Defense Site Acceleration Completion

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Table of Contents

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Proposed Appropriation Language

For the Department of Energy expenses, including the purchase, construction, and acquisition of plant and capital equipment and other expenses necessary for atomic energy defense site acceleration completion activities and classified activities in carrying out the purposes of the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), including the acquisition or condemnation of any real property or any facility or for plant or facility acquisition, construction, or expansion; [$5,651,062,000] *$5,620,837,000,* to remain available until expended[; Provided that the Secretary of Energy is directed to use $1,000,000 of the funds provided for regulatory and technical assistance to the State of New Mexico, to amend the existing Waste Isolation Pilot Plant Hazardous Waste Permit to comply with the Provision of section 310 of the Act]. (Energy and Water Development Appropriations Act 2004.)

Explanation of Change

None.

Defense Site Acceleration Completion

Funding Profile by Program

(dollars in thousands)

	FY 2003 Comparable Appropriation	FY 2004 Original Appropriation	FY 2004 Adjustments	FY 2004 Comparable Appropriation	FY 2005 Request
Defense Site Acceleration Completion					
2006 Accelerated Completions.....	1,234,037	1,248,453	-9,435	1,239,018	1,251,799
2012 Accelerated Completions.....	2,102,613	2,236,252	-36,914	2,199,338	2,150,641
2035 Accelerated Completions.....	1,811,563	1,929,536	-11,161	1,918,375	1,893,339
Safeguards and Security.....	254,747	303,606	-12,482	291,124	265,059
Technology Development and Deployment……..	113,679	66,920	-804	66,116	60,142
HLW Proposal.....	0	0	0	0	350,000
Subtotal, Defense Site Acceleration Completion……..	5,516,639	5,784,767	-70,796 [a/]	5,713,971	5,970,980
Use of Prior Year Balances.....	-20,108	-132,361	-4,729	-137,090	0
Reimbursable Work.....	-122	-1,344	1,223	-121	-143
Total, Defense Site Acceleration Completion……..	5,496,409	5,651,062	-74,302	5,576,760	5,970,837

Public Law Authorizations:

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

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

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

Public Law 108-136, "National Defense Authorization Act for Fiscal Year 2004"

Public Law 108-137, "Energy and Water Development Appropriations Act, 2004"

Public Law 96-368, "West Valley Demonstration Project Act"

[a/] Reflects the following:

- Rescission reduction of $33,349,000;
- Transfer of $10,721,000 to the Office of Science for the Environmental Management staff at the Pacific Northwest National Laboratory.
- Transfer of $2,650,000 to the Office of Legacy Management for the payment of pensions and benefits to former contractor personnel at the Pinellas site.
- Transfer of $7,989,000 to the Office of Civilian Radioactive Waste Management for the National Spent Nuclear Fuel Program.
- Transfer of $4,861,000 to the Office of Civilian Radioactive Waste Management for the management of the NRC-licensed Fort St. Vrain Independent Spent Fuel Storage Installation and the NRC-licensed Three Mile Island Independent Spent Fuel Storage Installation.
- Transfer of $7,797,000 to the Office of Civilian Radioactive Waste Management for maintenance and operations of the Idaho National Laboratory Chemical Processing Plant-666 Facility and the non-legacy interim stored spent nuclear fuel.
- An accounting adjustment transfer of $3,429,000 to the Defense Environmental Services appropriation for Richland Spent Nuclear Fuel.

Mission

The mission of the Office of Environmental Management is to accelerate risk reduction and cleanup of the environmental legacy of the nation's nuclear weapons program and government-sponsored nuclear energy research. The Environmental Management program is responsible for managing and addressing the environmental legacy resulting from the production of nuclear weapons and nuclear research. Environmental Management's responsibilities include facilities and areas at 114 geographic sites. These sites are located in 31 states and one territory and occupy an area equal to that of Rhode Island and Delaware combined -- or about two million acres.

The Defense Site Acceleration appropriation provides for the accelerated cleanup and risk reduction for sites used in the development of nuclear weapons. This appropriation includes five programs; 2006 Accelerated Completions; 2012 Accelerated Completions; 2035 Accelerated Completions; Safeguards and Security; and Technology Development and Deployment. Additionally, in FY 2005 this appropriation includes a separate proposal for funding of the high-level waste program impacted by the legal uncertainties associated with DOE authorities in the Nuclear Waste Policy Act (specifically determination of the Waste Incidental to Reprocessing).

The FY 2005 request (including the High Level Waste Proposal) for the Defense Site Acceleration Completion appropriation is $5,970,837,000, an increase of $397,077,000 from the comparable FY 2004 appropriation of $5,576,760,000.

Benefits

This appropriation provides funding to accelerate risk reduction and environmental cleanup at sites contaminated as a result of nuclear weapons production and nuclear research. As the cleanup of these sites progresses, the risk and hazard to human health and the environment is greatly reduced. In addition, as cleanup is completed and sites are closed, the financial resources needed to maintain site infrastructure will no longer be required. By focusing resources on accelerating risk reduction and cleanup rather than managing risk, the cleanup of these sites will be achieved in a shorter timeframe and at less cost.

2006 Accelerated Completions

Funding Schedule by Activity

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	$ Change	% Change
ID-OPS-0900 / Pre-2004 Completions.....	8,086	0	0	0	0.0%
OR-0013A / Solid Waste Stabilization and Disposition-2006……..	48,835	67,566	40,096	-27,470	-40.7%
OR-0030 / Soil and Water Remediation - Melton Valley……..	49,139	55,591	71,672	16,081	28.9%
OH-AB-0030 / Soil and Water Remediation - Ashtabula…….	13,896	15,747	15,879	132	0.8%
OH-CL-0040 / Nuclear Facility D&D - West Jefferson……	18,963	22,735	19,849	-2,886	-12.7%
OH-FN-0013 / Solid Waste Stabilization and Disposition - Fernald……..	233,698	208,561	165,851	-42,710	-20.5%
OH-FN-0030 / Soil and Water Remediation - Fernald…….	70,902	66,932	133,670	66,738	99.7%
OH-FN-0050 / Non-Nuclear Facility D&D - Fernald…….	14,110	46,092	19,623	-26,469	-57.4%
OH-MB-0013 / Solid Waste Stabilization and Disposition - Miamisburg……..	24,877	18,102	57,971	39,869	220.2%
OH-MB-0030 / Soil and Water Remediation - Miamisburg……..	10,311	18,702	12,701	-6,001	-32.1%
OH-MB-0040 / Nuclear Facility D&D - Miamisburg……..	66,743	56,503	26,571	-29,932	-53.0%
RF-0011 / NM Stabilization and Disposition.....	26,576	677	0	-677	-100.0%
RF-0013 / Solid Waste Stabilization and Disposition……..	118,940	97,801	184,769	86,968	88.9%
RF-0030 / Soil and Water Remediation.....	114,467	175,573	164,210	-11,363	-6.5%
RF-0040 / Nuclear Facility D&D - North Side Facility Closures…….	275,767	213,316	195,599	-17,717	-8.3%
RF-0041 / Nuclear Facility D&D - South Side Facility Closures……	88,957	133,458	97,938	-35,520	-26.6%
SR-0011A / NM Stabilization and Disposition - 2006……	4,458	208	0	-208	-100.0%
VL-KCP-0030 / Soil and Water Remediaiton - Kansas City Plant……..	2,257	2,066	3,506	1,440	69.7%
VL-LLNL-0013 / Solid Waste Stabilization and Disposition - Lawrence Livermore National Laboratory……..	7,102	4,545	7,555	3,010	66.2%
VL-LLNL-0030 / Soil and Water Remediation - Lawrence Livermore National Laboratory-Main Site……	12,035	13,039	14,093	1,054	8.1%
VL-SN-0030 / Soil and Water Remediation - Sandia National Laboratory……	23,918	21,804	20,246	-1,558	-7.1%
Total, 2006 Accelerated Completions……..	1,234,037	1,239,018	1,251,799	12,781	1.0%

