Savannah River

Mission Supporting Goals and Objectives

Program Mission

The Savannah River Cleanup Program has as its mission the treatment and disposal of the legacy materials and wastes 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 mission of the National Pollution Prevention program is to establish and implement National and Departmental policies to reduce or eliminate all wastes and pollutants in order to minimize the impact of the Department's operations on the environment, to reduce operational cost, and improve the safety and health of its operations.

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 45 projects whose lifecycle will be completed after FY 2006.

The mission of the Pollution Prevention program is to establish and implement National and Departmental policies to reduce or eliminate all wastes and pollutants in order to minimize the impact of the Department's operations on the environment, to reduce operational cost, and improve the safety and health of its operations.

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 would be dispositioned and the remaining spent nuclear fuel and wastes would 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 is assisting other sites in elimination of their Cold War "legacy". Foreign Research Reactor spent nuclear fuel and Domestic Research Reactor spent 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 an Alternate Technology 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.

The program goal of the National Pollution Prevention program is to comply with waste minimization, pollution prevention, affirmative procurement, and recycling requirements under Federal/State statutes, Executive Orders, and DOE Orders, and reduce waste generated through implementation of cost-effective pollution prevention projects.

Program Objectives

In FY 2001, 107 m^3/MT of spent nuclear fuel will continue to be managed in existing wet-basin storage at the Savannah River Site. Approximately 70,000 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 15 release sites (about 3 percent of the release sites) will be remediated in FY 2001.

The goal 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 the canyon facilities for processing. Potentially difficult to dispose of spent nuclear fuel is currently being evaluated for processing in the canyons in preparation for eventual disposition. Savannah River proposes to prepare other intact fuel for ultimate disposal in a geologic repository using the melt and dilute technology under development. To support this approach, the Savannah River Site included in the FY 2001 budget request funding to continue testing and demonstration of the melt and dilute technology.

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. Savannah River has an estimated 126,894 m^3 (approximately 34,000,000 gallons) of high-level waste in the form of liquid, sludge and salt cake. This volume represents about 480,000,000 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, 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. 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 will continue throughout FY 2000 and FY 2001 to support selection of a viable alternative in FY 2001. A supplemental Environmental Impact Statement will be prepared to assist in the decision making process upon completion of sufficient research and development.

Savannah River also manages varying amounts of other waste types. Efforts to reduce the legacy volume of waste at the site will be curtailed in the low-level waste and hazardous waste areas. Major activities in solid waste management include: continued part-time operation of the Consolidated Incinerator Facility, continued off-site shipment of hazardous waste and polychlorinated biphenyl waste, identified in the Site Treatment Plan, safe storage of transuranic waste and shipment of transuranic waste to the Waste Isolation Pilot Plant, continued operation of the Effluent Treatment Facility, and continued sanitary waste operations.

The Savannah River Site has identified over 300 currently inactive legacy facilities in a position 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.

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 477 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 nuclides (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 1999, 219 release sites were completed. In FY 2000, 6 release sites are forecast for completion, and this FY 2001 budget will result in completion of an additional 1 release site. The Savannah River Site's objective for environmental restoration remediation activities is to have most high-risk release sites in remediation by FY 2006.

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, plus a cooperative agreement with the University of Georgia for managing the site ecology laboratory are also funded.

The Pollution Prevention activities focus National attention on areas that impact the EM goals and planned efforts across the Department of Energy complex.

Performance Measures

Performance Measures are provided at an aggregate level after the Funding by Site table; as well as, at a project level in the Detailed Program Justification.

The Executive Budget Summary and the metrics Summary provide a consistent set of high-level performance measures. The more detailed project-level justification provides a description of significant activities for each

project including detailed project performance measures and key project milestones, as applicable.

Significant Accomplishments and Program Shifts

Achieved space gain of 2,900,000 gallons (FY 1999), 4,200,000 gallons (FY 2000), and 4,100,000 gallons (FY 2001) in tank farm through evaporation.

Produced 236 canisters (FY 1999), 200 canisters (FY 2000), and plan to produce 200 canisters (FY 2001) of vitrified high-level waste at the Defense Waste Processing Facility.

Complete tank closure activities on High-Level Waste Tank 19 (FY 2001).

Performed equipment upgrades, training and procedure development, and start up activities necessary to support the shipment of transuranic waste to the Waste Isolation Pilot Plant (FY 1999/FY 2000).

Continued operation of the Consolidated Incinerator Facility to treat mixed low-level and low-level waste (FY 1999). Part-time operation of the Consolidated Incinerator Facility in (FY 2000) and restart of the facility (FY 2001) to treat mixed low-level and low-level wastes.

Completed 28 release site assessments (FY 1999) and 25 in FY 2000 and 26 in FY 2001.

Completed 13 release site remediations (FY 1999) and 6 in FY 2000 and 1 in FY 2001.

Remediation of 350,000,000 gallons of groundwater (FY 2000), and removal of 100,000 lbs. of volatile organic compound (FY 2000) in the A/M Area. Continue operation of groundwater remediation systems in A/M Area, F/H Area, and TNX Area (FY 2001).

Completed vitrification of all M-Area waste tank sludge (FY 1999).

Completed deactivation of the Liquid Effluent Treatment Facility (FY 1999).

Received 28 casks of foreign research reactor spent nuclear fuel and 21 casks of domestic research reactor spent nuclear fuel (FY 1999). Receive 30 casks of foreign research reactor spent nuclear fuel and 28 casks of domestic research reactor spent nuclear fuel (FY 2000).

Initiated development of facility documentation and a surveillance and maintenance plan for P-Area (FY 1999).

Initiated deactivation of the R-Reactor disassembly basin (FY 1999).

Commence operation of the Replacement High-Level Waste Evaporator (FY 2000).

Continue research and development for salt processing alternative selection (FY 2000/FY 2001).

Receive the Waste Isolation Pilot Plant certification to ship transuranic waste (FY 2000).

Prepare one shipment of disposal-ready transuranic waste for shipment to the Waste Isolation Pilot Plant (FY 2000) and four additional shipments in (FY 2001).

Continue operation of the Waste Sort Facility and the Super Compactor Facility for low-level waste (FY 1999/FY 2000).

Commence off-site disposal of some environmental restoration low-level waste (FY 2000).

Continue operation of the Waste Sort Facility and the Super Compactor Facility at a reduced level (FY 2001).

Complete one release site and complete assessments for 26 others (FY 2001).

Receive 29 casks of foreign research reactor spent nuclear fuel and 20 casks of domestic research reactor spent nuclear fuel (FY 2001).

Administer National pollution prevention activities to achieve site plan goals (FY 2001).

The National Pollution Prevention program was supported in the Multi-Site account in FY 1999 and FY 2000.

Funding Schedule

(dollars in thousands)

	FY 1999 Current Appropriation	FY 2000 Current Appropriation	FY 2001 Request
HQNP-SI01-LT-SR / Security Investigations	1,954	1,947	2,326
SR-DO02 / WSI Landlord Project	54,694	59,133	60,086
SR-DO03 / Savannah River Natural Resource Management and Research Institute	6,699	7,038	6,338
SR-DO04 / Ecology Lab Project	7,896	8,084	7,500
SR-DO05 / DOE External Program Support	5,173	6,150	5,530
SR-DO07 / DOE Program Support	10,606	12,320	4,150
SR-ER01 / Flood Plain Swamp Project	9,060	4,414	7,187
SR-ER02 / Four Mile Branch Project	34,422	38,004	46,696
SR-ER03 / Lower Three Runs and Operations Project	19,365	28,674	29,843
SR-ER04 / Pen Branch Project	5,417	8,958	10,369
SR-ER05 / Steel Creek Project	4,984	4,913	4,303
SR-ER06 / Upper Three Runs Project	19,407	24,046	19,039
SR-ER07 / Program Management	9,048	9,811	9,816
SR-FA02 / F-Canyon Deactivation Project	0	455	2,495
SR-FA16 / F-Area Monitoring	475	76	273
SR-FA17 / H-Area Monitoring and Minor Facility Monitoring	2,240	0	0
SR-FA18 / M-Area Monitoring Project	11,063	7,977	8,297

	FY 1999 Current Appropriation	FY 2000 Current Appropriation	FY 2001 Request
	(dollars in thousands)		
SR-FA19 / D-Area Monitoring Project	0	1,204	966
SR-FA20 / Reactors Monitoring Project	10,099	12,515	6,492
SR-FA23 / Landlord Facilities Disposition	0	3,895	2,731
SR-HL01 / H-Tank Farm	93,063	93,201	88,393
SR-HL02 / F-Tank Farm	56,854	61,291	60,100
SR-HL03 / Waste Removal Operations and Tank Closure	3,170	4,968	4,884
SR-HL04 / Waste Pretreatment	47,547	52,717	52,000
SR-HL05 / Vitrification	127,291	121,601	130,140
SR-HL06 / Glass Waste Storage	489	650	320
SR-HL07 / Effluent Treatment Facility	17,508	16,069	16,665
SR-HL08 / Saltstone	1,563	820	908
SR-HL12 / High-Level Waste Removal	22,467	23,861	39,904
SR-HL13 / Salt Disposition	20,097	14,049	21,498
SR-IN11 / Infrastructure Line-Item	1,487	1,333	0
SR-IN12 / Operating Projects	22,638	24,669	19,377
SR-SF01-LT / K-Area Spent Nuclear Fuel Project (Post 2006)	0	33,654	33,257
SR-SF02 / L-Area Spent Nuclear Fuel Project	29,581	38,165	38,822
SR-SF03 / RBOF Spent Nuclear Fuel Project	16,153	11,773	13,087
SR-SF04-LT / Heavy Water - D-Area (Post 2006)	0	317	0
SR-SF06-LT / Alternate Technology Project (Post 2006)	0	0	7,484
SR-SF09 / Spent Nuclear Fuel Treatment and Storage	1,568	7,000	0
SR-SW01 / Consolidated Incinerator Facility	24,461	18,722	18,332
SR-SW02 / Transuranic Waste Project	12,048	12,910	11,492
SR-SW03 / Mixed Low-Level Waste Project	3,730	4,683	4,856
SR-SW04 / Low-Level Waste Project	16,791	14,334	10,463
SR-SW05 / Hazardous Waste Project	5,473	5,068	4,413
SR-SW06 / Sanitary Waste Project	2,241	1,195	1,021
SR-SW07 / Pollution Prevention	1,151	1,385	2,160
Total, Savannah River	739,973	804,049	814,013

Funding by Site

	FY 1999	FY 2000	FY 2001	$ Change	% Change
	(dollars in thousands)				
Savannah River Site	707,645	768,510	788,169	19,659	2.6%

Savannah River Operations Office	32,328	35,539	25,844	-9,695	-27.3%
Total, Savannah River	739,973	804,049	814,013	9,964	1.2%

Metrics Summary

	FY 1999	FY 2000	FY 2001
Remedial Action/Release Site			
Assessments	29	10	8
Cleanups	23	10	1
Transuranic Waste			
Shipped to WIPP for Disposal (m^3)	0	8	34
Mixed Low-Level Waste			
Treatment (m^3)	1,324	389	479
Disposal (m^3)	0	50	100
Low-Level Waste			
Disposal (m^3)	8,792	12,569	4,043
High-Level Waste			
Canisters Produced	236	200	200

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 that went into effect October 1, 1996, the Westinghouse Savannah River Company is responsible for the site's nuclear facility operations; Savannah River Technology Center; environment, safety, health, and quality assurance; and all of the site's administrative functions. The team also includes Bechtel Savannah River Inc. (parent company: Bechtel National Inc.), which is responsible for environmental restoration, project management, engineering and construction activities; Babcock and Wilcox Savannah River Company (parent Company: Babcock and Wilcox Government Group), which is responsible for facility decontamination and decommissioning; and the British Nuclear Fuel Limited Savannah River Corporation (parent company: British Nuclear Fuel Limited, Inc.), which is responsible for the Site's solid waste program. Wackenhut Services, Incorporated, is responsible for the Site's physical security 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.

Detailed Justification

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
The Savannah River Site is managed through an incentivized management and integration contract, with fixed-price subcontracts, to assure the most cost efficient service to the Government. The funds requested for FY 2001 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.			
HQNP-SI01-LT-SR / Security Investigations			
Non-Federal security investigations will be performed in accordance with DOE Order requirements.			
# Funding will be used to perform initial security investigations and re-investigations for non-Federal employees for the Savannah River Site.			
HQNP-SI01-LT-SR	1,954	1,947	2,326

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

SR-DO02 / WSI Landlord Project

Wackenhut Services, Incorporated - Savannah River Site has a Federal Acquisition Regulation Cost Plus Incentive/Award Fee contract with the Department of Energy for security services at the Savannah River Site. Responsibilities include protection against theft of special nuclear material and government property, prevention of radiological, toxicological and industrial sabotage, and protection of site employees and the public. Wackenhut Services, Incorporated - Savannah River Site employs armed and unarmed protective force personnel, management, and other administrative support personnel to meet the varied requirements of the contract.

Add 12 24-hour SPOII posts required to support the K-Area Material Storage Project.

SR-DO02	54,694	59,133	60,086

SR-DO03 / Savannah River Natural Resource Management and Research Institute

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. Smoke emissions are managed to reduce negative impacts to personnel and facilities.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
Planning, public affairs, health and safety, administration, Historically Black Colleges and Universities, environmental field station, and a natural resources science, math, and engineering education program are integral components of the resource management activities of the Savannah River Institute.			
# 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 Fire Management program will work to protect natural resources and site improvements from wildland fire and smoke impacts.			
# A prescribed burn program (reduced by 90 percent) will be conducted to accomplish the Red-Cockaded Woodpecker and threatened and endangered species habitat management.			
# Engineering will manage the Savannah River Site secondary road and bridge system, and handle all aspects of the Savannah River Site exterior boundary, although only the highest priority projects will be undertaken.			
# The Soil, Water and Air group will utilize watershed planning, restoration, maintenance, and technology transfer for restoration of degraded watersheds, and maintenance of healthy ecosystems.			
# The Wildlife program will manage the Savannah River Site forest ecosystem and maintain a habitat so as to sustain viable populations of all native plants and animals, work to keep the site in compliance with the Endangered Species Act, and will administer a reduced nuisance animal control program.			
SR-DO03	6,699	7,038	6,338

SR-DO04 / Ecology Lab Project

(dollars in thousands)

FY 1999	FY 2000	FY 2001

The Savannah River Ecology Laboratory is a research unit of the University of Georgia operating on the Savannah River Site for over forty years. The laboratory works closely with other contractors to provide an independent academic assessment of site cleanup and continuing operations. The Savannah River Ecology Laboratory is conducting research which will provide the site operational personnel with information aimed at reducing the cost of cleanup and remediation while ensuring biodiversity to the restored environment.

In addition, the Savannah River Ecology Laboratory has provided the Department of Energy with important data relating to the regulatory requirements for endangered plants and animals. The Savannah River Ecology Laboratory has a laboratory and field-research program recognized by scientists from all over the world. The laboratory has published over 2,000 articles in peer reviewed journals and has more than 25 books authored by its scientific staff.

The facilities of the Savannah River Ecology Laboratory consist of unique research labs with specialty instruments, special outdoor facilities such as greenhouses, aviaries, experimental ponds, a rhizotron, animal care facility, and a specially equipped distance learning classroom.

- Continue the Savannah River Ecology Laboratory research efforts on the restoration and remediation of the Savannah River Site.
- Continue programs of environmental chemistry/hydrogeochemistry to understand contaminant behavior in the environment, elucidate molecular mechanisms of toxicity, and develop cheaper and more environmentally sound remediation approaches.
- Continue work with scientists from the DOE complex to explore new approaches to land use and ecological risk assessment.
- Continue research on certain bioindicators as a way for assessing risks.
- Continue work on the genetic changes in response to site operations.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Continue the International program with the Ukraine at the International Radioecology Laboratory, Chernobyl to provide insights into radionuclide transport and effects.			
SR-DO04	7,896	8,084	7,500

SR-DO05 / DOE External Program Support

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 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 to support the Savannah River Site environmental restoration program.

Continue the DOE Interagency Agreement with the U.S. Geological Survey to perform compliance activities for the Savannah River Site environmental restoration program.

SR-DO05	5,173	6,150	5,530

SR-DO07 / DOE Program Support

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.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
Program support will be provided for payment-in-lieu-of-taxes, Historically Black Colleges and Universities, 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 and other Department of Energy sites to maintain stakeholder involvement. Other activities include support for cooperative and interagency agreements providing long-term observation networks to monitor water level, flow paths, water quality, and to detect changes as groundwater pumpage increases or decreases. Also, supports training and the stewardship program. # Require the Payments-in-Lieu-of-Taxes. # In direct support of the National Environmental Training Office of the Defense Nuclear Facilities Safety Board Recommendations 93-3, 92-7, and 95-2. # Other mission essential management functions include cooperation with: the United States Geological Survey, Corps of Engineers, Lab Transfers, FEDSIM (a GSA contract to support computer failure), and the South Carolina Department of Natural Resources.			
SR-DO07	10,606	12,320	4,150

SR-ER01 / Flood Plain Swamp Project

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

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 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.

Complete four assessments targeted.

Complete submittal of one final Record of Decision.

Continue remediation at the D-Area Oil Seepage Basin, Old TNX Seepage Basin, 488 D Ash Basin, and TXN Outfall Delta.

ER-ER01	9,060	4,414	7,187

Metrics			
Remedial Action/Release Site			
Assessments	4	0	3
Cleanups	4	0	0

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
Key Milestones # D-Area Ash Basin, D-Area Coal Pile Rumoff Basin, Record of Decision (September 2001).			