Description

The 2006 Accelerated Completions program provides funding for completing cleanup and closing down facilities contaminated as a result of nuclear weapons production. This program includes geographic sites with a planned closure date of 2006 or earlier (e.g., Rocky Flats, Fernald). In addition, this program provides funding for Environmental Management sites where overall site cleanup will not be completed by 2006 but certain cleanup projects within a site (e.g., spent fuel removal, all transuranic waste shipped off-site) will be completed by 2006.

Benefits

This program provides funding to accelerate risk reduction and environmental cleanup at sites where cleanup will be completed by 2006 or certain cleanup projects within a site will be completed by 2006. As the cleanup of these sites and projects progress, the risk and hazard to human health and the environment is greatly reduced. In addition, as cleanup is completed and sites are closed, the financial resources needed to maintain site infrastructure will no longer be required. By focusing resources on accelerating risk reduction and cleanup rather than managing risk, the cleanup of these sites will be achieved in a shorter timeframe and at less cost.

Funding by Site

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	$ Change	% Change
Idaho					
Idaho Operations Office	8,086	0	0	0	0.0%
Kansas City Site Office					
Kansas City Plant	2,257	2,066	3,506	1,440	69.7%
Livermore Site Office					
Lawrence Livermore National Laboratory	19,137	17,584	21,648	4,064	23.1%
Oak Ridge					
Oak Ridge Reservation	97,974	123,157	111,768	-11,389	-9.2%
Ohio					
Ashtabula	13,896	15,747	15,879	132	0.8%
Columbus	18,963	22,735	19,849	-2,886	-12.7%
Fernald	318,710	321,585	319,144	-2,441	-0.8%
Miamisburg	101,931	93,307	97,243	3,936	4.2%
Total, Ohio	453,500	453,374	452,115	-1,259	-0.3%
Rocky Flats Environmental Technology Site	624,707	620,825	642,516	21,691	3.5%
Savannah River Site	4,458	208	0	-208	-100.0%
NNSA Service Center					
Sandia National Laboratory	23,918	21,804	20,246	-1,558	-7.1%
Total, Various Locations	23,918	21,804	20,246	-1,558	-7.1%
Total, 2006 Accelerated Completions	1,234,037	1,239,018	1,251,799	12,781	1.0%

Detailed Justification

(dollars in thousands)

FY 2003	FY 2004	FY 2005

ID-OPS-0900 / Pre-2004 Completions (life-cycle estimate $279,620K)……. 8,086 0 0

This PBS includes five essential infrastructure line-items completed before or during FY 2003 that support multiple EM projects at the Idaho National Laboratory:

- Health Physics Instrumentation Laboratory project replaced a 50 year-old facility with many limitations and code violations. This new facility provides a controlled environment for calibration and testing of radiation measurement devices used across the Idaho National Laboratory by various projects and programs;

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Idaho National Laboratory Electrical Distribution Upgrade project resolved and corrected code and standard deficiencies and corrected aged, deteriorated, and obsolete conditions of the electrical distribution system;
- Idaho National Laboratory Road Rehabilitation project upgraded approximately 41 miles of existing roadways and approximately 93,000 square yards of parking areas, which will ensure safe staging and transportation of all waste shipments;
- Idaho Chemical Processing Plant Security Facilities Consolidation project provided new security facilities, systems, and equipment to protect Special Nuclear Materials, Spent Nuclear Fuel, and classified information at the Idaho Nuclear Technology and Engineering Center; and
- Electrical and Utility System Upgrade project upgraded the Idaho Nuclear Technology and Engineering Center by correcting high-risk safety, health, and environmental deficiencies.

This activity also provided funds for fuel removal from the Materials Test Reactor and the Power Burst Facility into a safe, secure, and environmentally sound condition by December 2003. Activities included: completed 42 shipments (0.257 metric tonnes heavy metal) of spent nuclear fuel from wet storage in the Materials Test Reactor canal and plug storage holes number 1 and 2 at the Test Reactor Area to dry storage and completion of 28 shipments of spent nuclear fuel from wet storage in the Power Burst Facility canal to dry storage by end of CY 2003. The transfer of this spent nuclear fuel to dry storage met a commitment made to the State of Idaho. It also moves the Idaho National Laboratory closer to having all spent nuclear fuel removed from wet storage by the Performance Management Plan date of 2012, eleven years earlier than the previous baseline date of 2023.

- No funding is requested under this PBS for FY 2005.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Remediation Complete (Number of Release Sites)	0	0	0	233	233	100%

Key Accomplishments (FY 2003)/Planned Milestones (FY 2004/FY 2005)

- Completed 20 shipments of spent nuclear fuel from the Power Burst Facility canal to dry storage (FY 2003).
- Completed closeout and start up of the Health Physics Instrumentation Laboratory project (FY 2003).
- Completed closeout and turnover of the Idaho National Laboratory Electrical Distribution Upgrade Project (FY 2003).
- Completed closeout and turnover of the Idaho National Road Rehabilitation project (FY 2003).
- Completed final eight shipments of spent nuclear fuel from the Power Burst Facility canal to dry storage using prior year funding (December 2003).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

OR-0013A / Solid Waste Stabilization and Disposition-2006
(life-cycle estimate $461,081K)…….. 48,835 67,566 40,096

This project reduces risk and storage costs by treating and disposing of over 20,000 m^3 of legacy low-level, mixed low-level, and industrial waste on the Oak Ridge Reservation. Legacy waste consists of waste that was generated in the past and stored, but still needs to be disposed. The Oak Ridge Performance Management Plan, the Letter of Intent, the Oak Ridge Accelerated Cleanup Plan Agreement, and the Site Treatment Plan commit to the disposal of legacy low-level waste by FY 2005 and the disposal of most of the mixed low-level waste by FY 2004. This is a two-year acceleration of the targeted completion schedule. This project is a key element to the accelerated cleanup of the Oak Ridge Reservation. The legacy waste stored in Melton Valley and at the East Tennessee Technology Park and its timely disposal is critical for accelerated cleanup. Legacy wastes in Y-12 are being dispositioned as part of the Accelerated Cleanup Plan agreement. Disposal will be in the Oak Ridge on-site disposal cell, the Nevada Test Site, and the Envirocare Facility in Utah, as appropriate and cost effective. Disposal of the legacy waste results in a significant mortgage reduction due to the elimination of storage costs. Through the end of FY 2003, over 14,082 m^3 of legacy mixed low-level waste, and all of the legacy Resource Conservation and Recovery Act hazardous wastes were disposed. Only 750 m^3 of legacy industrial waste and 100 m^3 of polychlorinated biphenyl waste remain for disposal. Disposal of legacy low-level waste began in 2001 when the Nevada Test Site disposal facility became available. Approximately 20,917 m^3 of low-level waste remain for disposal as of the end of FY 2003.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Oak Ridge Reservation.

- Complete the disposition of legacy low-level waste at East Tennessee Technology Park, Melton Valley, and Y-12.
- Prepare storage facilities for transfer to landlord or decommissioning and decontamination of legacy low-level waste for the East Tennessee Technology Park, Melton Valley, and Y-12.
- Complete the mixed low-level waste disposition multi-layer cap and close East Chestnut Ridge Waste Pile.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Low-Level and Mixed Low-Level Waste Disposed (m^3)	2,101	7,503	6,538	28,123	34,999	80%

Key Accomplishments (FY 2003)/Planned Milestones
(FY 2004/FY 2005)

- East Tennessee Technology Park Legacy Low-Level Waste Disposition – Characterized selected East Tennessee Technology Park low-level streams (FY 2003).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Melton Valley Legacy Low-Level Waste Disposition – Dispositioned 104 monoliths and characterized selected Melton Valley low-level waste streams (FY 2003).
- East Tennessee Technology Park Legacy Low-Level Waste Storage – Continued storage of all the East Tennessee Technology Park legacy low-level waste in a safe, compliant, and cost effective manner (FY 2003).
- Melton Valley Legacy Low-Level Waste Storage – Continued storage of all Melton Valley legacy low-level waste in a safe, compliant, and cost effective manner (FY 2003).
- Y-12 Legacy Low-Level Waste Storage – Continued storage of all Y-12 legacy low-level waste in a safe, compliant, and cost effective manner (FY 2003).
- Legacy Mixed Low-Level Waste Disposition - Shipped for treatment/disposal 300,000 kgs of Table 3.4 Site Treatment Plan mixed low-level waste and completed stabilization of potentially shock sensitive waste (FY 2003).
- Begin disposition of legacy low-level waste located at the East Tennessee Technology Park (September 2004).
- Legacy Mixed Low-Level Waste Disposition – Ship for treatment/disposal all remaining mixed low-level waste except East Chestnut Ridge waste pile listed in Table 3.4 of the Site Treatment Plan (September 2004).
- Complete East Chestnut Ridge Waste Pile closure (September 2005).
- Complete the disposition of legacy low-level waste; two-year acceleration from target schedule (September 2005).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

OR-0030 / Soil and Water Remediation-Melton Valley
(life-cycle estimate $352,067K) …….. 49,139 55,591 71,672

Melton Valley is located just south of Oak Ridge National Laboratory and covers more than 1,000 acres. It was used between 1951 and 1986 for disposal of approximately 2 million curies of radioactive and mixed waste in burial grounds, unlined trenches, and deep hydrofracture injection wells.

The presence of creeks and shallow groundwater provides a ready transport mechanism of contaminants into White Oak Creek, which flows to the Clinch River, a drinking water source and recreational area. As a result, cleanup of Melton Valley is the top priority risk reduction action on the Oak Ridge Reservation and completion by FY 2006 is a primary goal of the Oak Ridge Performance Management Plan. Oak Ridge is accelerating cleanup activities in FY 2005, with a commensurate increase in funding. The Melton Valley remediation project will focus on hydrologic isolation of 125 acres of former solid waste burial grounds, liquid waste seepage pits, and disposal trenches. Activities will also include: in-situ stabilization and/or excavation of contaminated soil and sediment; retrieval of transuranic waste; plugging and abandonment of hydrofracture injection and monitoring wells; demolition of the hydrofracture facilities and other small facilities needing to be removed to execute remedial actions; shipment of spent nuclear fuel to the Idaho National Laboratory; and stabilization of three inactive waste tanks.

Waste will remain in Melton Valley, therefore, this area will continue to be a waste management area with access restrictions. The cleanup actions under this PBS scope will ensure that the waste is contained; on-site surface water quality improves to meet required standards; and off-site users of the Clinch River remain protected. Much of the progress made to date in Melton Valley has been completion of necessary pre-fieldwork activities such as completion of a Land Use Control Implementation Plan and design work. However, some field activities are already completed or underway. Plugging and abandonment of 115 hydrofracture injection and monitoring wells was completed in 2003. All spent nuclear fuel has been repackaged and shipments off-site will be completed in 2004. Capping of Solid Waste Storage Area 4, the first of three major burial grounds to be capped, is underway and will be completed in 2004. Capping of the final two burial grounds and remediation of contaminated soils, along with all other work in this project, will be completed in 2006.

In FY 2005, the following activities are planned to support the accelerated cleanup of Melton Valley at the Oak Ridge National Laboratory.

- Continue construction of caps for Solid Waste Storage Areas 5 and 6.
- Complete the retrieval of transuranic waste casks from the 22-Trench Area (approximately half of the 22 trenches are scheduled for FY 2005).
- Complete processing of tank waste from the transuranic waste tanks (Tanks T-1, T-2, and High Flux Isotope Reactor), and complete tank stabilization.
- Start demolition of the Homogeneous Reactor Experiment ancillary facilities and the Shielded Transfer Tanks.
- Complete the disposition of the Remedial Action Projects stored waste.
- Start in-situ vitrification of Trenches 6 and 7.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Radioactive Facility Completions (Number of Facilities)	0	1	10	13	13	100%
Industrial Facility Completions (Number of Facilities)	0	0	0	2	2	100%
Remediation Complete (Number of Release Sites)	1	18	1	50	103	49%

Key Accomplishments (FY 2003)/Planned Milestones (FY 2004/FY 2005)

- Completed Intermediate Holding Pond contaminated soil excavation and disposal, and backfilling and seeding (FY 2003).
- Relocated Lagoon Road in preparation for Solid Waste Storage Area 4 cap installation (FY 2003).
- Submitted the Solid Waste Storage Area 5 and Pits and Trenches remedial designs (FY 2003).
- Complete the demolition of the New Hydrofracture Facility (September 2004).
- Complete capping of the Solid Waste Storage Area 4 (September 2004).
- Complete the shipments of spent nuclear fuel (September 2004).
- Complete the removal of transuranic waste from 22 Trench Area (September 2005).
- Complete processing and stabilization of transuranic waste tanks (September 2005).