SR-ER02 / Four Mile Branch Project

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.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Complete three assessments targeted.			
# Remediation Action Starts targeted - two.			
# Continue operation of the F- and H-Area groundwater treatment units.			
# Begin interim action on Mixed Waste Management Facility groundwater.			
# Begin remedial action at the C-Area Reactor Seepage Basin.			
# Begin final closure of the Burial Ground (ORWBG) waste site.			
SR-ER02	34,422	38,004	46,696

Metrics			
Remedial Action/Release Site			
Assessments	3	0	3
Cleanups	2	0	1
Key Milestones			
# C-Area Reactor Seepage Basins Groundwater, Record of Decision (September 2001).			

SR-ER03 / Lower Three Runs and Operations Project

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 Agreements. 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

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Assessment Field Starts targeted - one.			
# Remediation Action Start targeted - one.			
# Perform watershed assessments and waste site evaluations per the Federal Facilities Agreement requirements.			
# Continue the Resource Conservation Recovery Act groundwater monitoring at closed waste sites.			
# Perform post closure management at closed waste sites.			
# Perform remediation technology deployments.			
SR-ER03	19,365	28,674	29,843

Metrics			
Remedial Action/Release Site			
Assessments	2	6	0
Cleanups	1	6	0
Key Milestones			
# R-Area Reactor Seepage Basins (904-57G, -58G, -59G, -60G, -103G) (December 1999), Record of Decision.			
# R-Area Burning Rubble Pits, Resource Conservation and Recovery Act Facility Investigation/Remedial Investigation Field Start (June 2001).			

SR-ER04 / Pen Branch Project

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 1999	FY 2000	FY 2001

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.

- # Assessment completions targeted - three.
- # Final Record of Decision submittal targeted - one.
- # Remediation Action Start targeted - one.
- # Continue remediation at the K-Reactor seepage basin, CMP waste site, central shops sludge lagoon, and L- and K-Area hazardous material waste sites.

SR-ER04	5,417	8,958	10,369

Metrics			
Remedial Action/Release Site			
Assessments	2	3	0
Cleanups	2	0	0

SR-ER05 / Steel Creek Project

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.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

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.

Assessment completions targeted - one.

Remediation Action Start targeted - one.

Continue remediation activities at the L-Area Reactor seepage basin waste site and associated groundwater.

SR-ER05	4,984	4,913	4,303

Metrics

Remedial Action/Release Site

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
Assessments	5	0	1
Cleanups	4	2	0

Key Milestones

L-Area Reactor Seepage Basin, Remedial Action Start (June 2001).

SR-ER06 / Upper Three Runs Project

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.

Assessment completions targeted - one.

Remediation Action Start targeted - one.

Continue groundwater remediation at the A/M Area.

Continue groundwater assessments in the southern and western sections.

Continue remediation of the Non-radioactive Disposal Facility groundwater plume.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Continue remediation activities at the A-Area and F-Area Hazardous Material waste sites and Chemical Basin waste sites.			
# Complete Phase I Remedial Action construction activities at A-Area Burning rubble pits.			
SR-ER06	19,407	24,046	19,039

Metrics			
Remedial Action/Release Site			
Assessments	13	1	1
Cleanups	10	2	0
Key Milestones			
# Savannah River Laboratory Seepage Basin, Remedial Action Start (February 2001).			

SR-ER07 / Program Management

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.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Continue the environmental restoration project to provide oversight of the identification, characterization, assessment and remediation of inactive hazardous, mixed and radioactive waste sites. # Ensure that the environment, human health and safety are protected by meeting the prescribed standards derived from Federal, state and local requirements, and internal DOE requirements # Continue safety and health programs. # Continue environmental compliance support. # Provide program controls, analysis, and estimating. # Provide engineering support and waste treatment support. # Provide quality assurance program and procurement management.			
SR-ER07	9,048	9,811	9,816

SR-FA02 / F-Canyon Deactivation Project

The F-Canyon deactivation project provides a methodology whereby a facility interim end state is reached ensuring the safety of workers, the public, and the environment while effectively reducing the costs associated with the surveillance and maintenance of surplus facilities while preparing the facility for turnover for eventual disposition.

Initiate detailed deactivation planning.

SR-FA02	0	455	2,495

SR-FA16 / F-Area Monitoring

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.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

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.

- # Continue surveillance and maintenance for the deactivated 247-F facility.
- # No further disposition actions are planned for this year.

SR-FA16	475	76	273

SR-FA17 / H-Area Monitoring and Minor Facility Monitoring

This project covers post-deactivation surveillance and maintenance in the H-Area and other minor facilities. The H-Area facilities were originally built to provide chemical separations capabilities for nuclear targets and fuels, transformation of plutonium and neptunium solutions to oxide, and the storage of enriched uranium solutions for recovery.

The purpose of the H-Area Monitoring project is to capture the scope and costs for surveillance and maintenance of the facilities that have been deactivated and are now awaiting a decision on the final disposition.

- # The general purpose H-Area facilities in this status will be dispositioned in FY 2001 (Reference SR-FA23).

SR-FA17	2,240	0	0

SR-FA18 / M-Area Monitoring Project

This project covers surveillance and maintenance during pre-deactivation, deactivation, and post-deactivation periods in the M-Area. Post-deactivation surveillance and maintenance activities will commence by FY 2012.

- # Complete the Large Scale Demonstration and Deployment Project for deactivation of 321-M.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Begin deactivation of the 313-M Target Slug Manufacturing Facility with completion planned for FY 2002.			
SR-FA18	11,063	7,977	8,297

Metrics			
Mixed Low-Level Waste			
Treatment (m^3)	439	0	0
Storage (m^3)	1,205	0	0

SR-FA19 / D-Area Monitoring Project

This project covers surveillance and maintenance activities for surplus facilities in D-Area.

Continue low cost surveillance and maintenance of the D-Area facilities.

SR-FA19	0	1,204	966

SR-FA20 / Reactors Monitoring Project

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.

Each reactor's disassembly basin contains contaminated light water, scrap materials, and sludge. Other major hazards associated with the reactor result from continued storage of contaminated heavy water (in the C-Reactor -40 level storage tanks), and fission byproducts and contamination found in a few locations in the buildings. Hazardous materials associated with the building include potential polychlorinated biphenyl contamination in cables and transformers, and asbestos in flooring, wall panels, insulation and gasket materials. Some of the problems associated with the latter facilities include friable asbestos, deteriorating piping, ductwork, walkways, and roof.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Provide for monitoring of reactors.			
SR-FA20	10,099	12,515	6,492

Metrics
This project has associated metrics; however, no measures are reportable in the 3-year budget profile.

SR / FA23 Landlord Facilities Disposition

Several support facilities (no nuclear contamination) on-site are currently inactive and awaiting disposition. Facilities will be prioritized for disposition activities based on hazard level and the list maintained. Excess facility hazard characterization walkdowns will be conducted and identified mitigation activities will be performed. Surveillance and maintenance plans for the inactive facilities will be developed, and required surveillance and maintenance activities will be performed.

- # Update inactive facility list to include new inactive facilities.
- # Perform walkdowns on fifteen additional facilities and develop remedial action plans including those in H-Area.
- # Demolish the F-Area powerhouse.

SR / FA23	0	3,895	2,731

SR-HL01 / H-Tank Farm (89-D-174)

The purpose of the H-Tank Farm Facility is to safely store and manage an inventory of 19,400,000 gallons (310,000,000 curies) of liquid high-level radioactive waste in 23 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. The tanks were built underground to provide shielding from the intense radiation fields of highly radioactive waste. These tanks provide interim storage.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
To accomplish its safe storage and waste management mission, the H-Tank Farm utilizes 24-hour surveillance, monitoring inspection sampling and maintenance of the 23 underground high-level radioactive waste storage tanks (tank volumes range between 750,000 gal and 1,300,000 gal each) with the following major systems: Liquid Level Monitoring; Leak Detection; Ventilation and Explosive Gas Monitoring; Temperature Monitoring and Cooling Systems; Remote Inspection of the Tanks and Tank Annuli; 24-hour manning of three control rooms; H-Area evaporator system (will provide an average of 3,500,000 gallons of tank volume "space gain" per year); Waste Transfers (between tanks as well as from H-Canyon, and the Defense Waste Processing Facility to/from F-Tank Farm, and to the Extended Sludge Processing; includes transfer line integrity testing); Area Radiation and Storm Water Monitoring; Critical Maintenance Activities (predictive, preventive, and corrective maintenance, equipment troubleshooting, rigging and heavy equipment support, excavations, and facility outage scheduling); and 299-H Maintenance Facility Operation (which has shielded maintenance cells for repairs to highly contaminated equipment).			
# Continue safe management of existing and new inventory of waste including receipt, evaporation, storage, and transfers.			
# Evaporate an estimated 3,400,000 gallons of liquid via the new Replacement High-Level Waste Evaporator (3H) and the existing evaporator (2H).			
# These funding levels include line-item construction funding of $1,600,000 in FY 1999; $0 in FY 2000; and $0 in FY 2001.			
SR-HL01	93,063	93,201	88,393

Metrics			
High-Level Waste			
Storage (m^3)	67,202	68,631	69,883

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

SR-HL02 / F-Tank Farm

The F-Tank Farm Facility safely stores and manages an inventory of 14,400,000 gallons (170,000,000 curies) of liquid high-level radioactive waste in 20 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. The tanks were built underground to provide shielding from the intense radiation fields of this highly radioactive waste. These tanks provide interim storage.

To accomplish its safe storage and waste management mission, the F-Tank Farm utilizes 24-hour surveillance, monitoring, inspection, sampling and maintenance of the 20 underground high-level radioactive waste storage tanks (tank volumes range between 750,000 gallons and 1,000,000 gallons each) with the following major systems: Liquid Level Monitoring; Leak Detection; Ventilation and Explosive Gas Monitoring; Temperature Monitoring and Cooling Systems; Remote Inspection of the Tanks and Tank Annuli; 24-hour manning of two control rooms; Waste Transfers (between tanks as well as from F-Canyon and to/from H-Tank Farm; includes transfer line integrity testing); Area Radiation and Storm Water Monitoring; Critical Maintenance Activities (predictive, preventive, and corrective maintenance, equipment troubleshooting, rigging and heavy equipment support, excavations, and facility outage scheduling).

- # Continue safe management of existing and new inventory of waste including receipt, evaporation, storage, and transfer.
- # Operations of the 2-F Evaporator will provide an additional 700,000 gallons of tank space through evaporation in FY 2001.

SR-HL02	56,854	61,291	60,100

Metrics			
High-Level Waste			
Storage (m^3)	55,974	55,420	55,992

(dollars in thousands)

FY 1999	FY 2000	FY 2001

SR-HL03 / Waste Removal Operations and Tank Closure

This project includes scope related to waste removal from high-level waste tanks and facilities, as well as closure of high-level waste tanks and facilities. Scope areas are: 1) waste removal operations including removing the high-level waste from the waste tanks and water washing the tanks; 2) demonstrating alternative waste removal technologies that are potentially more cost effective than the baseline technologies; and 3) closing each individual tank or facility after waste removal and water washing are complete.

Specific scope is as follows: Waste Removal Operations - Tanks 1-15, 17-39, and 43-47 contain either salt or sludge or, in some cases both. The waste will be removed from each tank by operating slurry pumps and transfer jets, which are being retrofitted on each tank (3 slurry pumps and 1 transfer jet for each salt tank; 4 slurry pumps and 1 transfer pump for each sludge tank). The waste removal activities include adding large amounts of corrosion inhibited water to a tank; operating the slurry pumps to suspend sludge or dissolve salt; transferring the waste out by transfer jet; and then lowering the slurry pumps and repeating the process until the tank is empty. The interior of the tank is then water washed by operating a large 10,000 gallon heated water system connected to rotary spray jets. For those tanks with contaminated annuli, a similar process will be employed for annulus washing. Process samples, waste volume measurements and tank inspections are conducted throughout the waste removal process. Similar activities will take place in process facilities such as evaporator cells and diversion boxes.

Waste Removal Demonstrations - Three new salt removal technologies will be demonstrated individually and in combination: modified density gradient, water jetting and a single slurry pump. Funding is also allocated from sludge/zeolite heel demonstrations in Tanks 18 and 19. The heel removal technologies to be demonstrated are in the process of being defined.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
Tank/Facility Closure - After waste removal and water washing, each tank or facility (i.e. evaporator) will be closed. Samples will be taken of the residual waste; a performance evaluation and tank-specific closure module will be developed; and regulatory approval to proceed will be obtained. The tank or facility will then be physically isolated from other tanks/facilities. Each tank will be filled with three different types of grout in distinct layers such that the bottom layer of "reducing grout" will chemically bind residual waste; the middle layer of "controlled low strength grout" will prevent subsidence; and the top layer of "strong grout" will prevent intrusion. All piping and electrical connections will be cut, capped, and sealed to isolate each tank. All openings into each tank will be sealed with "strong grout". Each tank will be left in a low surveillance/maintenance condition.			
# Commence closure activities on Tank 19 and commence Tank 11 waste removal.			
SR-HL03	3,170	4,968	4,884

Key Milestones

Remove Tank 19 from high-level waste service (September 2001).

(dollars in thousands)

FY 1999	FY 2000	FY 2001

SR-HL04 / Waste Pretreatment

This project provides funding for the pre-treatment of liquid 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 (approximately 34,000,000 gallons, 480,000,000 curies) 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. Extended Sludge Processing pre-treats the sludge portion of tank waste to be processed at Defense Waste Processing Facility into vitrified glass by reducing the aluminum and soluble salt content through an aluminum dissolution step and multiple washing cycles.

These facilities are operated remotely to protect personnel from the intense radiation fields from this highly radioactive waste. The In-Tank Precipitation and Late Wash Facilities were expected to pre-treat the salt portion of the high-level waste. Due to technical issues concerning degration of the product material and the generation of larger than anticipated amounts of benzene due to chemical decomposition of the In-Tank Precipitation product, all activities were suspended in January 1998.

A salt processing systems engineering evaluation has been completed. All known salt processing options have been evaluated against the high-level waste system requirements. Three alternatives are being further evaluated. Additional research and development is being planned for FY 2000 and FY 2001. All monitoring and surveillance activities to maintain the In-Tank Precipitation tanks and facilities in a safe configuration will continue. All activities in support of the High-Level Waste Salt Alternative are funded in SR-HL13, Salt Disposition.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
Scope includes: 24 hour surveillance, monitoring, inspection, sampling and maintenance of six 1,300,000 gallon high-level waste tanks with the following systems: Liquid Level Monitoring and Leak Detection; Ventilation and Explosive Gas Monitoring; Temperature Monitoring and Cooling Systems; Remote Inspection of the Tanks and Tank Annuli; 24-hour Manning of the In-Tank Precipitation Control Room; Chemical Addition; Sludge Washing (with 2-3,000,000 gallons of water per year to dissolve the aluminum present in the sludge); Waste Transfers (between tanks as well as to/from H-Tank Farm, and to Defense Waste Processing Facility); transfer line integrity testing; Critical Maintenance Activities (predictive, preventive, and corrective maintenance, equipment troubleshooting, rigging and heavy equipment support, excavations, and facility outage scheduling).			
# Continue sludge washing through the extended sludge processing and surveillance and maintenance of the In-Tank Precipitation facilities.			
# Completion of sludge batch Two washing and initiation of feed to the Defense Waste Processing Facility.			
SR-HL04	47,547	52,717	52,000

Metrics			
High-Level Waste			
Storage (m^3)	6,875	8,561	6,555

SR-HL05 / Vitrification

The Defense Waste Processing Facility project provides treatment to immobilize the Savannah River Site's liquid high-level radioactive waste in a solid glass waste form, which prevents the waste from leaching to the environment.

	FY 1999	FY 2000	FY 2001
	(dollars in thousands)		

Approximately 34,000,000 gallons of liquid, high-level radioactive waste are currently stored in 43 underground storage tanks in the F-Tank Farm and the H-Tank Farm. These tanks were designed for interim storage only, and many have already exceeded their intended design life. Most waste operations are conducted remotely, to shield workers from exposure to the intense radiation from Strontium-90, Cesium-137, Plutonium-238, Plutonium-239, Plutonium-241, and other radionuclides in the waste.

The scope within the project includes 24-hour operation of the Defense Waste Processing Facility Vitrification Plant to immobilize high-level radioactive waste in glass including: 24-hour manning of the Defense Waste Processing Facility Control Room; receiving transfers of sludge waste from extended sludge processing; sending transfers of recycled waste to the H-Tank Farm; adjusting and preparing feed for the glass melter; melting the waste into molten glass; pouring the molten glass into stainless steel canisters; inserting and welding canister plugs; decontamination canisters; transporting canisters to the Glass Waste Storage Building; critical maintenance activities (predictive, preventive, and corrective maintenance, equipment troubleshooting, rigging and heavy equipment support, excavations, and facility outage scheduling); and sample analyses to confirm waste glass quality meets Federal Repository requirements.

Continue operations and canister production of 200 canisters.

SR-HL05	127,291	121,601	130,140

Metrics			
High-Level Waste			
Treatment (m^3)	683	583	583
Canisters Produced (m^3)	236	200	200

Key Milestones

Produce 200 canisters of vitrified high-level waste in FY 2000 (September 2000).

Produce 200 canisters of vitrified high-level waste in FY 2001 (September 2001).

SR-HL06 / Glass Waste Storage

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

The Glass Waste Storage building provides safe interim storage of the highly radioactive, waste glass filled canisters produced by the Defense Waste Processing Vitrification Facility until a federal repository is available.