OH-AB-0030 / Soil and Water Remediation-Ashtabula (life-cycle estimate $156,923K)…….…….. 13,896 15,747 15,879

The Ashtabula Soil and Water Remediation Project consists of remediation of 32 contaminated facilities, disposition of equipment, and remediation of affected land areas and groundwater. Facility decommissioning will be by remediation and disposal of debris in licensed, off-site disposal facilities or facility demolishment to free-release levels. Contaminated soil will be shipped to a low-level waste disposal site for burial. Groundwater remediation will be accomplished through source removal to onsite release limits followed by natural attenuation. Risk assessment will be conducted to confirm that natural attenuation provides adequate protection of the groundwater.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Completion will allow the Ohio Department of Health to release the site to the owner, RMI Titanium Company, for unrestricted use. The project end-state of the site will be reached by the end of FY 2006, or sooner. Groundwater remediation will proceed as part of the long-term stewardship program.

To date, approximately one-third of the contaminated low-level waste soil has been remediated; that is 12,000 tons remediated out of 37,000 tons. In-situ treatment of contaminated groundwater has commenced. All equipment formerly used during production has been disposed. At the end of FY 2003, all legacy waste was disposed in licensed disposal sites. By the end of 2004, 21 of the 32 facilities (including interim support facilities) will be demolished and the resulting debris shipped or prepared for shipment to licensed disposal facilities.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Ashtabula Site under the Ohio Field Office.

- Complete Waste Management Unit Remediation.
- Complete the treatment of trichloroethylene-contaminated soils.
- Prepare approximately 4,400 m^3 of mixed low-level waste soils for disposal to a licensed facility.
- Install groundwater monitoring and collection systems.
- Treat collected groundwater.
- Load, ship, and dispose of 4,700 m^3 of contaminated soil and debris.
- Excavate and prepare for shipment approximately 3,000 m^3 of soil, underground utilities, sumps, and foundations from demolished Area B facilities.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Low-Level and Mixed Low-Level Waste Disposed (m^3)	94	0	0	104	104	100%
Radioactive Facility Completions (Number of Facilities)	5	0	0	20	25	80%
Industrial Facility Completions (Number of Facilities)	0	0	0	1	7	14%
Remediation Complete (Number of Release Sites)	0	0	0	0	3	0%

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Key Accomplishments (FY 2003) / Planned Milestones (FY2004/FY2005)

- Demolished two facilities and completed shipment of all remaining waste from previous fiscal year building demolition (FY 2003).
- Remediated two facilities, 20,000 square feet total, or about 15 percent of the life-cycle total (FY 2003).
- Shipped all remaining legacy waste (94 m^3) marking 100 percent of legacy waste disposal (FY 2003).
- Processed and shipped 75 percent of newly generated remediation waste, to ensure facilities are demolished as scheduled in FY 2004 (FY 2003).
- Complete disposal of 100 percent of building remediation debris generated (September 2004).
- Complete Waste Management Unit Remediation (September 2005).

OH-CL-0040 / Nuclear Facility D&D-West Jefferson (life-cycle estimate $163,259K) ……..…….. 18,963 22,735 19,849

Completion of the West Jefferson site accelerated clean-up consists of four primary objectives: 1) decontamination and demolition of three large buildings: JN-1, High Energy Hot Cell Facility (20,200 square feet); JN-2, Critical Assembly Building (13,000 square feet), and JN-3, Reactor Building (10,000 square feet); 2) cleanup of related external areas (contaminated filter beds and buried utilities); 3) waste management activities (packaging, transportation, and disposal of transuranic waste, low-level waste and contaminated soils and debris); and 4) surveillance and maintenance (phased out as site hazards are reduced).

The end-state objective is to safely remediate Battelle facilities to levels of residual contamination allowing future use of the site without radiological restrictions by the end of FY 2006 or sooner. Battelle, the site owner, will make all future use decisions. Progress to date toward this end-state includes: completion of remote-handled transuranic waste packaging; completion of one (out of 21) transuranic waste shipments to Hanford for interim storage; decontamination of JN-3 in preparation for demolition without costly radiological controls; and decontamination/stabilization of four large hot cells in JN-1, and removal of ten smaller cells. Work in JN-1 is approximately 45 percent complete; and in JN-3, 57 percent complete; and JN-2 has not been initiated. Overall, the West Jefferson site remediation is approximately 60 percent complete as of the end of FY 2003.

In FY 2005, the following activities are planned to support the accelerated cleanup of West Jefferson.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Complete decontamination and stabilization of building JN-1A/B, using a more practical approach to reduce contamination to manageable levels and demolish the building for disposal as contaminated waste rather than attempt free release and conventional demolition. The JN-1A area includes, in the original section of the building: the basement cell area, the mechanical test cell, the high and low level cells with underlying subcells, the controlled access area behind the cells, including the Charpy cell, hot equipment storage room, evaporator room, a service mezzanine above the cells with air-handling equipment, the loading dock area, the waste storage shed, and the hot cell support areas including the change room, lavatory, and air lock into the controlled access area. The high-bay addition (JN-1B) includes the high-energy cell, the fuel storage pool, a cask washdown room, and a front operating area with a mezzanine level service area containing large ventilation control equipment. Contamination of JN-1 is extensive and deeply ingrained in the various hot cells and associated service areas.
- Complete decontamination/stabilization of the fuel storage pool and transfer canal (critical path activity), and the high-bay area surfaces (critical path activity).
- Complete the remediation of the abandoned north filter beds.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Nuclear Facility Completions (Number of Facilities)	0	0	0	0	1	0%
Radioactive Facility Completions (Number of Facilities)	0	2	0	14	14	100%
Remediation Complete (Number of Release Sites)	0	0	0	1	2	50%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Completed the decontamination/stabilization of the High Energy Cell (the largest hot cell in the eastern USA). Decontamination significantly reduced radiation dose levels, simplifying the approach to building demolition (FY 2003).
- Accelerate site closure by demolishing JN-3 building structure (May 2004).
- Accelerate site closure by demolishing JN-2 building structure (July 2004).
- Complete decontamination/stabilizing of the fuel storage pool and transfer canal in JN-1 (Critical Path Activity) (February 2005).
- Complete decontamination/stabilization of the high-bay area surfaces in JN-1 (Critical Path Activity) (April 2005).
- Conduct filter beds independent verification certification (August 2005).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

OH-FN-0013 / Solid Waste Stabilization and Disposition-Fernald (life-cycle estimate $1,489,368K)…….. 233,698 208,561 165,851

The Solid Waste Stabilization and Disposition Project at Fernald includes the remediation and final disposition of all process-generated wastes from multiple sources, including high specific activity waste contained in Silos 1, 2, and 3, the Waste Pits, containerized low-level waste, and mixed wastes. This project's scope includes characterization, treatment, packaging, transportation, and final disposition of the most radioactive and/or hazardous wastes on-site. The disposition of this waste represents the critical path to achieve closure of the Fernald site.

The final remediation of these waste streams will be implemented through: facility design and construction of needed treatment and retrieval facilities; use of off-site treatment facilities; integrated systems testing; and operations; packaging and transportation of treated wastes and final disposal as required; and ultimately the safe turnover of facilities to be decontaminated and dismantled. Following completion of these remedial activities, all process-generated waste will be dispositioned, and the structures will be transferred for demolition and on-site disposal to PBS OH-FN-0050, Non-Nuclear Facility D&D-Fernald.

The future end-state will be the safe disposition of all process-generated low-level legacy wastes to allow for decontamination and dismantlement of the building complexes, followed by soils remediation, and closure of the Fernald site (December 2006).

At the end of FY 2003, a cumulative total of 4,831 railcars of waste were shipped off-site. This equates to 82 unit trains and approximately 525,000 tons of waste pit material excavated, treated, and shipped off-site. Almost 65 percent of this activity is complete; with approximately 2,628 railcars remaining to be loaded and shipped by the end of FY 2004. Additionally, 6.66 million cubic feet (188,478 m^3) of low-level waste has been shipped to the Nevada Test Site leaving approximately 558,000 cubic feet (14,791 m^3) remaining for disposition to the Nevada Test Site. The designs are complete for the treatment facilities for Silos 1, 2, and 3, and the Silos Accelerated Waste Retrieval System. Construction for these facilities is in different phases. Remaining scope includes completing construction of the treatment facilities and retrieving, treating, packaging, and shipping the waste off-site.

In FY 2005, the following activities are planned to support the accelerated cleanup at Fernald.

- Complete the removal of Silos 1 and 2 waste material from the storage silos into interim storage tanks.
- Complete Silos 1 and 2 operations and initiate disposition of this waste to an off-site disposal facility.
- Complete Silo 3 facility shutdown activities.
- Complete shutdown activities for waste pits processing facility.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Low-Level and Mixed Low-Level Waste Disposed (m^3)	2,568	15	0	7,100	7,100	100%
Remediation Complete (Number of Release Sites)	0	0	1	3	4	75%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Completed the final design of Silos 1 and 2 treatment facilities (on the critical path to closure of the Fernald site) and continued construction (FY 2003).
- Dispositioned 2,568 m^3 of low-level waste (FY 2003).
- Treated and shipped by rail 150,000 tons of "Waste Pits" material to a permitted commercial disposal facility (FY 2003).
- Continued construction for Silo 3 facilities, and initiated start-up activities (FY 2003).
- Complete construction of Silos 1 and 2 treatment facility that will stabilize the Silo material (June 2004).
- Complete construction of Silos 1, 2, and 3 retrieval facilities (September 2004).
- Process and ship by rail 150,000 tons of waste pit material of the total of 900,000 tons to a permitted commercial facility (September 2004).
- Complete Silos 1 and 2 operations, including removal of waste material, and begin dispositioning the waste for off-site disposal (February 2005).
- Complete waste pits remedial action operations (May 2005).

OH-FN-0030 / Soil and Water Remediation-Fernald (life-cycle estimate $1,110,343K)…….……. 70,902 66,932 133,670

The Soil and Water Remediation Project includes the characterization, remediation, and certification of all environmental media (soil, below-grade debris, and water). This scope of work includes excavation, hauling, and final disposition of all contaminated soils and below-grade debris that exceed the "final remedial levels" for cleanup at Fernald. The contaminated soils, below-grade debris, and debris generated from decontamination and dismantlement activities will be placed in the On-Site Disposal Facility for final disposal. Soil and debris that exceed the On-Site Disposal Facility waste acceptance criteria will be transferred for disposition off-site. In addition, natural resource restoration activities are performed to return the site to its natural state following remediation.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

This project also contains the scope to confine and extract uranium from the Great Miami Aquifer, a sole source aquifer under the Fernald site, as well as the scope for management of storm water, operations of sewage treatment facilities, and groundwater monitoring. The completion of the scope within this project represents a significant portion of the critical activities required to close the Fernald site.

The future end-state of this project will be the final cleanup of environmental media at the Fernald site, including soil and below grade debris excavation, hauling, and disposal in the On-Site Disposal Facility by December 31, 2006. Once the soil and debris are placed in the On-Site Disposal Facility, the Facility will be closed and monitored, and the site will be certified to ensure site remediation levels have been achieved. Additionally, the groundwater infrastructure will remain in place for the completion of post-closure aquifer remediation.

Through FY 2003, 1,014,015 m^3, of the estimated total of 2,280,000 m^3, of soil and below grade debris was excavated, and 716,680 m^3 was placed in the five individual cells in the On-Site Disposal Facility. This represents being about 32 percent complete for this activity, with 1,563,332 m^3 remaining to be placed in the On-Site Disposal Facility. Nearly ten billion gallons of water have been pumped from the aquifer and treated, removing 4,623 pounds of uranium and completing approximately 60 percent of this activity. Over 52 percent of the site has been certified as clean, and natural restoration has begun in numerous locations. In addition, the construction of the On-Site Disposal Facility Cell 6 liner will be completed to prepare for waste placement. The increase in funding for FY 2005 is associated with the cost to construct the liners and caps for the On-Site Disposal Facility. Infrastructure costs are greater because of scheduling of individual cells reaching design height and the need for additional cells.

In FY 2005, the following activities are planned to support the accelerated cleanup at Fernald.

- Construct Cell Liner 8 of the On-Site Disposal Facility in order to accept placement of soils and debris for the 2005 construction season, thus completing all the liners that are required for this facility.
- Complete caps for Cells 3 and 4 of the On-Site Disposal Facility.
- Initiate capping of Cells 5 and 6 of the On-Site Disposal Facility, which will reach design height in FY 2005 (capping activity continues into FY 2006).
- Continue soil excavation in the former production area, waste pit area, and selected soils of the silos facilities area.
- Initiate soil excavation in the administration area.
- Continue natural resource restoration in remediated areas with final grading and planting trees and other vegetation native to the area.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Remediation Complete (Number of Release Sites)	0	0	0	0	2	0%

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Placed 230,280 m^3 of soil and debris in the On-Site Disposal Facility (FY 2003).
- Processed approximately 2.2 billion gallons of wastewater/groundwater (FY 2003).
- Complete construction of the On-Site Disposal Facility Cell 2 cap (November 2003).
- Complete the construction of the On-Site Disposal Facility Cell 6 liner to prepare cell for waste placement (September 2004).
- Place a protective layer for On-Site Disposal Facility to prepare for end of construction season and winter (December 2004).
- Complete the construction of the On-Site Disposal Facility Cell 3 and 4 Caps (September 2005).
- Place 600,000 m^3 of material in the On-Site Disposal Facility (September 2005).
- Excavate 600,000 cubic yards (459,000 m^3) of soils and below grade debris to reduce contamination levels (September 2005).