This project includes all Glass Waste Storage building activities required to safely store the waste glass canisters, including operations and maintenance of Glass Waste Storage Building #1: 24-hour operation, monitoring, inspection, and maintenance of Glass Waste Storage Building #1 and the highly radioactive waste glass canisters stored there, including operation and maintenance of forced air ventilation systems to remove radioactive decay heat, and monitoring and maintenance of radiation monitors and temperature sensors.

Critical maintenance activities include: predictive, preventive, and corrective maintenance, equipment troubleshooting, and rigging and heavy equipment support.

Store all canisters produced in FY 2001 and previous years in the Glass Waste Storage Building #1.

SR-HL06	489	650	320

SR-HL07 / Effluent Treatment Facility

This project includes all Effluent Treatment Facility activities required to remove the hazardous and low-level radioactive contaminants from the low-level wastewater generated in the F and H Separations and the Tank Farm Areas. This wastewater is processed at the Effluent Treatment Facility until it meets the National Pollutants Discharge Elimination System standards and subsequently released to a permitted outfall.

Operation of the Effluent Treatment Facility directly supports F- and H-Tank Farms, as well as the Savannah River Site high-level waste vitrification process and canyon operations.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

The Effluent Treatment Facility is operated under a South Carolina Department of Health and Environmental Control Waste Water Permit and is required for the site to meet regulatory requirements for discharge to an outfall. Activities include surveillance and maintenance of a vast wastewater collection system including two 32,000 gallon pumping stations, two 2,000,000 gallon high activity plastic-lined cooling water basins, two 6,000,000 gallon rubber-lined low activity retention basins, and two 450,000 gallon collection tanks.

Also included is the operation of a large wastewater treatment plant that includes pH adjustment, micro-filtration, ion exchange, organic removal, mercury removal, evaporation and sampling and release of 18,000,000 gallons of treated water per year. The two 2,000,000 gallon basins are reserved to contain a postulated canyon cooling water accident.

- Process approximately 18,000,000 gallons of waste water.
- Complete Digital Control System upgrades.
- Install Project S-4771 Waste Water Recirculation System.

SR-HL07	17,508	16,069	16,665

SR-HL08 / Saltstone

The Saltstone Facility is designed to receive, treat, and dispose of the mixed low-level radioactive liquid salt solution resulting from the In-Tank Precipitation process. Currently, due to technical issues concerning the generation of larger than anticipated amounts of benzene at the In-Tank Precipitation, all activities for that process have been suspended. A salt processing system engineering evaluation is in progress. All known salt processing options will be evaluated against the high-level waste system requirements and the best option will be selected in FY 2001. All monitoring, surveillance and maintenance activities to maintain the saltstone facility in a standby mode will continue until the salt alternative is selected.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
Critical maintenance activities include: predictive, preventive, and corrective maintenance; equipment troubleshooting; excavations and grounds maintenance; administration of the paving and heating; ventilation, air conditioning subcontracts; preparation of purchase requisitions and ordering and staging parts and materials; preparation of spare parts data sheets, and facility outage scheduling.			
# Continue lay-up until Alternative Salt Disposition process restart and/or Tank 50 processing requirements are needed.			
SR-HL08	1,563	820	908

Metrics
This project has associated metrics; however, no metrics are reportable in the 3-year budget profile.

SR-HL12 / High-Level Waste Removal (93-D-187)

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 salt precipitate feed. Additionally, it will provide facility modifications to replace aging service piping and other service utilities on the H-Tank Farm East Hill (this area includes Tanks 38-43, 49-51, Extended Sludge Processing, and the 2H Evaporator) and waste removal equipment for all high-level waste tanks.

The operations required to remove waste from high-level waste tanks and to close those tanks are funded by Project Baseline Summary SR-HL03, Waste Removal Operations and Tank Closure.

Install waste removal equipment for Tanks 7 and 11.

Install heel removal equipment on Tank 18.

Begin design and installation of gang valves and steam spargers on Tank 51.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# These funding levels include line-item construction funding of $15,774,000 in FY 1999; $15,487,00 in FY 2000; and $27,212,000 in FY 2001.			
SR-HL12	22,467	23,861	39,904

SR-HL13 / Salt Disposition

The purpose of this activity is to select, design, construct, and start up the necessary facilities to prepare and treat 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 with a final selection of a process in late FY 2000. Final alternatives are: Ion Exchange Small Tank In-Tank Processing and Solvent Extraction.

A supplemental Environmental Impact Statement will be prepared upon completion of the research and development of alternatives. The National Academy of Sciences and a DOE Independent Evaluation Team determined the need to conduct additional research and development before proceeding with design and construction activities. The National Academy of Sciences recommended:

< 1) the Department of Energy should continue its efforts to address the remaining technical questions concerning reaction kinetics of the monosodium titanate process for removal of actinides and strontium from the tank wastes and get on to pilot-scale testing as soon as possible.

< 2) the Department of Energy should develop and implement a vigorous/well-planned, and adequately funded research and development program to address the remaining scientific hurdles with the small tank tetraphenylborate precipitation. Research and development should, at a minimum, address tetraphenylborate decomposition process(es) and the envelope of catalysts and catalytic reactors responsible for bengene generation.

(dollars in thousands)

FY 1999	FY 2000	FY 2001

< 3) A vigorous, well-planned, and adequately funded research and development effort should be undertaken to address the remaining scientific hurdles with the Crystalline Silicotitanate ion exchange option. This research and development should address, at minimum, the cesium desorption process and reactions between Crystalline Silicotitanate and the alkaline waste. This effort should be pursued independently of the Westinghouse Savannah River Company, which does not have the needed research and development expertise on-site.

< 4) The Department of Energy should undertake a vigorous program to determine the regulatory acceptability of the direct grout option through discussions with relevant staff at DOE, the Nuclear Regulatory Commission, the Environmental Protection Agency, and the South Carolina Department of Health and Environmental Control. These discussions should focus on the likely feasibility of demonstrating compliance with regulations and the strategy needed to achieve regulatory approvals; and for this application.

< 5) A vigorous, well planned, and adequately funded research and development effort should be undertaken to address the remaining scientific and technical hurdles with the caustic side solvent extraction option. This research and development should address, at a minimum, the stability of the solvent system in radiation fields, the ability to scrub and recycle the solvents, the ability to mitigate contaminant formation during processing, and the ability to produce the chelating agent in quantities necessary for this application. If started immediately, it may be possible to complete this work by next spring, in the time for the Environmental Impact Statement. This effort should be pursued independently of the Westinghouse Savannah River Company, which does not have the needed research and development expertise on-site for this particular solvent extraction system.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

In FY 2000 the Department will put together a management approach, develop technology road maps, and proceed with further research and development on one or more salt processing alternatives. The Department will continue to involve the National Academy of Science and other independent evaluations throughout these development activities. There will be no line-item project for design and construction until at least 2002.

In conjunction with the National Environmental Policy Act, substantial research and development activities, including design and construction of pilot/prototype facilities, will be undertaken to demonstrate the ability of these options to meet safety, production, and cost goals. After selection of a preferred alternative, additional confirmatory research and development and conceptual design work will take place. Final design and construction will be accomplished and facility startup initiated.

Continue research and development for the Salt Processing project.

SR-HL13	20,097	14,049	21,498

SR-IN11 / Infrastructure Line-Item

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:

< It is used 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.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

< It is used as 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 Baseline Summary for planning purposes.

Any projects planned for development have been given a preliminary evaluation against Environmental Management risk criteria and are considered to have a strong probability of being supported for further development and/or funded for execution as a critical site need.

Complete remaining pre-conceptual activities associated with target line-items such as infrastructure restoration, electrical maintenance and technical area ventilation, using prior year funds.

SR-IN11	1,487	1,333	0

SR-IN12 / Operating Projects

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.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
< 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.			
SR-IN12	22,638	24,669	19,377

SR-SF01-LT / K-Area Spent Nuclear Fuel Project (Post 2006)

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 has been 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. The FY 1999 associated funding level is $28,826,000.

Continue activities for the K-Area as in FY 1999 and FY 2000, with notable exception of plutonium storage.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Continue surveillance and maintenance of the Reactor Building and basin operation activities.			
# Continue plutonium receipts from Rocky Flats to the K-Area Nuclear Material Storage Modification Subproject.			
# Continue plutonium surveillance and maintenance.			
# The Defense Nuclear Facilities Safety Board Recommendation 94-1 shipments to H-Canyon will continue.			
SR-SF01-LT	0	33,654	33,257

SR-SF02 / L-Area Spent Nuclear Fuel Project

The purpose of the L-Area Spent Nuclear Fuel project is to control the water quality where fuel rods are stored and to carry out all activities that apply to fuel handling, storage, and shipping to other facilities. The L-Area contains the 105-L Reactor Building (1,000,000 square feet) along with support facilities. Inside the 105-L Reactor Building is the disassembly basin, which stores the Savannah River spent nuclear fuel and will be used to store spent nuclear fuel from off-site research reactors. The L-Reactor disassembly area includes equipment to control basin water quality for the storage of spent nuclear fuel. The basin walls are below ground and are thick steel-reinforced concrete. The basin contains approximately 3,500,000 gallons of water and varies in depth from 17 to 30 feet.

Continue surveillance and maintenance and basin operation activities.

Receipt of Foreign Research Reactor and Domestic Research Reactor fuel in the L-Basin will continue.

Continue the Dam Restoration program.

Receive Receiving Basin for Off-site Fuels transferred to the L-Basin.

The Defense Nuclear Facilities Safety Board 94-1 shipments from L-Basin to the H-Canyon will continue.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# In addition to this funding, the Department's Cost of Work for Others Program will include $12,500,000 in FY 1999; $9,700,000 in FY 2000; and $14,500,000 in FY 2001.			
SR-SF02	29,581	38,165	38,822

SR-SF03 / RBOF Spent Nuclear Fuel Project

The Receiving Basin for Off-site Fuel spent nuclear fuel project includes: basin operations in Receiving Basin for Off-site Fuel to control the water quality where fuel rods are stored, reactor deionizer regeneration, administrative programs like SIRIM 9B reporting requirements, and all activities that apply to fuel receipt, handling, storage, and shipping to other facilities.

The fuel receipt or shipment activities will be done, and foreign or domestic research reactor fuel will be received, as necessary.

Transfer Receiving Basin for Off-Site Fuel to the L-Basin.

Support "Difficult to Disposition Spent Nuclear Fuels" (Table 5.2-1) and miscellaneous shipments from the Receiving Basin for Off-site Fuels to the H-Canyon (subject to a decision pursuant to a National Environmental Protection Agency review).

Schedule 8 Sterling Forest oxide shipments.

SR-SF03	16,153	11,773	13,087

SR-SF04-LT / Heavy Water D-Area (Post 2006)

The Heavy Water Processing project provides for the consolidated storage of heavy water in the K-Reactor. The K-Reactor was previously modified to provide storage of 3,000 drums of heavy water.

The Heavy Water Processing project was included in the Site/Project Completion account with the cost of operations offset by heavy water sales revenue. Previously, heavy water rework and Dupont water operations in D-Area were scheduled to cease by December 2000. Recent events surrounding the sale of heavy water currently placed the Heavy Water program into the Post 2006 Completion account in FY 2000.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# No Activity.			
SR-SF04-LT	0	317	0

SR-SF06-LT / Alternate Technology Project

Funding for the Alternate Technology Project was reduced in FY 2000 but increased in FY 2001. 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 to demonstrate the technology using irradiated fuel. Conceptual design for the design only line-item project 00-D-401, Spent Nuclear Fuel Treatment and Storage, will be completed in FY 2002. Plans are to resume the project in FY 2003 with initiation of the design on the construction project. The goal of the design only project is to provide a well established baseline for the construction project. The most current schedule for completion of the Alternate Technology project indicates an FY 2008 activity completion. This change in schedule required this Project Baseline Summary to be moved from the Site/Project Completion account to the Post 2006 Completion account in FY 2001.

SR-SF06-LT	0	0	7,484

(dollars in thousands)

FY 1999	FY 2000	FY 2001

SR-SF09 / Spent Nuclear Fuel Treatment and Storage (00-D-401)

The Department of Energy has the responsibility to provide for the receipt and storage of approximately 30,000 domestic and foreign research reactor spent nuclear fuel assemblies currently in existing wet storage basins or expected to be received at the Savannah River Site over the next 40 years. To implement the preferred alternative in the Savannah River Site Spent Nuclear Fuel Management Environmental Impact Statement (Melt and Dilute Process), the Department of Energy would construct a Treatment and Storage Facility that would be used to prepare the spent nuclear fuel assemblies for permanent disposal in the monitored geologic repository. The Treatment and Storage Facility would be comprised of a melt and dilute facility in the existing 105-L Reactor Building and a dry storage facility in L-Area near the 105-L Reactor Building. The facility would include remote handling and heavy lifting (cask handling) capability, hot cells, and retrievable dry storage space for the canistered melt and dilute spent nuclear fuel disposal form.

Recent evaluations have confirmed the technical feasibility and potential cost savings for the reuse of the 105-L facility for housing the Spent Nuclear Fuel Treatment and Storage Facility project. Significant development work and independent reviews over the past three years have been conducted to better define and understand the proposed melt and dilute process. For example, technology development is nearing completion through laboratory validation of surrogate spent nuclear fuel assemblies and the initiation of an L-Area Experimental Facility for demonstrating the melt and dilute process using actual irradiated spent nuclear fuel assemblies. Through a Memorandum of Understanding, the Nuclear Regulatory Commission is conducting an on-going review of the research and development results to ensure that any technical issues are identified and addressed early in the process.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
Conceptual design for the design-only line-item Project 00-D-401, Spent Nuclear Fuel Treatment and Storage Facility, will be completed in FY 2002. The goal of the design only project is to provide a well established baseline for the construction estimate and contract. It is planned that the construction project will be validated by DOE-Savannah River, based upon approximately 35 percent design completion. This would provide a schedule and cost estimate and allow a request to Congress to construct the project. # No activity in FY 2001. # These funding levels include line-item construction funding of $0 in FY 1999; $7,000,000 in FY 2000; and $0 in FY 2001.			
SR-SF09	1,568	7,000	0

Metrics
This project has associated metrics; however, no metrics are reportable in the 3-year budget profile.

SR-SW01 / Consolidated Incinerator Facility

The Consolidated Incinerator Facility provides the Savannah River Site the capability for safe treatment, by incineration, of combustible, low-level radioactive wastes, hazardous wastes, and mixed wastes (those containing both hazardous and radioactive constituents). These wastes are received at the Consolidated Incinerator Facility for incineration as either liquids or solids.

The facility is operated in accordance with the South Carolina Hazardous Waste Management Regulations, and the Resource Conservation and Recovery Act. Operation of the Consolidated Incinerator Facility will contribute to implementation of the Savannah River Site Treatment Plan (WSRC-TR-94-0608), which established the requirement for the Consolidated Incinerator Facility to treat specified mixed waste streams in accordance with the Federal Facility Compliance Act.

(dollars in thousands)

FY 1999	FY 2000	FY 2001

Waste incineration is regulated by state and Federal agencies and is a well-established means of destroying or reducing the volume of hazardous materials. Waste treatment by incineration at the Consolidated Incinerator Facility achieves a waste destruction efficiency of not less than 99.99 percent. Ash produced by the combustion process, as well as blowdown from off-gas treatment processes, is stabilized by solidification and transferred to either a Resource Conservation and Recovery Act licensed storage facility or to a hazardous/mixed waste disposal facility depending on its Resource Conservation and Recovery Act designation, each of which is managed in accordance with the Environmental Protection Agency Land Disposal Restriction regulations.

During its designed service life of 30 years, the Consolidated Incinerator Facility will incinerate approximately 1,000,000 pounds of solid waste and 1,000,000 pounds of liquid waste each year. Waste streams processed will include:

- Low-level solid waste from several on-site sources;
- Low-level radioactive liquid waste (aqueous and organic);
- Liquid radioactive organic waste benzene from the Defense Waste Processing Facility, if necessary;
- Hazardous and mixed solid wastes from several on-site facilities; and
- Hazardous and mixed liquid wastes (aqueous and organic including solvent material from past and present canyon operations.

In FY 2000 the Consolidated Incinerator Facility will complete its regulatory commitments for that fiscal year and transition to a campaigned operations mode. This mode of operation will share critical resources with other site facilities and programs. No regulatory commitments will be impacted.

For FY 2001, a campaigned operations mode will continue to be used. Regulatory commitment goals will be maintained. Overall operating costs will be further reduced by not using the Consolidated Incinerator Facility for solid low-level waste disposal since other more cost-effective methods are available.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Continue safe management and operation to incinerate low-level, hazardous, and mixed low-level waste.			
SR-SW01	24,461	18,722	18,332

Metrics			
Mixed Low-Level Waste			
Treatment (m^3)	862	377	473
Storage (m^3)	151	144	135
Low-Level Waste			
Treatment (m^3)	573	120	0

SR-SW02 / Transuranic Waste Project

The Savannah River Site transuranic waste project safely stores, characterizes, treats (as required), and disposes of transuranic waste. With a current inventory of 11,000 cubic meters and an expected generation of an additional 10,000 cubic meters through FY 2028, the Savannah River Site Transuranic Waste Project is working to develop the infrastructure necessary to process the many different transuranic waste streams and containers, segregate out the non-transuranic waste for disposal as mixed or low-level waste, and characterize and certify the transuranic waste for disposal in the Waste Isolation Pilot Plant prior to its closure. In FY 2000, the Savannah River Site is improving the storage conditions of the transuranic waste and developing the characterization and certification program to meet the Waste Isolation Pilot Plant disposal requirements.