OH-FN-0050 / Non-Nuclear Facility D&D-Fernald (life-cycle estimate $512,267K) …….…….. 14,110 46,092 19,623

The Non-Nuclear Facilities Decontamination and Dismantlement Project is responsible for: the decontamination and dismantlement of 30 complexes (over 200 above-grade structures) of Operable Unit 3 (former Production Area and related buildings and equipment); design/engineering/planning to support decontamination and dismantlement; and management of debris resulting from decontamination and dismantlement. Debris management includes: containerization, off-site disposal of wastes unsuitable for disposal in the On-Site Disposal Facility, recycling and/or release of materials, delivery of debris to interim storage, and delivery of the On-Site Disposal Facility-bound debris to identified staging/queuing areas.

The end-state of facility decontamination and dismantlement is the removal and disposition of all former production-related buildings and support structures, leaving only trailers supporting post closure activities. At the end of FY 2003, 19 out of 30 complexes were completed.

In FY 2005, the following activities are planned to support the accelerated cleanup at Fernald.

- Complete the decontamination and dismantlement of the East Warehouse Complex and the Administration Complex.
- Continue decontamination and dismantlement of miscellaneous structures (including trailers, guard posts, storage buildings, and electrical stations) across the site.
- Complete the decontamination and dismantlement of the Waste Pit complex.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Initiate decontamination and decommissioning of Silos 1, 2, 3, and 4, and Silos 1, 2, and 3 treatment facilities.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Radioactive Facility Completions (Number of Facilities)	3	4	1	24	29	83%
Industrial Facility Completions (Number of Facilities)	0	1	0	1	1	100%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY2005)

- Completed the decontamination and dismantlement of the Liquid Storage Complex Phase II (31,000 square feet) to allow for soil and excavation (December 2003).
- Complete decontamination and dismantlement of the Laboratory Complex (76,000 square feet), the Pilot Plant Complex (44,315 square feet), and Plant 1 Phase II (178,000 square feet) to allow for soil excavation (March 2004).
- Complete the decontamination and dismantlement of the Administration Complex (125,000 square feet) to maintain closure schedule (September 2004).
- Complete the decontamination and dismantlement of the Waste Pits Complex to maintain closure schedule (May 2005).
- Complete the decontamination and dismantlement of the East Warehouse Complex to maintain closure schedule (September 2005).

OH-MB-0013 / Solid Waste Stabilization and Disposition-Miamisburg (life-cycle estimate $202,237K) …… 24,877 18,102 57,971

Solid waste stabilization and disposition activities at the Miamisburg Closure Project involve the management of legacy and/or remediation generated low-level waste, mixed low-level waste, transuranic waste, hazardous waste, and solid waste streams. This includes interim waste storage, shipment of waste to federal and commercial disposal facilities, and, in some cases, minor treatments. All legacy nuclear materials and chemical and radioactive waste streams have been dispositioned. The site operates six facilities and a rail staging area to manage waste streams, which are dispositioned when generated. Newly discovered transuranic waste will be shipped to the Savannah River Site pursuant to an agreement between the Department of Energy and the State of South Carolina. At the end of FY 2003, 46 percent (105,720 m^3) of the total estimated life-cycle volume (227,237 m^3) for all waste streams, including legacy low-level and mixed low-level waste and remediation generated wastes, have been shipped.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

The end-state for this project is the disposition of all waste streams to approved disposal sites by the end of FY 2006.

The Miamisburg Closure Project Performance Management Plan (August 2003) describes the strategic initiatives, key objectives, and milestones necessary to support the completion of all Environmental Management activities at the Miamisburg Closure Project by the end of 2006. The plan contains two objectives for accelerating waste disposition: 1) ship waste when generated and 2) reduce exposure to the workers and public. To achieve these objectives, the Miamisburg Closure Project has modified the rail spur to improve volume and efficiency in rail shipments and is combining contaminated building debris with contaminated soil, thereby shipping waste faster and cheaper. The increase in funding for FY 2005 is associated with the increased amount of remediation waste, as a result of an accelerated work schedule.

In FY 2005, the following activities are planned to support the accelerated cleanup of Miamisburg under the Ohio Field Office.

- Ship the remaining 1,783 m^3 of remediation waste to the Nevada Test Site for disposal and 60,643 m^3 to Envirocare in support of site removal actions.
- Dispose of 7,054 m^3 of hazardous waste.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Low-Level and Mixed Low-Level Waste Disposed (m^3)	0	0	0	3,947	3,947	100%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Shipped all remaining transuranic waste (250 m^3) from current inventory to the Savannah River Site (FY 2003).
- Shipped 4,745 m^3 of remediation waste to the Nevada Test Site and 16,801 m^3 to Envirocare for disposal in support of site removal actions (FY 2003).
- Complete shipment of 7,243 m^3 remediation waste to the Nevada Test Site and 51,657 m^3 of remediation waste to Envirocare (September 2004).
- Complete shipment of 1,783 m^3 remediation waste to the Nevada Test Site for disposal (September 2005).
- Complete shipment of 60,643 m^3 remediation waste to Envirocare for disposal (September 2005).
- Dispose of 7,054 m3 of hazardous waste (September 2005).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

OH-MB-0030 / Soil and Water Remediation-Miamisburg (life-cycle estimate $163,773K) …….……. 10,311 18,702 12,701

This project remediates wastes being released into the environment during operation of the Mound Plant from 1940 through 1994. As a result of these past activities, the soil and groundwater are contaminated with radioactive and hazardous chemicals. The U.S. Environmental Protection Agency placed the site on the National Priority List in 1989 because of chemical contamination present in the site's groundwater and the site's proximity to a sole-source aquifer.

The end-state for this project is the completion of: the remediation of all contaminated soil areas (Potential Release Sites); two groundwater treatment systems; and all associated Comprehensive Environmental Response, Compensation and Liability Act documentation required to close the site and effect transfer of the property to the local community by the end of FY 2006.

At the end of FY 2003, 66 percent of the Potential Release Sites (118 of 178) remaining were completed.

The Miamisburg Closure Project Performance Management Plan (August 2003) describes the strategic initiatives, key objectives, and milestones necessary to support the completion of all Environmental Management activities at the Miamisburg Closure Project by 2006. The plan contains one objective for accelerating soil remediation by the completion of all potential release sites by November 2005. To achieve this objective, the Miamisburg Closure Project is reducing the duration of final remedial design through a parallel review cycle for key stakeholders and streamlining process requirements and operations. Of significant note, excavation of Potential Release Site 66, the Miamisburg Closure Project's largest on-site soil removal project, commenced in January 2003 and will be completed a year ahead of schedule in January 2005.

In FY 2005, the following activities are planned to support the accelerated cleanup of Miamisburg under the Ohio Field Office.

- Complete 37 Potential Release Sites, including Potential Release Site 66, (the largest excavation activity in the baseline) leaving only 20 Potential Release Sites remaining.
- Transfer thirteen acres of land to Miamisburg Mound Community Improvement Corporation.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Remediation Complete (Number of Release Sites)	14	3	37	158	178	89%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Commenced rebound test on Operable Unit-1 groundwater treatment system (FY 2003).
- Continued operation of two groundwater treatment systems (FY 2003).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Complete the soil excavation phase of Potential Release Site 66 and complete the total remediation of Potential Release Site's 68 and 267. These three Potential Release Sites represent 38 percent of the total soil remediation remaining (September 2004).
- Complete the restoration of Potential Release Site 66, which is the largest excavation activity in the baseline (January 2005).
- Complete the remediation of total 37 Potential Release Sites. These represent 65 percent of remaining Potential Release Sites (September 2005).