As a result of nuclear materials production in the Department of Energy complex, the Savannah River Site currently stores approximately 11,000 m^3 of waste contaminated with transuranic isotopes. An estimated 10,000 m^3 is expected to be generated through FY 2028. A portion, approximately one-third by volume of the legacy waste managed as transuranic waste, is estimated to have an activity level of less than 100 nCi/g and could be dispositioned as low-level waste or as mixed low-level waste with proper characterization.

(dollars in thousands)

FY 1999	FY 2000	FY 2001

The goal of the Transuranic Waste project is to properly characterize the waste to segregate the low-level waste and mixed low-level waste from the transuranic inventory, perform the necessary processing/treatment to meet the appropriate low-level/mixed low-level waste disposal criteria, and to certify and dispose of all transuranic and mixed transuranic waste at the Waste Isolation Pilot Plant in New Mexico.

The project has the following objectives:

- Transuranic Waste Storage Pad Base Operations, which include:
  - Receipt and storage of newly generated waste;
  - Inspection and maintenance of transuranic waste storage pads and transuranic waste containers; and
  - The removal of earthen cover and retrieval of 8,809 55 gallon drums on five transuranic waste storage pads.
- The Low-Level Waste Disposition initiative, which provides for the disposal of approximately one thousand 55 gallon drums of low-level waste formally managed as transuranic waste.
- The Transuranic Waste Drum Segregation initiative, which provides for assays of drums of waste to segregate transuranic waste from low-level waste and to segregate mixed transuranic waste from mixed low-level waste. Initial efforts involve:
  - The Repackaging Initiative, which provides for the disposal of approximately 200 waste containers. These containers consist of used high-efficiency particulate air filters that can be certified as low-level waste following assay. Repackaging is necessary for disposal efficiency and fire prevention reasons.

(dollars in thousands)

FY 1999	FY 2000	FY 2001

- S The Ship to the Waste Isolation Pilot Plant Initiative, which provides for the necessary characterization, certification, and transportation systems to support the initial Savannah River Site shipments of transuranic waste to the Waste Isolation Pilot Plant. These systems will be used until the Transuranic and Mixed Waste Containment Building (future line-item) can be designed and constructed.
- S The Mixed Low-Level Waste Disposition Plan, which investigates the feasibility of sending waste to the Consolidated Incinerator Facility, or to another Department of Energy facility as identified through the Environmental Management Integration effort.
- S The Pu-238 On-Site Disposal Initiative, which evaluates the possibility of expanding disposal performance assessments at the Savannah River Site to determine if Pu-238 contaminated waste can be safely disposed on-site.

In FY 2001, planned activities include: the Transuranic Waste Storage Pad Base Operation, which covers: receipt and storage of newly generated waste; routine inspection and maintenance of transuranic waste containers; removal of water from large steel transuranic waste boxes; transuranic database upgrades; transuranic pad drainage upgrades.

Phase II retrieval activities include vent, purge, filter insertion, and assay of poly boxes.

Other planned activities include: covering transuranic waste storage pad with an enclosure, electrical upgrades to the storage pads, project activities for the transuranic waste Cat II Treatment Facility (preconceptual design and CD-1), completion of upgrades in 643-43E to support HANDSS-55 arrival at the Savannah River Site and Transuranic Waste Optimization Measurement System testing and demonstration of the system at the Savannah Rive Site.

There will be four shipments to the Waste Isolation Pilot Plant in FY 2001.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
SR-SW02	12,048	12,910	11,492

Metrics			
Transuranic Waste			
Treatment (m^3)	0	112	112
Storage (m^3)	10,918	11,512	11,504
Ship to the Waste Isolation Pilot Plant for Disposal (m^3)	0	8	34

SR-SW03 / Mixed Low-Level Waste Project

The mixed 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, and construction.

Due to the lack of mixed waste treatment facilities within the Department of Energy complex and the commercial sector, the vast majority of these waste streams have been in storage well in excess of 1 year, and do not meet the intent of the Land Disposal Restrictions regulations, (i.e. has not been treated within 1 year of its Accumulation Start Date).

As a result, the Savannah River Site has entered into a compliance agreement (Consent Order, 95-22-HW) with the South Carolina Department of Health and Environmental Control concerning the treatment of these waste streams. This compliance agreement requires implementation of the Savannah River Site Treatment Plan.

The mixed waste project is managed with the overall goal of achieving full Resource Conservation and Recovery Act land disposal restrictions compliance such that there is no legacy or newly generated mixed waste stored within the Savannah River Site mixed waste facilities for longer than 1 year. This will be accomplished by either developing or identifying appropriate treatment methods to meet the commitments of the Site Treatment Plan and also developing and/or identifying appropriate disposal alternatives for the final disposition of the treated mixed waste.

(dollars in thousands)

FY 1999	FY 2000	FY 2001

Three key activities in the management of the various mixed waste streams are storage, treatment (including any characterization activities required prior to treatment), and disposal. A breakdown of these activities is provided below:

Mixed Waste Receipt and Storage activities include:

- Receipt of newly generated waste;
- Verification that the waste meets the facility waste acceptance criteria; and
- Placement of the waste in storage and the surveillance and maintenance of the stored waste.

Waste treatment activities are conducted to treat the waste prior to disposal to ensure that the requirements of Resource Conservation and Recovery Act and the Federal Facility Compliance Agreement of 1992 are met. These activities include:

- Characterization and preparation for the Consolidated Incinerator Facility treatment of a large portion of the legacy waste; and
- Characterization and preparation of non-Consolidated Incinerator Facility waste streams for off-site shipment and treatment.

Disposal of treated mixed waste activities includes:

- Identifying the most equitable and best technical location for disposal of all the Savannah River Site mixed waste inventory; and
- Characterizing, preparing, and shipping treatment residuals for disposal.

In FY 2001, planned activities include:

Commence operation of Mixed Waste Processing Upgrades to prepare legacy waste for treatment.
Continue treatment of incinerable legacy waste in the Consolidated Incinerator Facility.
Continue decontamination of lead material using on-site facilities.
Complete shipment of incinerable radioactive polychlorinated biphenyl waste to the Oak Ridge Operations Office for treatment.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Continue operation of the New Solvent Storage Tanks.			
# Submit an annual update to the Site Treatment Plan.			
SR-SW03	3,730	4,683	4,856

Metrics			
Mixed Low-Level Waste			
Treatment (m^3)	23	12	6
Storage (m^3)	825	1,920	1,363
Commercial Disposal (m^3)	0	50	100
Ship to DOE Disposal Site (m^3)	0	1	1

SR-SW04 / Low-Level Waste Project

The 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, and construction. Also, the Savannah River Site receives low-level waste from the Naval Reactors program and off-site generators for disposition.

Low-level waste activity includes certification, storage, treatment, disposal, and transportation. The low-level waste project will be managed with the overall goal of treatment and disposal such that there is no legacy stored waste and, there is the capability and capacity to cost effectively treat and/or dispose of newly generated wastes.

In FY 2001 planned activities include:

Maintain safe waste receipt, inspection, and storage with minimum or no treatment.

No environmental restoration low-level waste will be disposed off-site.

SR-SW04	16,791	14,334	10,463

Metrics			
Low-Level Waste			
Treatment (m^3)	4,318	6,368	5,890

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
Storage (m^3)	14,448	14,413	10,368
On-Site Disposal (m^3)	8,792	8,409	4,043
Commercial Disposal (m^3)	0	4,160	0

SR-SW05 / Hazardous Waste Project

The hazardous waste project will involve: receipt from site generators, storage, and ultimate shipment off-site of newly generated hazardous wastes for treatment and disposal. Hazardous waste is currently stored on-site, and treated off-site at a commercial facility. All legacy hazardous waste will be shipped off-site for disposal by the year 2002, and will result in a steady-state operation thereafter.

In FY 2001 planned activities include:

- Complete fifth and final year of shipments of chemicals, metals, and pesticides Pit soils for treatment and disposal.
- Complete characterization of land disposal restrictions hazardous legacy waste awaiting radiological characterization, (i.e. make determination if waste is mixed or non-rad hazardous).
- Continue radiological characterization of pre-land disposal restrictions legacy waste to make determination if waste is mixed or non-rad hazardous.
- Continue to meet land disposal restriction requirements for newly generated waste by shipping off-site.
- Typical volumes are 200 - 400 cubic meters per year.
- No environmental restoration hazardous waste will be disposed off-site.

SR-SW05	5,473	5,068	4,413

Metrics			
Hazardous Waste			
Commercial Disposal (MT)	601	2,906	488

SR-SW06 / Sanitary Waste Project

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

This project provides for the safe, environmentally sound sanitary waste disposal from the Savannah River Site, which produces approximately 25 tons of sanitary waste per day.

Sanitary waste activities include verification that the waste meets the commercial disposal facility waste acceptance criteria, radiological screening, transportation to an off - Savannah River Site landfill, and contract administration. These activities are necessary to ensure compliance with the South Carolina Solid Waste Regulation R61-107.258 and DOE Order 435.1A.

Sanitary waste is currently being disposed at the regional Three Rivers Landfill located adjacent to the Savannah River Site. The Resource Conservation and Recovery Act closure activities at the on-site Interim Sanitary Landfill will be completed in FY 2000.

In FY 2001 planned activities include:

- Continue operation of the “Green-Is-Clean” shredder.
- Continue onsite operations, in support of disposal of sanitary waste at the Three Rivers Regional Landfill.
- Continue waste minimization and pollution prevention activities, including recycling of waste.

SR-SW06	2,241	1,195	1,021

SR-SW07 / Pollution Prevention

Pollution prevention is the Savannah River Site’s preferred approach to reducing waste, mitigating health risks, reducing operation costs, protecting the environment, and regulatory compliance. Pollution prevention applied at the Savannah River Site can significantly reduce primary and secondary wastes, allowing the cost savings to be used to accomplish more scope.

Pollution prevention is a core program in the Energy Management System and the Integrated Safety Management System.

The Waste Minimization/Pollution Prevention program provides the Savannah River Site a safe, effective, and environmentally responsible strategy to implement specific waste reduction techniques based on current and projected information on waste generation, waste characterization, and ultimate waste disposal costs.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
In FY 2001, planned activities include:			
# Continue the Savannah River Site waste program management; national/local waste monitoring and forecasting.			
# Involve stakeholders and public in the Savannah River Site's Pollution Prevention activities.			
# Maintain contamination area rollback, recover 10 percent of contaminated areas per year.			
# Expand sanitary waste and scrap metal recycling.			
# Facilitate the Savannah River Site initiatives to increase wastes eligible for incineration.			
# Support maintenance of Green-is-Clean.			
# Minimize secondary waste from the Savannah Rive Site cleanup.			
# Administer High Return on Investment/Generator Set Aside Fee Programs.			
# Manage paper, cardboard and aluminum can recycling.			
# Implement TRI-Chemicals source reduction.			
# Maintain Pollution Prevention Program Strategic Plan.			
# Incorporate pollution prevention into design activities.			
# Develop/Implement innovative technologies to prevent pollution and minimize releases from the Savannah River Site.			
# The National Pollution Prevention program was supported in the Multi-Site account in FY 1999 and FY 2000.			
SR-SW07	1,151	1,385	2,160
Total, Savannah River	739,973	804,049	814,013

Explanation of Funding Changes from FY 2000 to FY 2001

	FY 2001 vs. FY 2000 ($000)
HQNP-SI01-LT-SR / Security Investigations	

	FY 2001 vs. FY 2000 ($000)
# Increase in funding supports approximately 150 investigations.	379
SR-DO02 / WSI Landlord Project	
# Supports an increase in staffing for K-Area Nuclear Material Storage Modification subproject.	953
SR-DO03 / Savannah River Natural Resource Management and Research Institute	
# Decrease reflects a reduced secondary road and bridge maintenance program and habitat improvement program.	-700
SR-DO04 / Ecology Lab Project	
# Decrease reflects a slightly reduced ecology research program.	-584
SR-D005 / DOE External Program Support	
# Reduction in support work by the U.S. Geological Survey and U.S. Forest Service. . . .	-620
SR-DO07 / DOE Program Support	
# Decrease in FY 2001 eliminates funding for grants, other Department of Energy mandated programs, Historically Black Colleges and Universities, and water research activities.	-8,170
SR-ER01 / Flood Plain Swamp Project	
# Increase in funding for remedial action at the 488D Ash Basin and D-Area seepage basins.	2,773
SR-ER02 / Four Mile Branch Project	
# Increase for start of remedial action at the C-Area Reactor Seepage Basin.	8,692
SR-ER03 / Lower Three Runs and Operations Project	
# Additional funds provided for start of remedial action at P-Reactor seepage basin	1,169
SR-ER04 / Pen Branch Project	
# Increase supports remedial action at K-Reactor seepage basin.	1,411
SR-ER05 / Steel Creek Project	

	FY 2001 vs. FY 2000 ($000)
# Decrease reflects completion of remedial action at L-Area oak and chemical basin.	-610
SR-ER06 / Upper Three Runs Project	
# Decrease reflects completion of remedial actions at F-Area and the Savannah River Laboratory seepage basins.	-5,007
SR-ER07 / Program Management	
# No significant change.	5
SR-FA02 / F-Canyon Deactivation Project	
# Detailed deactivation planning activities are initiated.	2,040
SR-FA16 / F-Area Monitoring	
# Projected to undergo deactivation of the Naval Fuels Facility (Building 247 and associated support facilities) with no additional deactivated facilities to be added until at least after the completion of F-Canyon/FB-Line nuclear materials stabilization activities no sooner than FY 2003.	197
SR-FA18 / M-Area Monitoring Project	
# Increase reflects funding for deactivation activities in 313-M, Target Slug Manufacturing Facility.	320
SR-FA19 / D-Area Monitoring Project	
# Decrease in funding provides for lower surveillance and maintenance of the D-Area facilities.	-238
SR-FA20 / Reactors Monitoring Project	
# Provides decreased support for monitoring reactor facilities and no operation of the C-Area Decontamination Facility.	-6,023
SR-FA23 / Landlord Facilities Disposition	
# Decrease in funding reflects reduction in the number of facility walkdowns.	-1,164
SR-HL01 / H-Tank Farm	

	FY 2001 vs. FY 2000 ($000)
# Completed Replacement High-Level Waste Evaporator startup activities; Portion of site Management Challenges (efficiencies) applied to this project baseline summary with savings expected in maintenance and operations.	-4,808
SR-HL02 / F-Tank Farm	
# Reduction in the number of waste transfers; portion of site management changes (efficiencies) applied to this Project Baseline Summary with savings expected primarily in maintenance.	-1,191
SR-HL03 / Waste Removal Operations and Tank Closure	
# Tank 8 bulk waste removal and Tank 19 heel removal completed in FY 2000; slightly ahead of schedule; FY 2001 scope includes initiating Tank 19 closure and Tank 11 waste removal.	-84
SR-HL04 / Waste Treatment	
# Tanks 40 and 49 modifications completed; portion of site management challenges (efficiencies) applied to this project baseline summary with savings expected in maintenance and operations.	-717
SR-HL05 / Vitrification	
# Initiation of planned Distributed Control System upgrades and other facility upgrades. . .	8,539
SR-HL06 / Glass Waste Storage	
# Completed conceptual design work on Glass Waste Storage Building II.	-330
SR-HL07 / Effluent Treatment Facility	
# Preliminary design activities for future minor facility upgrades.	596
SR-HL08 / Saltstone	
# Minor maintenance activities required.	88
SR-HL12 / High-Level Waste Removal	
# Increase due to project schedule - sludge batches 3 and 4, and initiation of East Hill Piping Upgrades.	16,043

	FY 2001 vs. FY 2000 ($000)
SR-HL13 / Salt Disposition	
# Increase reflects delayed start of research and development in FY 2000 (9 months activities) versus full 12 months activity in FY 2001.	7,449
SR-IN11 / Infrastructure Line-Item	
# Decrease reflects reduced support for future infrastructure construction line-item project planning.	-1,333
SR-IN12 / Operating Projects	
# Decrease in funding associated with capital equipment and general plant projects.	-5,292
SR-SF01-LT / K-Area Spent Nuclear Fuel Project (Post 2006)	
# Reduction attributed to required surveillance and maintenance.	-397
SR-SF02 / L-Reactor Spent Nuclear Fuel Project	
# Increase in activities to manage spent nuclear fuel in the basins.	657
SR-SF03 / RBOF Spent Nuclear Fuel Project	
# Increase reflects additional shipments of spent fuel to H-Canyon.	1,314
SR-SF04-LT / Heavy Water - D-Area (Post 2006)	
# Decrease is attributed to the decision to sell heavy water without further processing. . . .	-317
SR-SF06-LT / Alternate Technology Project	
# Increase reflects movement of project to Post 2006 Completion account from the Site/Project Completion account.	7,484
SR-SF09 / Spent Nuclear Fuel Treatment and Storage Project	
# Decrease in funding reflects deferral of the project.	-7,000
SR-SW01 / Consolidated Incinerator Facility	
# Reflects continued use of the campaign operations approach and the full years benefit of the elimination of the solid low-level waste handling scope.	-390

	FY 2001 vs. FY 2000 ($000)
SR-SW02 / Transuranic Waste Project	
# A decrease still assures continued operations to provide safe storage, treatment and other activities associated with sending shipments to the Waste Isolation Pilot Plant. Four shipments to the Waste Isolation Pilot Plant will occur since certification should be received in FY 2000 and most certification support activities have been completed.	-1,418
SR-SW03 / Mixed Low-Level Waste Project	
# Funding increase due to revised estimates for disposal of mixed low-level waste.	173
SR-SW04 / Low-Level Waste Project	
# Decrease will result in maintaining safe waste receipt, inspection, and storage with minimum or no treatment and no environmental restoration off-site disposal of low-level waste.	-3,871
SR-SW05 / Hazardous Waste Project	
# Decrease reflects revised costs for disposal activities, but there will be no off-site disposal of environmental restoration hazardous waste.	-655
SR-SW06 / Sanitary Waste Project	
# Decrease reflects revised disposal costs, but continued operation of the "Green-Is-Clean" shredder and recycling efforts will occur.	-174
SR-SW07 / Pollution Prevention	
# Increase reflects additional pollution prevention activities to meet regulatory requirements and reduce waste ($208,000) and the transfer of a portion of the National Pollution Prevention program previously funded in the Multi-Site account ($567,000).	775
Total Funding Changes, Savannah River	9,964

Major Issues

The Savannah River Site program is predicated on the ability to achieve substantial efficiencies. This may require a restructuring of the Savannah River contractor workforce.

Multi-Site

Mission Supporting Goals and Objectives

Program Mission

The mission of the Defense Environmental Management Post 2006 Completion account carried out by the Multi-Site activities are to provide management and direction for various crosscutting EM and DOE initiatives; establish and implement national and Departmental policy; and conduct analyses and integrate activities across the DOE complex. The majority of the funds requested in the Multi-Site activities defense account are required for the Federal contribution to the Uranium Enrichment Decontamination and Decommissioning Fund (91 percent). Other Multi-Site activities consist of Headquarters technical support activities, Policy and Management efforts, Environmental and Regulatory Analysis activities, Emergency Preparedness activities, training at DOE nuclear weapons facilities and related sites for hazardous waste operations, and emergency response, and nuclear criticality safety training.

The Federal Government deposit to the Uranium Enrichment Decontamination and Decommissioning Fund is required by the Energy Policy Act of 1992, which authorizes annual deposits into the Uranium Enrichment Decontamination and Decommissioning Fund of up to $480,000,000 annually adjusted for inflation. Domestic utilities are to be assessed up to $150,000,000 per year (adjusted for inflation) for 15 years based on their purchase of Department-produced separative work units. The remainder of the annual deposit, currently estimated at $420,000,000 (in FY 2000 and in FY 2001) was authorized to come from annual congressional appropriations.

Program Goal

The overall goal of the Multi-Site activities is to allow the Environmental Management (EM) program to better coordinate EM-wide and the Department of Energy (DOE)-wide program efforts and avoid overlaps and inconsistencies.

The primary goal of EM's Tribal program, within the Policy and Management Program, is to fully implement DOE's American Indian Policy. The EM program maintains cooperative agreements with ten Tribal Nations to enhance their direct involvement in cleanup decisions and activities. The cooperative agreements build core scientific and technical capacity at the Tribal level and allow for the establishment of Tribal environmental program offices. As a practical matter, the cooperative agreements enhance the government-to-government relationship between the Department and Tribal Nations, which is the cornerstone of the Department's American Indian Policy. In order to fulfill EM's goal, the program seeks to maintain and, in some instances, increase funding for the cooperative agreements with Tribal Nations directly affected by EM's cleanup activities.

The main goal of EM's Office of Intergovernmental and Public Accountability, within the Policy and Management program, is to promote active public involvement in the EM planning and decision-making processes. Specifically, the mission of the office is to provide State, Tribal, and local governments and other interested stakeholders with opportunities for meaningful involvement in managing the cleanup and closure of the Nation's former nuclear weapons complex. The principal means by which this goal is accomplished is through the EM Site-Specific Advisory Board and through grants and cooperative agreements with the National Governors' Association, the National Association of Attorneys General, and the National Conference of State Legislatures.

The National Facility Deactivation Initiative is the key to the Office of Environmental Management's strategy to achieve the cleanup goals of the *Accelerating Cleanup - Paths to Closure* vision. Developed as a grass roots effort, the National Facility Deactivation Initiative is the evolution of a partnership between the Office of Integration and Disposition and Hanford and has expanded over the past year to embrace all DOE field offices. The National Facility Deactivation Initiative was established to enhance and provide tools and methodologies developed during successful deactivation projects (PUREX, B-Plant, Waste Calciner Facility, etc) in order to further reduce risks and costs (mortgage) through accelerated facility deactivation throughout the DOE complex. The Office of Integration and Disposition promotes the National Facility Deactivation Initiative through promulgation of policy and guidance, while Hanford and other field offices provide specialized expertise in deactivation, development of new deactivation techniques and coordination to ensure the sharing of lessons learned at all DOE sites.

The mission of the National Facility Deactivation Initiative is to accelerate deactivation of DOE's contaminated excess facilities, by providing technical expertise and proven field developed and tested tools and methodologies. Over the past year, significant accomplishments have been achieved by the National Facility Deactivation Initiative including accelerating the start up of deactivation of the Brookhaven Graphite Research Reactor; Building 9206 at Oak Ridge/Y-12; Buildings 771 and 707 at Rocky Flats; and Plutonium Finishing Plant at Hanford. In addition, development of planning tools including the End-Points Methodology and Process; the Requirements Based Surveillance and Maintenance Review Methodology and Process; the Planning, Optimization, Waste Estimating and Resourcing (POWER tool) system have provided significantly enhanced capabilities leading to better planning and implementation of deactivation projects.

The Transportation Emergency Preparedness Program is a National DOE-wide program. Issues related to the transportation of hazardous materials of all types have become more heightened in recent years. This is particularly true for radioactive materials. As a high-visibility shipper of radioactive materials, the Department of Energy and its transportation activities have come under intense scrutiny from Congress, states, tribes, local governments, and the public. An issue of universal concern, however, is whether adequate emergency preparedness exists at all levels of government. The Transportation Emergency Preparedness Program will assist the Department of Energy and other Federal, state, tribal, and local authorities to prepare to respond to a transportation incident involving Department of Energy shipments of radioactive material. The DOE policy is being developed to address concerns regarding transportation emergency management issues. This policy will be included in a revision to DOE Order 151.1, Comprehensive Emergency Management System. In addition, EM in coordination with DOE's Office of Emergency Management, is developing protocols addressing transportation emergency planning, notification, and response.

The Facility Emergency Preparedness Program assures EM Headquarters, field/operations offices, and facilities are in compliance with DOE Order 151.1 requirements. The Facility Emergency Preparedness Program seeks to reduce the risks associated with operational emergencies at EM facilities/sites and activities by ensuring adequate emergency programs are established and by providing planning, training, and resources to EM Headquarters personnel so that EM management understands their emergency roles and responsibilities and can effectively participate on the DOE Emergency Response Team; and to ensure that EM facilities are prepared to respond effectively to an operational emergency.

The program goal of the National Analytical Management Program is to ensure that the laboratory analyses being performed are of sufficient quality to: meet the needs and requirements of the EM program and the regulatory community; be scientifically and legally defensible; provide the basis for returning the DOE environment to the public domain; and to assist in meeting the objectives of the *Accelerating Cleanup: Paths to Closure* plan.

The program goal of the Pollution Prevention program is to comply with waste minimization, pollution prevention, affirmative procurement, and recycling requirements under Federal/State statutes, Executive Orders, and DOE Orders, and reduce waste generated through implementation of cost-effective pollution prevention projects.

The program goal of the Nuclear Criticality Safety Training program is to implement and enforce the criticality safety programs as established through the Department's Implementation Plan for the Defense Nuclear Facilities Safety Board Recommendation 97-2.

Program Objectives

The Multi-Site activities focus national attention on several areas that impact the Environmental Management goals and planned efforts which cut across the Department of Energy complex.

Performance Measures

There are no Performance Measures associated with the Multi-Site activities.

Significant Accomplishments and Program Shifts

Policy and Management

- Improve analytical capabilities for and conduct comparative lifecycle analyses for EM programs and projects (FY 1999/FY 2000/FY 2001).
- Provide general analytic and production support to national environmental policy development (FY 1999/FY 2000/FY 2001).

Continue providing for EM-wide information management infrastructure activities and provide for hardware, software, maintenance, and upgrades to support management information systems (FY 1999/FY 2000/FY 2001).

Continue to maintain and develop EM's government-to-government relationship with ten tribes designed to foster cooperation on waste shipment and environmental restoration efforts (FY 1999/FY 2000/FY 2001).

Continue to implement training and education programs to resolve the Defense Nuclear Facilities Safety Board recommendations (FY 1999/FY 2000/FY 2001).

Complex-Wide Waste Management Support and Analyses

Issue the Waste Management Programmatic Environmental Impact Statement Records of Decision for high-level waste storage and low-level waste and mixed low-level waste treatment and disposal; continue to work with DOE sites and external stakeholders to resolve issues related to implementing the preferred configuration of the waste management system (FY 1999/FY 2000/FY 2001).

Refine disposition maps for DOE waste streams to show the planned pathways to move waste or materials from inventory or generation through required processing to treatment or stabilization and then to final disposition; conduct integrated planning to identify and evaluate significant opportunities to reduce risk and long-term mortgages associated with treatment and disposal of backlog waste (FY 1999/FY 2000/FY 2001).

Issue and continue support to implement the new, comprehensive DOE Order 435.1, Radioactive Waste Management, along with the Order's Manual and Implementation Guide (FY 1999/FY 2000/FY 2001).

Provide peer review and conditional approval to Performance Assessments of DOE low-level waste disposal sites as required by the Defense Nuclear Facilities Safety Board Recommendation 94-2. Review and approve Composite Analyses for the Los Alamos National Laboratory, Savannah River's saltstone and E-Area vaults, Oak Ridge, Hanford, Idaho National Engineering and Environmental Laboratory, and the Nevada Test Site Area 3 and issued Disposal Authorization Statements (FY 1999/FY 2000/FY 2001).

Interact with internal oversight organizations and external Federal and State regulators to ensure that waste management facilities and activities meet regulatory requirements that are both protective of human health and the environment, and cost-effective. Areas of particular focus include Resource Conservation and Recovery Act regulations, and Environment, Safety and Health oversight under DOE Policy 450.5, Line Environment, Safety and Health Oversight (FY 1999/FY 2000/FY 2001).

Reimburse Environmental Protection Agency for Resource Conservation and Recovery Act inspections of DOE facilities as required by Section 104 of the Federal Facility Compliance Act of 1992 (FY 1999/FY 2000/FY 2001).

Complete the technical assessment by the National Academy of Science's Board on Radioactive Waste Management of the treatment options for high-level radioactive waste stored at the Idaho National Engineering and Environmental Laboratory; initiate analyses of other major waste management issues by the board (FY 1999/FY 2000/FY 2001).

Provide technical support for interactions with the Office of Civilian Radioactive Waste Management on high-level waste issues, including implementation of activities necessary to implement the Environmental Management/Radioactive Waste Memorandum of Agreement, preparation of responses to comments on high-level waste issues for the Yucca Mountain Environmental Impact Statement and assistance in preparation of the Site Recommendation Report for Yucca Mountain (FY 1999/FY 2000/FY 2001).

Technical Support to Environmental Restoration

Provide technical support for various Environmental Management and DOE initiatives, including performance measure efforts, information/data management integration, and project baseline review/analysis efforts (FY 1999/FY 2000/FY 2001).

Provide for the Federal Contribution to the Uranium Enrichment Decontamination and Decommissioning Fund as required by the Energy Policy Act of 1992 (FY 1999/FY 2000/FY 2001).

Provide support for the National Pollution Prevention program (FY 2001).

Support to Transition Activities

Continue to support Headquarters directed nuclear material field activities to achieve cost efficiencies and increase the effectiveness of these activities for accelerating stabilization and deactivation opportunities (FY 1999/FY 2000/FY 2001).

Provide support on Foreign Research Reactor Spent Nuclear Fuel Acceptance Program shipments, especially those from reactors with serious or sensitive nonproliferation and/or safety implications (FY 1999/FY 2000/FY 2001).

Continue to support Headquarters directed National Facility Deactivation Initiative activities to achieve acceleration of deactivation and associated reduction in risk and mortgage. The continued development of deactivation methods, processes, and tools will facilitate increased cost efficiencies and increased effectiveness in the completion of deactivation activities. Significant progress leading to risk/mortgage reduction was realized in 1999 across the complex and specifically at Richland, Brookhaven, and Rocky Flats (FY 1999/FY 2000/FY 2001).

Headquarters Program Integration

Continue to support lifecycle estimates for the Environmental Management program (FY 1999/FY 2000/FY 2001).

Support hazardous waste operations and emergency response training at the DOE weapons facilities and related sites (FY 1999/FY 2000/FY 2001).

Nuclear Criticality Safety Program

Continue to support and implement the Implementation Plan for the Defense Nuclear Facilities Safety Board Recommendation 97-2, Nuclear Criticality Safety Training (FY 1999, FY 2000, FY 2001).

In FY 2001, a portion of the Nuclear Criticality Safety Training activities is transferred to the Oak Ridge and Albuquerque Operations Offices.

Environmental and Regulatory Analysis

Conduct pilot projects at the DOE sites to demonstrate and evaluate the viability of utilizing the LandTech technology as a community based collaborative decision-making tool to achieve tangible solutions for site cleanup, site closure, and land title transfer of Federal properties to public interests (FY 1999/FY 2000/FY 2001).

Emergency Preparedness Program

Focus on Facility Emergency Preparedness review of site/facility emergency plans and procedures to assure that our personnel can safely and efficiently respond to emergency events (FY 1999/FY 2000/FY 2001).

Focus on implementation of baseline transportation and packaging requirements to support EM's lifecycle estimates and apply transportation systems engineering to other DOE programs outside of EM (FY 2000); and continue to provide improved effective transportation support services to the DOE Waste and Material Disposition Programs through Systems Engineering practices (FY 2001).

National Analytical Management Program

Developed guidelines that will allow reference laboratories to establish a direct link to the national standard (National Institute of Science and Technology) in analytical measurement processes and the preparation of secondary standards. The guidelines delineate the process of establishing a reference or secondary laboratory according to requirements established by the American National Standards Institute (FY 1999/FY 2000/FY 2001). In FY 2001, a portion of the National Analytical Management program is transferred to multiple operations office.

Pollution Prevention

Administer pollution prevention activities to achieve site plan goals (FY 2001).

In FY 2001, a portion of the Pollution Prevention program is transferred to multiple operations offices.

Funding Schedule

	(dollars in thousands)		
	FY 1999 Current Appropriation	FY 2000 Current Appropriation	FY 2001 Request
HQ-EM-HQ-001 / Emergency Preparedness Program	3,218	2,789	2,800
HQ-EM75 / Environmental and Reg. Analysis	518	293	300
HQ-TMHQ1 / Transportation and Packaging	12,183	11,503	0
ID-CMP-001 / National Analytical Management Program	2,971	2,935	700
OPS/HQ-PP / Pollution Prevention	12,992	6,986	1,762
HQ-100-AA / Technical Support to ER	976	676	2,690
HQ-EM74 / Headquarters Program Integration	8,117	9,069	9,000
HQ-PM-001 / Policy and Management	26,437	38,238	17,190
HQ-WM001 / Complex-Wide Waste Management Support and Analyses	3,132	2,554	2,500
HQ6002 / Support to Transition Activities	2,707	3,540	6,117
HQNP-NCST/Nuclear Criticality Safety Training	3,000	3,750	241
Subtotal	76,251	82,333	43,300
HQ-9999-01 / Federal Contribution to UE D&D Account	398,088	420,000	420,000
Total, Multi-Site Activities	474,339	502,333	463,300

Funding by Site

	(dollars in thousands)				
	FY 1999	FY 2000	FY 2001	$ Change	% Change
Multi-Site	474,339	502,333	463,300	-39,033	-7.8%
Total, Multi-Site	474,339	502,333	463,300	-39,033	-7.8%

Site Description

Multi-Site

The Multi-Site program consists of several subprograms, which provide for technical support, education and training, environmental and regulatory analysis, hazardous waste operations and emergency response training, pollution prevention, and nuclear criticality safety training.

The role of the Multi-Site Federal effort is to provide leadership and support, establish and implement National and Departmental policy, conduct analyses and integrate activities across the various DOE sites. The Multi-Site program also supports education and training to improve the technical capability of the EM staff pursuant to Defense Nuclear Facilities Safety Board recommendations. This program also provides for technical assistance in assessing and establishing site baselines through data collection and analysis, all of which support the

accelerated closure of EM sites. The Multi-Site program assesses the progress of the EM sites to track and report to Congress, interested stakeholders, and the public on the status of the program.

The Environmental and Regulatory Analysis program advocates and champions the resolution of environmental, legal, and regulatory issues that cut across many sites and do not readily fall within the purview of the primary business lines. The program provides policy direction and guidance to operations and the Environmental Management program offices to successfully implement the negotiation and enhancement of environmental compliance and cleanup agreements and the requirements of the National Environmental Policy Act. The program also promotes conflict resolution and collaborative decision-making that will facilitate partnering programs between DOE, its regulators, and its stakeholders.

The role of the National Analytical Management Program is to ensure that the laboratory analyses being performed are of sufficient quality to: meet the needs and requirements of the EM program and the regulatory community; be scientifically and legally defensible; provide the basis for returning the DOE environment to the public domain; and to assist in meeting the objectives of the *Accelerating Cleanup: Paths to Closure* plan.

The role of the Pollution Prevention program is to comply with waste minimization, pollution prevention, affirmative procurement, and recycling requirements under Federal/State statutes, Executive Orders, and DOE Orders, and reduce waste generated through implementation of cost-effective pollution prevention projects.