OH-MB-0040 / Nuclear Facility D&D-Miamisburg (life-cycle estimate $484,192K) ……..……... 66,743 56,503 26,571

The Nuclear Facility D&D project involves the deactivation, decontamination, decommissioning, and demolition or transfer of all facilities and other structures located within the Miamisburg Closure Project. The Mound Plant supported the defense nuclear weapons and energy research programs until 1994 and, as a result of these past operations, many of the facilities are contaminated with radioactive and/or hazardous chemicals. There were 135 facilities/structures remaining on the site after FY 1996 – eight were nuclear facilities, eleven were radiological facilities, and the balance industrial facilities. Of the 135 facilities/structures 111 are to be demolished and 24 transferred to the Miamisburg Mound Community Improvement Corporation to support industrial reuse of the site.

At the end of FY 2003, 74 facilities were demolished or transferred to the Miamisburg Mound Community Improvement Corporation, leaving 61 facilities still to be demolished or transferred to the Miamisburg Mound Community Improvement Corporation. Of these 61 facilities, 19 are radiologically contaminated and most of the remaining 42 facilities have some industrial contamination, all of which require decontamination and decommissioning. One of the transition buildings (Building T) must undergo extensive decommissioning and decontamination before transfer. The R and SW buildings, which are Nuclear Category 2 buildings, have significant radiological contamination that must be mitigated prior to demolition. By the end of 2005 all facilities at the Miamisburg Closure Project will have been either physically demolished or transferred or readied for transfer to the Miamisburg Mound Community Improvement Corporation. Only regulatory verification and closeout reports on five buildings will remain after FY 2005.

The end-state for this project will be: the successful transition of 24 facilities to the Miamisburg Mound Community Improvement Corporation; the demolition of all remaining facilities and structures; the removal of all aboveground utilities; and the restoration of the associated grounds to a natural state by the end of FY 2006.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

The Miamisburg Closure Project Performance Management Plan (August 2003) describes the strategic initiatives, key objectives, and milestones necessary to support the completion of all Environmental Management activities at the Miamisburg Closure Project by 2006. The plan contains two objectives for accelerating the decommissioning and decontamination of the facilities: 1) completing the demolition or decontamination of the six most highly radioactively contaminated buildings by November 2006, and 2) subcontracting more remediation activities. To achieve these objectives, the Miamisburg Closure Project has started early removal of high concentrations of "holdup" tritium, which will allow an early shutdown of the Tritium Effluent Reduction Facility and reduce the risk to workers and the need for higher levels of personnel protective equipment. Presently, 90 percent of the source term inventory has been eliminated. The current workforce has also been augmented, by awarding three subcontracts to demolish five radiological facilities.

In FY 2005, the following activities are planned to support the accelerated cleanup of Miamisburg under the Ohio Field Office.

- Demolish four nuclear facilities totaling 130,000 square feet of floor space, four radiological facilities totaling 51,000 square feet of floor space, and 25 industrial facilities totaling 115,000 square feet of floor space.
- One nuclear facility totaling 173,000 square feet of floor space will be decontaminated and decommissioned and readied for transfer to the Miamisburg Mound Community Improvement Corporation.
- Complete the removal of all aboveground utility lines and stanchions.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Nuclear Facility Completions (Number of Facilities)	0	0	5	5	8	63%
Radioactive Facility Completions (Number of Facilities)	0	7	4	11	11	100%
Industrial Facility Completions (Number of Facilities)	15	15	25	114	116	98%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- In preparation for site closure, transferred fire protection services to the City of Miamisburg (FY 2003).
- Fifteen facilities totaling 304,746 square feet of floor space will be demolished or prepared to transfer to the Miamisburg Mound Community Improvement Corporation (FY 2003).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Continued the reduction of source term in the nuclear facilities to minimize risk for the project and to accelerate work in nuclear facilities resulting in improvements in the critical path schedule for the Miamisburg Closure Project (FY 2003/September 2004/September 2005).
- Complete the structural demolition of WD Building (28,200 square feet). This facility was used to treat radioactive waste and is one of the site's six most radiologically contaminated buildings (September 2004).
- Complete the structural demolition of HH Building (15,276 square feet). This facility was used to separate radioisotopes and is one of the site's six most radiologically contaminated buildings (September 2004).
- Complete the verification of residual contamination for T Building (173,000 square feet), which will be transferred to the Miamisburg Mound Community Improvement Corporation. This building is a heavily reinforced subterranean concrete structure (September 2005).

RF-0011 / NM Stabilization and Disposition (life-cycle estimate $471,442K)…… 26,576 677 0

The scope of this PBS is to put plutonium metals and oxides and other highly radioactive materials in containers and packages that reduce the radioactive risk to the public, the environment, and the co-located worker. It includes activities necessary for stabilizing and repackaging nearly 104,000 kilograms of plutonium bearing residues located in Buildings 707 and 371, stabilizing and packaging 9.8 metric tonnes of plutonium metals and oxides for long-term storage, and packaging 6.7 metric tonnes of uranium for disposition. Completion of these stabilization and packaging activities allows the site to deactivate, decontaminate, and decommission the facilities where the materials were located, and reduce the safeguards and security activities necessary to properly protect these materials.

From FY 2001 through FY 2003, the site stabilized and packaged plutonium metals and oxides in the Plutonium Stabilization and Packaging System located in Building 371. This system produced sealed stainless steel cans containing plutonium metals and oxides. These cans meet DOE Standard 3013 for the long-term (50+ years) storage of these materials. As of the end of FY 2003, the site completed this activity by packaging 1,895 cans. Another 962 kilograms of low purity plutonium oxide was packaged for disposal at the Waste Isolation Pilot Plant, instead of being processed through the Plutonium Stabilization and Packaging System. The site also size reduced 163 weapons parts as part of the effort to complete removal of special nuclear material. Operation of the Plutonium Stabilization and Packaging System was completed in July 2003.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Rocky Flats Environmental Technology Site.

- Activity is complete in FY 2004. No funding requested.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Plutonium Metal or Oxide Packaged for Long-Term Storage (Number of Containers)	911	0	0	1,895	1,895	1%00%
Plutonium or Uranium Residues Packaged for Disposition (kg/bulk)	0	0	0	103,901	103,901	100%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY2005)

- Completed the size reduction of 163 weapons parts for disposition (FY 2003).
- Produced 911 DOE Standard 3013 compliant cans in the Plutonium Packaging and Stabilization System (FY 2003).
- Packaged 962 kg of low purity plutonium oxide for disposal at the Waste Isolation Pilot Plant (FY 2003).
- Eliminated Protected Area (FY 2003).
- Complete nuclear material stabilization and disposition activities (September 2004).