The role of the program goal of the Nuclear Criticality Safety Training program is to implement and enforce the criticality safety programs as established through the Department's Implementation Plan for the Defense Nuclear Facilities Safety Board Recommendation 97-2.

Detailed Program Justification

(dollars in thousands)

FY 1999	FY 2000	FY 2001

The scope planned for FY 2001 has been reviewed and is appropriate to meet the goals of the Multi-Site activities as outlined in the *Accelerating Cleanup: Paths to Closure* plan. The funds requested for FY 2001 are appropriate to perform the activities based on a historical level of effort cost. No quantifiable corporate performance measures are associated with these projects.

(dollars in thousands)

FY 1999	FY 2000	FY 2001

HQ-EM-HQ-001 / Emergency Preparedness Program

An Emergency Management program within the Office of Environmental Management is maintained, within the Office of Security and Emergency Operations. The DOE Order 151.1, "Comprehensive Emergency Management System", requires the Office of Environmental Management to ensure the implementation of policy and DOE Order requirements related to emergency management facilities/sites and operations offices under its cognizance. It is also required to establish and maintain a system for handling transportation emergency planning and preparedness involving unclassified shipments of radioactive materials. The Office of Environmental Management implements the Transportation Emergency Preparedness Program and the Facility Emergency Preparedness Program to address these requirements.

The Transportation Emergency Preparedness Program: 1) ensures that DOE meets its transportation emergency responsibilities under Federal regulations, the National Contingency Plan, and the Federal Radiological Emergency Response Plan; 2) addresses State, Tribal, and local government concerns about emergency preparedness for DOE radioactive material shipments; 3) coordinates DOE-wide transportation emergency preparedness activities for nonweapons-related radioactive material shipments; and 4) supports emergency responders at all levels of government. Emergency preparedness is the number one concern identified by stakeholders in DOE's shipping campaigns. Also, the Transportation Emergency Preparedness Program activities reinforce DOE's and EM's commitment to openness and full participation, leading to greater public understanding, confidence, and cooperation in EM cleanup and waste activities.

(dollars in thousands)

FY 1999	FY 2000	FY 2001

The Facilities Emergency Preparedness Program is designed to ensure that both Headquarters and field elements can respond effectively to an operational emergency at an EM facility, as required by DOE Order 151.1. This program provides a system for ensuring EM Headquarters personnel are prepared to provide technical expertise and/or programmatic assistance when an emergency is reported and provides assurance to EM Headquarters senior management personnel that facilities/sites under the purview of EM have adequately addressed emergency preparedness requirements. Planning and assistance activities are conducted by the Facilities Emergency Preparedness Program to establish and maintain a capability to respond to an emergency at an EM facility.

Implementation of the Transportation Emergency Preparedness Program will continue through the eight Regional Coordinating Offices. The Transportation Emergency Preparedness Program Coordinator will establish/continue dialog/interactions with State, Tribal and local governments along transportation corridors used for DOE unclassified radioactive material shipments to assist them in implementing planning and training tools. Work will continue in the regions to complete the Needs Assessment with the States to determine readiness and planning and training requirements.

Update/maintain the Transportation Emergency Preparedness Program planning and training tools based on user feedback.

Complete development and distribution of the Modular Emergency Response Radiological Transportation Training materials.

Participate with the Office of Emergency Operations in completing the revision of DOE Order 151.1 and the Transportation Emergency Management Manual. Assist in the implementation of the requirements within the DOE complex.

Conduct joint Headquarters and field planning and drill activities to assure an effective response in the event of an operational emergency.

Maintain the Transportation Emergency Preparedness Program database of state points of contact for emergency notification.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Continue to conduct train-the-trainer classes to complete classes in each of the eight DOE regional coordinating offices.			
HQ-EM-HQ-001	3,218	2,789	2,800

HQ-EM75 / Environmental and Regulatory Analysis

These activities support a team to promote cost efficiencies within the EM program by establishing effective lines of communication with programs and sites to identify and assist in resolving multi-site environmental and regulatory issues across the DOE complex. The team acts as the National Environmental Policy Act Compliance Officer to promote cost-effective compliance across the EM program.

Complete LandTech land transfer projects at the Los Alamos National Laboratory.

Continue the co-development and deployment of LandTech with the Department of Defense.

Continue implementation of LandTech land transfer projects at Rocky Flats.

Participate in interagency work groups addressing Environmental Protection Agency administrative reforms.

Continue to publish monthly "Envirowatch" Newsletters.

Support sites and program offices in negotiating policy provisions of compliance and cleanup agreements.

Support program and field offices in renegotiating and approving Agreements-in-Principles as required.

Conduct environmental regulatory, legislative and policy reviews and analyses as required.

HQ-EM75	518	293	300

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

HQ-TMHQ1 / Transportation and Packaging

The National Transportation program develops and maintains the DOE baseline transportation resources, including the coordination and development of DOE-wide transportation policy to assure the availability of safe, regulatory compliant, economical, efficient transportation for DOE materials through: 1) the identification of transport needs of all the DOE programs, particularly in supporting EM focus on project acceleration and site closure; 2) resolution of transport issues at the program level; 3) maintenance of a corporate institutional program to interact with national and regional stakeholders; 4) vigorous examination of all projected DOE material flows; 5) conducting a forward-looking, aggressive transportation technology program to resolve complex transportation and packaging problems and address regulatory issues; and 6) operational support of packaging and shipping activities both on- and off-site (excluding weapons and weapon components, Naval Reactors shipments and commercial spent nuclear fuel).

The Department's transportation and packaging activities are one of the most heavily regulated functions because of the hazardous materials (particularly radioactive) that are shipped. Noncompliance with regulations carries heavy penalties (both criminal and civil). Transportation is an area of public scrutiny due to the perceived hazards associated with the transportation of the DOE materials.

In FY 2001, these activities are transferred to multiple operations offices.

HQ-TMHQ1	12,183	11,503	0

ID-CMP-001 / National Analytical Management Program

This program is responsible for supporting all EM programs to assure that credible, cost-effective sampling, and analytical needs are met, and the data vital for making decisions regarding waste management and environmental remediation meet the needs of EM, regulators, and the public.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

In FY 2001, the following activities are supported:

< Strategic planning; outreach activities; sample management; procurement of analytical services; quality assurance; audit consolidation; laboratory issues; and data handling.

In FY 2001, a portion of this program is transferred to multiple operations offices.

ID-CMP-001	2,971	2,935	700

OPS/HQ-PP / Pollution Prevention

The Department's pollution prevention mission is to reduce or eliminate all wastes and pollutants in order to minimize the impact of the Department's operations on the environment, to reduce operational cost, and improve the safety and health of its operations.

Pollution prevention is the Department's preferred approach to reducing waste, mitigating health risks, and protecting the environment, in accordance with the Pollution Prevention Act of 1990. This was evidenced by the Secretary's November 1999 establishment of aggressive source reduction, recycling, and affirmative procurement goals, to be achieved by 2005. Pollution prevention applied within EM can significantly reduce wastes, allowing the cost savings to be used to accelerate the cleanup effort. As in industry, pollution prevention is a core program that helps DOE achieve maximum environmental benefits.

In FY 2001, the following activities are supported:

< Maintain field pollution prevention/waste minimization programs to comply with Federal/State laws and regulations.

< Track and report on waste generation and affirmative procurement activities.

< Coordinate pollution prevention activities with the waste generating organization to reduce waste generation.

In FY 2001, a portion of these activities are transferred to multiple operations offices.

OPS/HQ-PP	12,992	6,986	1,762

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

HQ-100-AA / Technical Support to ER

The activities funded by this project include a variety of crosscutting efforts that support required Environmental Management and DOE initiatives. Technical support is provided for performance measure activities; information/data management integration; project review/analysis; and other cleanup related areas which need support.

- Funding is utilized to provide technical support for critical crosscutting initiatives and to respond to a wide variety of EM/DOE efforts assigned to the EM line organizations.
- Many of the activities supported are highly visible and sensitive, and funds are used for technical review/analysis support to prepare EM/DOE options and/or recommended administration positions.
- Provides support for agreements with the Environmental Protection Agency, General Services Administration, the Volpe National Transportation Systems Center, and other technical contractor support for activities associated with data analysis/collection support, project review efforts, strategic/management plans, and cost/schedule improvement efforts.
- Provides support for the National Pollution Prevention program.

HQ-100-AA	976	676	2,690

HQ-EM74 / Headquarters Program Integration

This activity provides for technical support in the areas of document review, program integration activities, analysis of lifecycle estimates, and other crosscutting activities. Also, this activity provides training of DOE nuclear weapons facilities and related sites under the Hazardous Waste Operations Emergency Response program.

- Continue to support the analysis of lifecycle estimates for the EM program.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Continue the training of DOE nuclear weapons facilities and related sites under the Hazardous Waste Operations Emergency Response program.			
HQ-EM74	8,117	9,069	9,000

HQ-PM-001 / Policy and Management

This activity provides the other contractual services funding required to plan, direct, and manage the EM program. Program activities encompass the Administrative Support area including support for the Assistant Secretary's staff; other contractual services necessary to accomplish program activities that include overall management; acquisition of education and training activities for the entire EM program; and environmental policy recommendations and planning activities.

Provide EM and others with the technologies needed to support the EM programs. Furnishes computer hardware and software, as well as telecommunications services for the EM Local Area Nets which connect the Germantown area, Washington, D.C. area, and field office locations. Makes video teleconferencing services available to meet EM requirements. Planned activities include the EM Network Services, EM Customer Support, System and Data Security and Integrity, and EM Systems Development.

Enhance Tribal, State, and local government participation in the EM program through the continuation of State and Tribal governments working groups, government-to-government relationships with the Native American Tribes, and cooperative agreements with the National Governors Association, and the National Association of Attorneys General; continue management and evaluation of the EM Site-Specific Advisory Board and support the National Environmental Training Office's complex-wide efforts.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Establish recruitment, retention and training programs to respond to Congressional/General Accounting Office/Inspector General/Defense Nuclear Facilities Safety Board recommendations concerning technical capability of DOE Federal staff. Activities include coordinating the revision of complex-wide functional area qualification standards, establishment of a formalized Technical Capability Program, and assistance in the development of an automated relational database tracking system. Support EM's participation in the Science Bowl.			
# Provide analytical support for analysis of DOE/EM budget issues such as long-term funding projections compared to target levels and budget trends. Provide support to prepare quick turnaround information for congressional requests, and to track hundreds of congressional requests for information. Provide analytical support and coordination for crosscutting policy issues, such as long-term stewardship issues.			
HQ-PM-001	26,437	38,238	17,190

HQ-WM001 / Complex-Wide Waste Management Support and Analyses

The mission of the waste management program is to protect people and the environment from the hazards of the DOE radioactive and hazardous waste by providing an effective and efficient system that minimizes, treats, and stores the waste and disposes most of the waste as soon as possible. The project provides technical support for essential waste management activities that cut across the DOE complex. Support is provided for coordination and interactions with the Environmental Protection Agency, the Nuclear Regulatory Commission, and the Defense Nuclear Facilities Safety Board on waste management regulatory and safety issues; implementation of the DOE requirements for managing radioactive waste; and technical analyses to evaluate complex-wide integration opportunities that support reduction of environmental risk and cost of waste management operations.

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
# Implement Headquarters responsibilities under DOE Order 435.1, Radioactive Waste Management, including development of integrated complex-wide program plans for high-level, transuranic, low-level, and mixed low-level waste.			
# Conduct analyses and reviews in response to the Defense Nuclear Facilities Safety Board recommendations, including reviews of revised Performance Assessments and Composite Analyses for low-level waste disposal facilities in accordance with the Board's Recommendation 94-2.			
# Reimburse the Environmental Protection Agency for the cost of annual Resource Conservation and Recovery Act inspections at DOE facilities that store, treat, or dispose of mixed low-level radioactive waste.			
# Implement Headquarters responsibilities under DOE Policy 450.5, Line Environment, Safety and Health Oversight; conduct technical regulatory and policy analyses required for interactions with the Nuclear Regulatory Commission and the Environmental Protection Agency.			
# Meet the requirements of the Memorandum of Agreement with the Office of Civilian Radioactive Waste Management for acceptance of the Department's vitrified high-level radioactive waste.			
# Conduct technical analyses of major waste management program issues by the National Academy of Science's Board on Radioactive Waste Management.			
# Identify and analyze opportunities to integrate waste management activities across the DOE complex.			
# Exchange and analyze information with foreign national programs on innovative waste management technologies and operational experiences.			
HQ-WM001	3,132	2,554	2,500

HQ6002 / Support to Transition Activities

(dollars in thousands)

FY 1999	FY 2000	FY 2001

This project provides funding to continue support and respond to key Administration nonproliferation initiatives aimed at eliminating the use of weapons useable nuclear material in civil commerce, (the Foreign Research Reactor Spent Nuclear Fuel Acceptance Program), the Defense Nuclear Facilities Safety Board; Nuclear Regulatory Commission; and other proposed integration, stabilization, and deactivation projects. The support consists of experienced and knowledgeable individuals from industry, national laboratories, and other Federal and international organizations to provide independent technical reviews of scientific base and engineering practices to support the overall Environmental Management program mission.

- Accelerate stabilization/deactivation activities to respond to concerns of the Defense Nuclear Facilities Safety Board, the Nuclear Regulatory Commission, and other technical review boards.
- Provide support for analysis of accelerated plutonium shipments from the Rocky Flats Environmental Technology Site and the Richland Operations Office.
- Provide support/guidance to the material stewardship program on the handling, storage, treatment, and disposition of nuclear materials and isotopes that are currently in EM and Defense Programs facilities.
- Maintenance of a Nuclear Materials Information System to track inventory from EM, Defense Programs, and other sources.
- Support from regulatory bodies and international organizations (International Atomic Energy Agency) in planning for and facilitating the foreign research reactor spent nuclear fuel shipments, especially those from sensitive countries.
- Support the National Facility Deactivation Initiative, including new scope under pipeline support (transition, acceptance, and integrated deactivation and decommissioning of new facilities accepted by EM).
- To support critical areas of spent nuclear fuel integration which supplements the National Spent Nuclear Fuel program at the DOE-Idaho Operations Office:

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001

< Provides essential support of melt and dilute technology waste from qualification analysis. This promising technology may be used to prepare aluminum clad and other problematic spent nuclear fuel for the national repository in a cost effective manner.

< Continuing efforts to perform criticality analysis on DOE-owned spent nuclear fuel placed in a geologic repository. This activity feeds into the repository total system performance analysis and the repository license application.

< Provide technical assistance to DOE spent nuclear fuel sites to ensure national program guidelines for data management and repository preparation are followed in an efficient and cost effective manner.

< Further refine spent nuclear fuel analysis groupings that conservatively represent the diverse population of DOE-owned spent nuclear fuel and provide bounding analyses in the repository license application.

HQ6002	2,707	3,540	6,117

HQNP-NCST / Nuclear Criticality Safety Training

This activity provides support to the Nuclear Criticality Safety Training program. The Implementation Plan for Recommendation 93-2, "The Need for Critical Experiment Capability," established a program to maintain the viability of the Department's critical experiments program and improve the knowledge base underlying prediction of criticality. Ongoing activities have been included under the program established for the Defense Nuclear Facilities Safety Board Recommendation 97-2, Nuclear Criticality Safety Training, which supports the efficient integration and functioning of criticality safety programs across all DOE operations involving fissile materials.

In FY 2001, the following activities are supported:

The Environmental Management-funded segments of the Defense Nuclear Facilities Safety Board Recommendation 97-2, consist of three elements:

< nuclear data;

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
< calculational methods; and			
< guidance on applicability of bounding curves/data.			
# In FY 2001, a portion of the Nuclear Criticality Safety Training activities are transferred to the Oak Ridge and Albuquerque Operations Offices.			
HQNP-NCST	3,000	3,750	241
Subtotal, Multi-Site	76,251	82,333	43,300

HQ-9999-01 / Federal Contribution to UE D&D Fund Appropriation Account

The Energy Policy Act of 1992 created the Uranium Enrichment Decontamination and Decommissioning Fund to pay for the cost of cleanup of the gaseous diffusion facilities located in Oak Ridge, Tennessee; Paducah, Kentucky; and Portsmouth, Ohio. The fund also covers the Federal cost to reimburse operating uranium or thorium processing site licensees for the costs of their environmental cleanup at designated sites, subject to a specific reimbursement limit. The Department compensates site owners on a per-ton basis for the restoration costs for those tailings attributable to the Federal government.

The Act authorizes annual fund contributions of $480,000,000, adjusted for inflation, from two sources: up to $150,000,000 from a special assessment on domestic utilities based on the ratio of their separative work unit purchases from the Department to total purchases from the Department including those produced for defense purposes, with the remainder of required funding to come from annual Congressional appropriations. The purpose of this activity is to provide the annual Government contribution.

Provide the FY 2001 Federal Government contribution to the Decontamination and Decommissioning Fund, as required by the Energy Policy Act of 1992.

HQ-9999-01	398,088	420,000	420,000

	(dollars in thousands)		
	FY 1999	FY 2000	FY 2001
Total Multi-Site Activities	474,339	502,333	463,300

Explanation of Funding Changes from FY 2000 to FY 2001

	FY 2000 vs. FY 2001 ($000)
HQ-EM-HQ-001 / Emergency Preparedness Program	
# No significant change.	11
HQ-EM75 / Environmental and Regulatory Analysis	
# No significant change.	7
HQ-TMHQ1 / Transportation and Packaging	
# The transportation and packaging program activities are transferred to multiple operations offices.	-11,503
ID-CMP-001 / National Analytical Management Program	
# Decrease is due to the transfer of a portion of this program to multiple operations office.	-2,235
OPS / HQ-PP / Pollution Prevention	
# Decrease is due to the transfer of a portion of the pollution prevention activities to multiple operations office.	-5,224
HQ-100-AA / Technical Support to ER	
# Increase in funding is due to the support of agreements with the Environmental Protection Agency, the General Services Administration, the Volpe National Transportation Systems Center; and other technical contractor support groups.	2,014
HQ-EM74 / Headquarters Program Integration	
# No significant change.	-69
HQ-PM-001 / Policy and Management	

	FY 2000 vs. FY 2001 ($000)
# Decrease is associated with the Citizens Monitoring and Technical Assessment Fund ($5,000,000) and the need to support congressional and Departmental initiatives, and correction of deficiencies that surfaced during the year ($16,048,000).	-21,048
HQ-WM001 / Complex-Wide Waste Management Support and Analysis	
# No significant change.	-54
HQ-6002 / Support to Transition Activities	
# Major increase is associated with providing data to the Yucca Mountain Project Office to ensure spent nuclear fuel is included in the licensing database ($2,500,000)..	2,577
HQNP-NCST / Nuclear Criticality Safety Training	
# Decrease is due to the transfer of a portion of the Nuclear Criticality Safety Training program to the Oak Ridge and Albuquerque Operations Offices.	-3,509
Total Funding Change, Multi-Site	-39,033

Capital Operating Expenses & Construction Summary

Capital Operating Expenses

(dollars in thousands)

	FY 1999	FY 2000	FY 2001	$ Change	% Change
General Plant Projects	28,380	38,218	41,691	3,473	9.1%
Accelerator Improvement Projects	0	0	0	0	0%
Capital Equipment	23,155	11,502	14,347	2,845	24.7%
Total, Capital Operating Expense	51,535	49,720	56,038	6,318	12.7%

Construction Projects

(dollars in thousands)

	Total Estimated Cost (TEC)	Prior Year Approp-riations	FY 1999	FY 2000	FY 2001	Unapprop-riated Balance
01-D-403 Immobilized High-Level Waste Interim Storage Facility, RL	81,300	0	0	0	1,300	80,000
00-D-401 Spent Nuclear Fuel Treatment and Storage Facility, SR	36,900	0	0	7,000	0	29,900
99-D-403 Privatization Phase I Infrastructure Support, RL	30,880	0	8,739 [a]	13,988	7,812	341
97-D-402 Tank Farm Restoration and Safe Operations, RL	216,960	21,545	4,800 [b]	20,516	46,023	124,076
96-D-408 Waste Management Upgrades, VL (RL Subproject)	12,800	12,629	171	0	0	0
95-D-407 219-S Secondary Containment Upgrade, RL	5,493	5,100	393	0	0	0
94-D-404 Melton Valley Storage Tank Capacity Increase, ORNL	49,525	48,000	1,525 [c]	0	0	0
94-D-407 Initial Tank Retrieval	211,675	27,680	8,561 [d]	4,060	17,385	153,989

[a] Reflects a reduction of $6,061,000 to support an FY 1999 reprogramming. The original appropriation was $14,800,000.

[b] Reflects a reduction of $17,923,000 to support an FY 1999 reprogramming. The original appropriation was $22,923,000.

[c] Reflects an FY 1999 internal reprogramming ($1,525,000).

	Total Estimated Cost (TEC)	Prior Year Approp-riations	FY 1999	FY 2000	FY 2001	Unapprop-riated Balance
93-D-187 High-Level Waste Removal from Filled Waste Tanks, SR	967,200	262,397	15,774 [a]	15,487 [b]	27,212	646,330
89-D-174 Replacement High-Level Waste Evaporator, SR	123,600	122,000	1,600 [c]	0	0	0
82-D-136 Fuel Processing Facilities Upgrade, ID	57,865	57,000	865 [d]	0	0	0
Total, Construction		499,351	41,002	61,051	99,732	1,035,197

[d] Reflects a reduction to support an FY 1999 reprogramming ($24,299,270) and an uncosted offset ($560,730). The original appropriation was $32,860,000.

[a] Reflects FY 1999 Conference Mark which transfers $4,512,000 from project 96-D-408, Waste Management Upgrades to project 93-D-187, High-Level Waste Removal from Filled Waste Tanks at the Savannah River Site. Also includes a September 1999 internal reprogramming for $560,000.

[b] 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.

[c] Reflects FY 1999 internal reprogramming of $1,600,000.

[d] Reflects FY 1999 internal reprogramming of $865,200.

01-D-403, Immobilized High Level Waste Interim Storage Facility, Richland, Washington (RL-TW09)

(Changes from FY 2000 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 *(Preliminary Estimate)*	4Q 2001	3Q 2003	4Q 2003	2Q 2006	81,300	97,200

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
2001	1,300	1,300	1,180
2002	19,630	19,630	15,610
2003	35,950	35,950	27,680
2004	22,670	22,670	32,150
2005	1,750	1,750	4,680

3. Project Description, Justification and Scope

The Canister Storage Building (CSB) is located in the Hanford Site 200 East Area, and is currently being constructed as part of the Spent Nuclear Fuels Canister Storage and Stabilization Facility, Line-Item Project 96-D-406. After the CSB construction is finished, the Immobilized High Level Waste (IHLW) Interim Storage Facility Project will install systems, structures, and components to enable receipt and storage of Phase I IHLW produced by the private vendor. Vault 1 of the CSB will provide for interim storage of Spent Nuclear Fuel; this project will outfit vaults 2 and 3 for interim storage of IHLW. The project also includes a system for transporting IHLW canisters from the privatized plants to the CSB.

The Spent Nuclear Fuels Canister Storage and Stabilization Facility project has constructed the structural deck and basemat to vaults 2 and 3. The IHLW Storage 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 intake (approximately 80 feet high) and exhaust structures (approximately 164 feet) designed and constructed for convection cooling of the canisters. The IHLW storage Project will design/construct a building annex (approximately 2,900 square feet) to the CSB to receive IHLW from the private vendor. 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 60-ton 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 private vendor'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.

Phase I IHLW interim storage capability is required by May 2008, to coincide with the scheduled February 2007 start of IHLW product generation from the privatization facility.

The FY 2001 budget request will be used to initiate definitive design, safety documentation, and project integration.

4. Details of Cost Estimate

(dollars in thousands)

	Current Estimate	FY 2000 Request
Engineering, design, inspection, and administration of construction costs		
Preliminary and final design costs (9.3% of total estimated cost (TEC))	7,575	0
Design management costs (0.5 % of TEC)	385	0
Project management costs (1.6 % of TEC)	1,340	0
Total, Engineering, design, inspection, and administration of construction costs (11.4% of TEC)	9,300	0
Construction Costs		
Buildings and improvements to land	8,830	0
Specialized equipment	40,460	0
Other (major utilities/comp items, specialized facilities, etc.)	0	0
Removal cost less salvage	0	0
Project management	1,890	0
Inspection, design and project liaison, testing, checkout and acceptance	6,880	0
Construction management (3.2% of TEC)	2,570	0
Total, Construction costs	60,630	0
Contingencies		
Design phase (1.6% of TEC)	1,320	0

	(dollars in thousands)	
Construction phase (12.4% of TEC)	10,050	0
Total, Contingencies (14.0% of TEC)	11,370	0
Total, line item costs	81,300	0

5. Method of Performance

The Project Hanford Management Contractor will manage the project for Richland. An offsite architect-engineer will perform design of the IHLW Interim Storage Facility Project. Construction will be performed by the architect-engineer with fixed-price contracts utilized to the maximum extent possible.

6. Schedule of Project Funding

	(dollars in thousands)					
	Prior Years	FY 1999	FY 2000	FY 2001	Out Years	Total
Project cost						
Facility Cost						
Design	0	0	0	1,180	9,440	10,620
Construction	0	0	0	0	70,680	70,680
Total facility costs	0	0	0	1,180	80,120	81,300
Other project costs						
Conceptual design cost	1,040	0	0	0	0	1,040
NEPA documentation costs	5	0	0	0	0	5
Other project-related costs	560	540	1,530	1,530	10,695	14,855
Total other project costs	1,605	540	1,530	1,530	10,695	15,900
Total project costs	1,605	540	1,530	2,710	90,815	97,200

7. Related Annual Funding Requirements

	(FY 2000 dollars in thousands)	
	Current Estimate	Previous Estimate
Annual Facility operating costs (staff, utilities, etc.)	4,177	0
Annual facility maintenance and repair costs	0	0
Other annual funding	270	0
Total related annual funding (operating from FY 2007-FY2016)	4,447	0

99-D-403, Privatization Phase I Infrastructure Support, Richland, Washington (RL-TW08)

(Changes from FY 1999 Reprogramming 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 1999 Budget Request *(Preliminary Estimate)*	1Q 1999	1Q 2000	1Q 1999	1Q 2001	30,880	39,000
FY 2000 Budget Request *(Current Baseline Estimate)*	"	1Q 2000	3Q 1999	1Q 2002	"	"
FY 1999 Reprogramming Request *(Current Baseline Estimate)*	"	"	"	"	"	"
FY 2001 Budget Request *(Current Baseline Estimate)*	"	"	"	"	"	"

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
1999	8,739 [a]	8,739	2,564
2000	13,988 [b]	13,988	15,638
2001	7,812	7,812	10,850
2002	341	341	1,828

[a] Reflects original appropriation of $14,800,000 less reduction of $6,061,000 due to approved reprogramming request. The funding was available because the current privatization schedule allows the project to defer the electrical work for six months and design and construction of the liquid effluent line for one year.

[b] Appropriations for FY 2000-2002 adjusted to reflect budget requirements of the revised project schedule. The Total Estimated Cost has not changed.

3. Project Description, Justification and Scope

As part of the Tank Waste Remediation System (TWRS) Privatization Phase I Contract, the U.S. Department of Energy committed to deliver key utilities and service to the privatization contractor's Low Activity Waste (LAW) treatment facility. This project will provide the necessary site infrastructure and interface function to meet the commitments. The privatization facility will be located near the southeast corner of the 200 East Area in an area formerly identified for LAW grout storage/disposal.

Electrical service (normal power) of up to 20mW will be provided to the privatization facility through a new 230-13.8kV substation located in the 200 East Area.

Raw water, fire suppression and potable water services will be provided the privatization facility through the extension and upgrading of existing 200 East Area water systems.

Effluent transfer piping for non-dangerous effluents will be constructed and installed between the privatization facility and existing liquid effluent piping systems serving the 200 East Area Treated Effluent Disposal Facility (TEDF) and the Liquid Effluent Retention Facility (LERF) along the east perimeter of the 200 East Area.

Other subprojects provide new roadway construction, extension of temporary power and of raw water to the construction and other tasks to prepare the site for eventual privatization construction activities. This task will also include the closure and/or replacement of selected wells on the site, rough surface contouring, habitat mitigation, establishment of a site characterization baseline and the development of selected areas for utility corridors and roadways.

The project is essential to supporting numerous Tri-Party Agreement milestones related to pretreatment and immobilization of Low Activity Tank Waste; specifically, those associated with the construction and operations of Phase I LAW facilities, M-60-11, "Start of construction of two(2) Phase I LAW facilities..." and M-60-12, "Start operation of two (2) contractor-owned...Phase I LAW facilities..." However, the Department decided to proceed with only one treatment facility.

| Startup and testing activities will be completed when the liquid effluent transfer lines and the electrical system
| become operational in FY 2002. All other utilities/service upgrades will be completed in FY 2001.

| The FY 2001 budget request will be used construct the liquid effluent transfer line and to complete construction
| of the remainder of the project, including electrical power and utilities.

4. Details of Cost Estimate

(dollars in thousands)

	Current Estimate	FY 2000 Request
Engineering, design, inspection, and administration of construction costs		
Preliminary and final design costs (2.3% of total estimated cost (TEC))	700	650
Design management costs (0.5 % of TEC)	150	150
Total, Engineering, design, inspection, and administration of construction costs (2.8% of TEC)	850	800
Construction Costs		
Buildings and improvements to land	3,070	3,273
Specialized equipment	2,180	0
Other (major utilities/comp items, specialized facilities, etc.)	12,500	16,547
Removal cost less salvage	0	0
Project management	2,670	1,130
Inspection, design and project liaison, testing, checkout and acceptance	2,240	1,370
Construction management (10.6% of TEC)	3,270	3,100
Total, Construction costs	25,930	25,420
Contingencies		
Design phase (0.0% of TEC)	0	170
Construction phase (13.3% of TEC)	4,100	4,490
Total, Contingencies (13.3 % of TEC)	4,100	4,660
Total, line item costs	30,880	30,880

5. Method of Performance

Design/inspection and construction will be accomplished using either fixed price design/construct contracts or selected design agent contracts with separate fixed price construction contracts.

6. Schedule of Project Funding

(dollars in thousands)

	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	Out Years	Total
Project cost							
Facility Cost							
Design	0	0	850	0	0	0	850
Construction	0	0	1,714	15,638	10,850	1,828	30,030
Total facility costs	0	0	2,564	15,638	10,850	1,828	30,880
Other project costs							
Conceptual design cost	555	0	0	0	0	0	555
NEPA documentation costs	0	0	0	0	0	0	0
Other project-related costs	2,147	1,852	1,380	1,150	540	496	7,565
Total other project costs	2,702	1,852	1,380	1,150	540	496	8,120
Total project costs	2,702	1,852	5,780	15,650	11,390	1,626	39,000

7. Related Annual Funding Requirements

(FY 2000 dollars in thousands)

	Current Estimate	Previous Estimate
Annual Facility operating costs (staff, utilities, etc.)	410	TBD
Annual facility maintenance and repair costs	0	0
Other annual funding	0	0
Total related annual funding (operating from FY 2002-FY2018)	410	TBD

97-D-402, Tank Farm Restoration and Safe Operations, Richland, Washington (RL-TW03)

(Changes from FY 2000 Reprogramming 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	“	“

[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[b]	20,516	20,516
2001	46,023[c]	46,023	46,023
2002	46,222	46,222	46,222
2003	31,100	31,100	31,100
2004	32,591	32,591	32,591
2005	14,163	14,163	14,971

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 disposal privatization and routine operations of existing double-shell tank farm facilities during the Tank Waste Remediation System 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 Tank Waste Remediation System 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.

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[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] Appropriations for FY 2000-2007 adjusted to reflect budget requirements of the revised project schedule.

[c] Reflects: 1) the shifting of selected Phase 2 scope to Phase I, 2) changes in the authorization basis, 3) programmatic needs and 4) the dated nature of the existing scope definition.

Instrumentation

The project will upgrade the master pump shutdown system and associated alarms. All new instrumentation/control equipment will be capable of providing remote readout and/or alarm at selected manned facilities, resulting in a significant reduction in the amount of manual field data collection in the double-shell tank farms, thereby improving worker efficiency and reducing worker stay time in the radiation zones (implementing an as low as reasonably achievable {ALARA} principle). No new single-shell tank instrumentation is planned to be provided by this project. No liquid level monitors or continuous air monitors will be provided by this project.

Tank Ventilation

The project will replace the existing primary ventilation systems for Tank Farms 241-AN, -AP, and - AW with new, high-capacity exhaust filtration systems. A new exhaust stack, along with stack effluent monitoring and ventilation control equipment, will be included in these upgrades. New seal pots and associated condensate piping will be installed to support the collection of condensate from the new ventilation systems and return it to the primary tank system. The ventilation systems will be designed to facilitate future installation of additional effluent control equipment, if needed. The project also will provide a new annulus ventilation system for the 241-SY Tank Farm, and replacement ventilation systems for the 244-A and 244-S Double Contained Receiver Tank facilities. The new annulus and primary ventilation systems will be connected to existing underground ductwork. Existing filter trains replaced by this project will be removed and disposed.

The ventilation upgrades will improve worker safety and reduce the risk of radioactive and/or hazardous material releases to the environment by providing improved confinement and monitoring of tank emissions. New off gas treatment/filtration systems and effluent monitoring systems will be provided to ensure compliance with applicable Federal, State, and local emission standards.

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) in the A Farm Complex (200 East Area), and three existing transfer lines will be replaced with new lines. 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 provide a decontaminable surface and support compliance with regulatory requirements for secondary containment. New transfer systems will be fully compliant with Resource Conservation and Recovery Act requirements and with Washington State regulations governing hazardous waste handling.

Electrical Distribution

Existing electrical power supplies for the equipment supporting the double-shell tanks primary/annulus ventilation systems and the 244-A/244-S Double Contained Receiver Tank ventilation systems will be upgraded and/or replaced to provide backup power capabilities. In addition to providing improved reliability for ventilation systems, these upgrades will allow shutdown of the main switchgear to permit routine preventative maintenance to be performed. In addition, the project will upgrade the single-shell tank electrical power systems to support clean/controlled/stable operations. No new safety class power systems are planned as part of this project.

The purpose of Phase II of this project is to improve reliability of safety-related systems, reduce on-site health and safety hazards, reduce the risk of unmonitored releases to the environment, support waste disposal privatization and support the double-shell tanks functions by restoring the selected Tank Farm facilities and systems. Assessments of the tank farms' instrumentation/control, ventilation, waste transfer, and electrical systems, which included physical inspections/condition assessments and engineering analyses to determine compliance with applicable requirements, have identified the need for extensive infrastructure restoration in order to meet the overall Tank Waste Remediation System mission goals and support safe operation and maintenance activities.

Because of their age, many infrastructure systems and components have either exceeded their useful service lives and can be expected to fail in the near-term; have deteriorated beyond repair and must be replaced to ensure continued reliable operation; or operate outside current environmental, health, and safety regulations. Due to the age and obsolescence of the existing equipment, it is often difficult to obtain replacement parts for failed or degraded components. These conditions, coupled with the problems associated with performing maintenance work in contaminated areas, have resulted in high operation and maintenance costs for the Tank Farm facilities.

The FY 1999 adjusted appropriation is being used to continue construction in the AN farm valve pit, to continue design of the master pump shutdown system, to initiate procurement for the master pump shutdown equipment, to continue design of the 200 East waste transfer line, to initiate procurement for the waste transfer line, to provide project management, to support permitting activities, and to provide contingency.

Work originally planned for FY 1999 that has been deferred includes:

Construction in the AY farm valve pit, construction in the AZ farm valve pit, completion of AW farm design, AW farm construction, construction of 200 East upgrades, a portion of the master pump shutdown procurement, and construction of the master pump shutdown system.

The FY 2001 appropriation will be used to support continued Phase I construction activities, Phase II design and associated project management. Phase I construction activities include master pump shutdown, AN-101/104 upgrades, AZ-102/AZ-101 upgrades, AW Farm Pit upgrades, AP Valve Pit upgrades and Waste Transfer System (WTS) upgrades.

4. Details of Cost Estimate

	Current Estimate	FY 2000 Request
	(dollars in thousands)	
Design phase		
Preliminary and final design costs (11.9% of total estimated cost (TEC))	25,909	33,340
Design management costs (0.9% of TEC)	2,051	0
Total, Engineering, design, inspection, and administration of construction costs (12.9% of TEC)	27,960	33,340
Construction phase		
Buildings and improvements to land	12,330	330
Specialized equipment	64,880	89,360
Other (major utilities/comp items, specialized facilities, etc.)	12,000	4,190
Removal cost less salvage	4,748	4,190
Project management	14,757	18,545
Inspection, design and project liaison, testing, checkout and acceptance	24,509	21,750
Construction management (6.4% of TEC)	13,866	3,345
Total, construction costs	147,090	141,710
Contingencies		
Design phase (2.8% of TEC)	6,075	6,450
Construction phase (16.5% of TEC)	35,835	35,460
Total, contingencies (19.3% of TEC)	41,910	41,910
Total, line item costs (TEC)	216,960	216,960

5. Method of Performance

The Project Hanford Management Contractor will be responsible for overall project management and integration services for the Tank Farm Restoration and Safe Operations project, as well as for coordination of permitting and safety analysis work in support of the project. Definitive design, inspection, and construction management activities will be performed by the contracted Engineer/Constructor Contractor. Construction work in radiologically contaminated areas, utility tie-ins, and demolition work will also be performed by the Engineer/Constructor. To the extent feasible, construction in uncontaminated areas and procurement shall be accomplished by fixed-price contracts awarded on the basis of competitive bidding. Burial of contaminated materials, health physics technician support, and startup testing/readiness review support will be performed by the Project Hanford Management Contractor.

6. Schedule of Project Funding

(dollars in thousands)

	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	Outyears	Total
Project cost							
Facility cost							
Design	3,864	5,933	8,087	4,829	3,117	8,205	34,035
Construction	0	3,663	3,990	15,687	42,906	116,679	182,925
Total facility costs (Federal and Non-Federal)	3,864	9,596	12,077	20,516	46,023	124,884	216,960
Other project costs							
Conceptual design cost	13,324	0	0	0	0	0	13,324
NEPA documentation costs	12	0	0	0	0	0	12
Other project-related costs	11,470	1,790	5,700	5,700	8,458	21,846	54,964
Total other project costs	24,806	1,790	5,700	5,700	8,458	21,846	68,300
Total project costs (TPC)	28,670	11,386	17,777	26,216	40,634	160,577	285,260

7. Related Annual Funding Requirements

(FY 2000 dollars in thousands)

	Current Estimate	Previous Estimate
Annual facility operating costs (staff, utilities, etc)	NA	NA
Annual facility maintenance and repair costs	NA	NA
Other annual costs	NA	NA
Total related annual funding	NA	NA

94-D-407, Initial Tank Retrieval Systems, Richland, Washington (RL-TW04)

(Changes from FY 2000 Reprogramming Request are denoted with a vertical line [|] in the left margin.)

Significant Changes

Progress during FY 1999 on the design of the planned vitrification processing, the definition of waste feed specification details, and the analysis of feed retrieval options has resulted in an updated plan for the feed retrieval program in support of the processing contract phase 1B2. Nine additional tank retrieval and staging systems, previously planned as a separate project, have been added to this project scope (Subproject 02) in order to accommodate this phase of contract feed requirements. The project scope, which now includes a total of eighteen tanks, has been divided into two subprojects: The retrieval systems originally planned as the scope of 94-D-407 are included in Subproject 01. The nine tank retrieval and staging systems, ventilation upgrades, and waste transfer components added to this project in order to accommodate phase 1B2 of contract feed requirements are included in Subproject 02. The TEC/TPC has increased due to detail design costs of Subproject 02 being added to this project.

Conceptual design for retrieval systems added to scope in this revision (Subproject 02) will be funded through operating expense funding requested in FY 2000. Engineering design for the added systems will commence in fiscal year 2001, and construction in fiscal year 2002.

Cost adjustments may be required as designs are completed and vitrification feed schedules are clarified, but no significant growth in project scope is anticipated through the completion of upgrades for (minimum) contract requirements for feed to vitrification.

Subproject 2 scope addition is needed to provide the minimum feed requirements within the feed envelopes as required by the privatization contract. The exact scope of these upgrades is under consideration, but will be further described as contract needs and feed sequence planning mature.

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 *(Prelim Est)*	2Q 1994	4Q 1998	1Q 1995	2Q 2000	210,000	245,000
FY 1995 Budget Request *(Prelim Est)*	"	4Q 1999	4Q 1995	2Q 2001	210,000	245,000
FY 1996 Budget Request *(Prelim Est*)	"	2Q 2008	3Q 1996	2Q 2010	315,100	375,200
FY 1997 Budget Request *(Title I Base)*	4Q 1994	4Q 2007	4Q 1996	"	304,300	358,200
FY 1998 Budget Request *(Title I Base)*	"	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 2008	"	4Q2010	211,675	244,931

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
1994	1,000 [a]	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	4,060
2001	17,385	17,385	19,665
2002	28,720 [g]	28,720	28,770
2003	28,190	28,190	30,620
2004	23,000	23,000	24,757
2005	18,000	18,000	15,640
2006	18,000	18,000	18,760
2007	14,000	14,000	17,240
2008	12,000	12,000	11,330

[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 defense 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 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] Funding for Subproject 02 is not included in FY 2002-FY 2011. The project is in design only phase. Outyear funding will be added when conceptual design is complete.

2009	10,000	10,000	10,360
2010	2,640	2,640	4,240
2011	0	0	1,354

3. Project Description, Justification and Scope

This revision to project scope reflects the total waste retrieval and delivery scope required by the waste processing (privatized vitrification) contract phase 1B based on feed batch specifications, feed tank retrieval sequence, feed staging and delivery. Tank upgrades meeting individual design requirements are programmed. 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 (DSTs) 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.

The upgrade construction schedule is driven by and supports planned processing contract feed requirements for both high level waste (HLW) and low activity waste (LAW) batch delivery schedules. Uncertainties remain in the processing feed rate requirements and the technical drivers for a continuous feed flow, so retrieval and feed program risk analysis has provided for limited contingency margin above best estimate feed requirements in support of the privatization contract phase 1B. This contingency is intended to avoid the large penalties structured into the privatization contract for failure to deliver waste feed as needed. However, international experience in operating vitrification (melter) systems suggests that adjustments to this contingency (either increasing or decreasing feed retrieval project scope) may be needed in outyears.

Subproject 01

TEC	Previous	FY 1999	FY 2000	FY 2001	Outyears	Construction Start - Completion Date
202,000	27,680	8,000	4,060	7,710	154,550	1st Qtr. 2001 – 4th Qtr. 2010

Subproject 01 will provide mixing and pumping systems for the retrieval of radioactive wastes from selected DSTs at Hanford. 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. 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.

FY 1999 funding was used for design of three retrieval systems, design changes to a fourth system, and for project management. Work originally planned for FY 1999 that was deferred includes: Construction of three retrieval systems, design of two additional systems, procurement for four systems and project contingency associated with these activities.

The FY 2001 budget request will be used for continuing design of retrieval systems, initiating construction, and associated project management.

Subproject 02

TEC	Previous	FY 1999	FY 2000	FY 2001	Outyears	Construction Start - Completion Date
9,675	0	0	0	9,675	0	1st Qtr. 2002 – 2nd Qtr. 2010

Subproject 02 will provide waste retrieval and staging systems for additional DSTs, ventilation upgrades and waste transfer components. These upgrades will provide both HLW and LAW feed and staging capabilities determined necessary for the vitrification contract. Because of the nature of the wastes being retrieved and the mission of the tanks (waste staging), both mixer and transfer pumps will be required in most of the tanks.

The subproject will provide DST upgrades or equipment additions for waste mobilization, preparation and transfer for feed blending/preparation and staging prior to being sent to BNFL. The design and construction effort for each tank will typically include pumps, valves, jumpers, control instrumentation, utilities, chemical addition and dilution systems, ventilation and pit upgrades, and piping systems. The tanks upgraded by this subproject will include the remaining DSTs for Phase 1B not presently included in Subproject 01. This subproject will also be responsible for removing and disposing of some existing in-tank equipment including instrumentation, pumps, piping, jumpers and valves.

The FY 2001 budget request will support initiating the design of four waste feed tanks. Early design of these tanks is required because contractual delivery dates of waste feed to the private contractor demands initiation of construction of the tanks early in FY 2002.

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 (12.5% of total estimated cost (TEC))	26,555	25,520
Design management costs (2.5 % of TEC)	5,230	7,250
Project management costs (3.9 % of TEC)	8,160	0
Total, Engineering, design, inspection, and administration of construction costs (18.9% of TEC)	39,945	32,770
Construction Costs		
Buildings and improvements to land	930	1,380
Specialized equipment	68,970	79,590
Other (major utilities/comp items, specialized facilities, etc.)	18,780	24,570
Removal cost less salvage	14,050	5,630
Project management	9,070	4,900
Inspection, design and project liaison, testing, checkout and acceptance	19,450	10,910
Construction management (10.9% of TEC)	23,080	6,750
Total, Construction costs	154,330	133,730
Contingencies		
Design phase (0.7% of TEC)	1,520	5,630
Construction phase (7.5% of TEC)	15,880	29,870
Total, Contingencies (8.2% of TEC)	17,400	35,500
Total, line item costs	211,675	202,000

5. Method of Performance

The Project Hanford Management Contractor will manage the project for the Office of River Protection. For Subproject 01, the onsite engineer-constructor will perform design and construction. Fixed-price contracts will be utilized to the maximum extent possible.

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[a] Estimate is based on the Title I design estimate, dated January 1996 and as modified to incorporate change requests and modification of the list of tanks to receive retrieval systems to meet the Waste Feed Delivery mission.

[b] Escalation rates were calculated from the February 1995 update of the economic escalation price change indices for DOE construction projects by the “Office of Infrastructure Acquisition, FM-50.”

For Subproject 02, an offsite architect-engineer will perform design of the Waste Feed Delivery Systems Project. The onsite engineer-constructor will perform construction with fixed-price contracts utilized to the maximum extent possible.

6. Schedule of Project Funding

(dollars in thousands)

	Prior Years	FY 1999	FY 2000	FY 2001	Outyears	Total
Project Cost						
Facility Cost						
Design	15,193	4,100	4,060	12,075	6,037	41,465
Construction	5,029	557	0	7,590	155,920	170,210
Total facility costs (Federal and Non-Federal)	20,222	4,657	4,060	19,665	161,957	211,675
Other project costs						0
Conceptual design cost	1,609	0	2,660	0	0	4,269
NEPA documentation costs	10	0	0	730	0	740
Other project-related costs	5,956	800	2,240	3,280	17,085	29,361
Total other project costs	7,575	800	4,900	4,010	17,085	34,370
Total project costs (TPC)	27,797	5,457	8,960	23,675	179,042	244,931

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

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

(Changes from FY 2000 Congressional Budget Request are denoted with a vertical line [|] in the left margin.)

Significant Changes

- Waste removal facilities have been added to the scope of this line item for the remaining nine tanks that have not been previously included (or funded elsewhere). The affected tanks are Tanks 27, 32, 33, 34, 39, 43, 44, 45, and 46. Steam spargers have also been added to the scope for Tanks 40 and 51.
- Modifications to isolate the remaining 49 tanks from the rest of the tank farms at the end of the service life of these tanks have been added to the scope of this line item. The affected tanks are Tanks 1-16, 18, 19, 21-24, and 25-51.
- Replacement of existing service piping for Tanks 38-43 and 48-51 on the "East Hill" of H-Area have been added to the scope of the line item.
- Modifications required to bring the line item's facilities in compliance with the new Tank Farm Safety Analysis have been added to the scope of the line item.
- Architect-engineer work and physical construction complete dates have been extended from 4Q 2006 and 4Q 2008 to 2Q 2028 and 4Q 2028, respectively.
- Salt Processing Alternative will now be a separate line item and not included in this line item as previously stated.
- Total estimated cost increased from $558,050,000 to $967,200,000. Total project cost increased from $821,238,000 to $1,550,500,000.

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost ($000)	Total Project Cost ($000)
	A-E Work Initiated	A-E Work Completed	Physical Constructio n Start	Physical Constructio n 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

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	15,100
2001	27,212	27,212	27,300
2002	33,785	33,785	32,000
2003	31,690	31,690	31,300
Outyears	580,855	580,855	584,283

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 scheduled completion date in FY 2008. In FY 1994, the majority of the processing facilities in the high-level waste system were in

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[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.

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. No costs were included for the isolation of these tanks from the rest of the tank farm in preparation for the interim and final closure process nor were any costs included for upgrades to the high-level waste system outside the tank farms.

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 timeframe 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 proposed change in the cost and schedule baselines will 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 installation of waste removal equipment on the four remaining tanks has been provided by other projects. The proposed change 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. The proposed cost baseline is increased to $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 has been extended to match the production needs of the Defense Waste Processing Facility and to accommodate the added scope. This extension increases the escalation component of the cost but reduces the amount of funding required in a given year and supports a more balanced high-level waste canister production program. 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 timeframe 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 2005 timeframe, 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 4. The total project cost expenditures during this period are estimated at approximately $245,000,000 and average approximately $41,000,000 per year. The remaining sludge processing cost will be spent after FY 2005 on Defense Waste Processing Facility batches 5 through 8.

Salt Tanks: Expenditures for this portion of the line item scope are not projected to start until 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 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 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 1999	FY 2000	FY 2001	Outyears	Construction Start - Completion Dates
934,189	261,358	15,774	14,647	26,912	615,498	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 1999	FY 2000	FY 2001	Outyears	Construction Start - Completion Dates
33,011	1,039	0	840	300	30,832	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 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 upgrades to support 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.

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 2001 funds for this project will support design and construction consistent with the High-Level Waste System Plan, Revision 10, including continuation of construction of Tanks 7 and 11 with Title III Design support services, completion of Tank 15 walkdowns and initiation of Title II Design, initiation of Tank 15 in-tank equipment D&R activities, initiation of Tank 18 Title II Design, refurbishment of Tank 18 pumps, procurement of Tank 18 long lead equipment, completion of construction for the Tank 51 steam spargers and associated gang valves, initiation of walkdowns on Tank 26, initiation of procurement for Tanks 26 and 15 slurry pumps, initiation of design for "East Hill" infrastructure upgrades and tank space management upgrades.

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	115,525
Design management costs (1.2% of TEC)	11,603	7,374
Project management costs (1.2% of TEC)	12,000	0
Total, engineering, design, inspection, and administration of construction costs (21.2% of TEC)	205,337	122,899
Construction phase		
Buildings & improvements to land	12,341	6,936
Specialized equipment	347,303	213,163
Other (major utilities/comp items, specialized facilities, etc.)	160,243	96,798
Removal cost less salvage	21,353	12,000
Inspection, design and project liaison, testing, checkout and acceptance	39,059	21,952
Construction management (2.3% of TEC)	22,119	19,636
Project management costs (5.0% of TEC)	48,000	0
Total, construction costs	650,418	370,485
Contingencies		
Design phase (2.9% of TEC)	27,960	16,108
Construction phase (8.6% of TEC)	83,485	48,558
Total, contingencies (11.5% of TEC)	111,445	64,666
Total, line item costs (TEC)	967,200	558,050

5. Method of Performance

Design will be performed by Bechtel Savannah River design engineering and a project engineering services contract or a fixed-price 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 1999	FY 2000	FY 2001	Outyears	Total
Project cost						
Facility cost						
Design	89,806	3,536	1,772	8,125	130,058	233,297
Construction	170,331	13,544	13,328	19,175	517,525	733,903
Total facility costs (Federal and Non-Federal)	260,137	17,080	15,100	27,300	647,583	967,200
Other project costs						
Conceptual design cost	800	0	0	0	0	800
Other project-related costs [a]	30,641	7,671	7,700	14,000	522,488	582,500
Total other project costs	31,441	7,671	7,700	14,000	522,488	583,300
Total project costs (TPC)	291,578	24,751	22,800	41,300	1,170,071	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.