RF-0013 / Solid Waste Stabilization and Disposition (life-cycle estimate $761,839K) ……..…… 118,940 97,801 184,769

The scope of this PBS is to safely and efficiently stabilize all waste generated during demolition of site buildings or through the remediation of under building soils and to dispose of the material in an approved and licensed off-site facility. Waste types include, transuranic and transuranic mixed waste with an estimated life-cycle total of 12,355 m^3, low-level and mixed low-level waste with an estimated life-cycle total of 254,962 m^3, and sanitary (landfill) waste with an estimated life-cycle total of 16,300 shipments, as well as hazardous and medical waste. This PBS scope also includes activities for the operation, maintenance, safety controls, compliance, and stabilization/hazard reduction of facilities utilized for storage, characterization, preparation, and shipment of waste. The facilities include pads, tents, and eight buildings. Also included is site-wide support of procurement systems and standards and traffic and transportation services.

Low-level and mixed low-level waste will be disposed at both commercial and DOE facilities. Through FY 2003, 155,392 m^3 or 61 percent of the low-level and mixed low-level waste was shipped for disposal. The transuranic and transuranic mixed waste was disposed at the Waste Isolation Pilot Plant. Through FY 2003, 8,275 m^3 or 67 percent of the transuranic waste has been shipped for disposal. Sanitary waste will be disposed at off-site commercial landfill(s). Hazardous waste will be treated and disposed at off-site commercial treatment, storage, and disposal facilities. Waste stabilization and disposition will continue into 2006.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

In FY 2005, the following activities are planned to support the accelerated cleanup of the Rocky Flats Environmental Technology Site.

- Continue disposal of legacy and newly generated waste at a rate to maintain the accelerated closure project.
- The combined quantity of low-level and mixed low-level waste planned for FY 2005 disposal is 45,688 m^3 representing 100 percent completion. The quantity of transuranic waste planned for FY 2005 disposal is 1,736 m^3 representing 100 percent completion.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Transuranic Waste Shipped for Disposal at WIPP (m^3)	4,016	2,344	1,736	12,355	12,355	100%
Low-Level and Mixed Low-Level Waste Disposed (m^3)	78,688	53,882	45,688	254,962	254,962	100%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Disposed of 78,688 m^3 of low-level and mixed low-level waste (FY 2003).
- Disposed of 4,016 m^3 of transuranic waste (FY 2003).
- Disposed of 3,000 shipments of sanitary waste (FY 2003).
- Placed emphasis on the identification of treatment and disposal receiver sites for orphan waste and the consolidation of low-level and mixed low-level waste in Building 460 (FY 2003).
- Removed waste from several tents and Building 991 so that these facilities could be deactivated/decommissioned under the Nuclear Facility D&D – South Side Facility Closures Project (FY 2003).
- Complete the FY 2004 regulatory milestone for low-level and mixed low-level waste (October 2003).
- Dispose of more than 55,000 m3 of legacy low-level/mixed low-level waste (September 2004).
- Complete site deinventory of legacy low-level/mixed low-level, and transuranic waste to off-site disposal (September 2005).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

RF-0030 / Soil and Water Remediation (life-cycle estimate $2,289,300K) ……..…… 114,467 175,573 164,210

The scope of this PBS is to complete the environmental characterization, remediation, and restoration of the Rocky Flats site in accordance with the Rocky Flats Cleanup Agreement, and to provide technical support services necessary to achieve site closure. Site closure requires environmental characterization, remediation of contaminated soil and water, and restoration of the site as necessary. Remediation or disposition of all individual hazardous substance sites includes: 1) documentation of No Further Actions; 2) removal of pavement and building foundations; 3) conversion of ponds to a post-closure configuration; 4) wetlands mitigation; and 5) recontouring, regrading and revegetation, all of which must be accomplished to achieve the final site closure. Ongoing closure support activities include: 1) operation of groundwater wells and surface water monitoring systems until decontamination and decommissioning and restoration activities are complete; 2) operation of the ponds; 3) pollutant source controls including actinide migration evaluations; and 4) design, construction, and operation of groundwater containment and treatment systems. Environmental remediation and restoration of all individual hazardous substance sites must support the final comprehensive site remedy pursuant to an approved Corrective Action Decision/Remedial Action Decision and deletion of the Site from the National Priority List.

Technical support services provide the quality assurance, health, safety, environmental stewardship, nuclear safety, and training necessary to support site closure. Conditional target incentive fee is also included in this PBS.

In FY 2003, the site dispositioned 197 of the 240 total identified individual hazardous substance sites (82 percent), either through approved No Further Actions or implemented Rocky Flats Cleanup Agreement accelerated actions. This activity will end in December 2006.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Rocky Flats Environmental Technology Site.

- Complete remediation of 30 release sites, a significant increase over the release sites remediated in FY 2004. By the end of FY 2005, 235 (98 percent) of the 240 release sites scheduled for completion will be cleaned up and dispositioned in accordance with regulatory requirements and agreements. Includes: remediation of the 903 Pad Lip and Americium Zone; remediation of the East Firing Range; completion of the Original Landfill Cap Construction; and Restoration of Ponds B-1, B-2, B-3.
- Provide conditional target incentive fee.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Remediation Complete (Number of Release Sites)	20	8	30	235	240	98%

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Completed 20 planned soil and water remediation projects (FY 2003).
- Completed specific remediation of the following areas: 903 Pad remediation; Solar Evaporation Ponds remediation; Building 441 Under Building Contamination remediation; Building 865 Under Building Contamination remediation; and 904 Pad remediation (FY 2003).
- Complete eight environmental release sites (September 2004).
- Complete remediation of 30 release sites (including 903 Pad Lip and Americium Zone, the East Firing Range, completion of the Original Landfill Cap construction, and restoration of Ponds B-1, B-2, and B-3) (September 2005).

RF-0040 / Nuclear Facility D&D-North Side Facility Closures (life-cycle estimate $1,828,039K) …… 275,767 213,316 195,599

The scope of this PBS is to decontaminate and decommission all facilities on the north side of the Rocky Flats site. This decontamination and decommissioning activity includes all facility closure activities, including demolition of four nuclear building complexes. The nuclear building complexes included in this PBS are: Building 371/374 Cluster, Building 707 Cluster, Building 776/777 Cluster, and Building 771/774 Cluster. The total square footage of the facilities included in this PBS is approximately one million square feet. The activities that will be performed include building stabilization/deactivation, decontamination, demolishment, and dismantlement. This PBS includes 6 Material Access Areas, 6 Nuclear Facilities, 22 Radioactive Facilities, and 141 Industrial Facilities. In addition to the decontamination and decommissioning activity, this PBS also provides technical support for the Rocky Flats Field Office, site utilities, and Government Furnished Services/Items.

Building stabilization includes: 1) removing a building from operation, 2) placing the building in a safe and stable condition that eliminates or mitigates hazards, and 3) ensuring adequate protection to the workers and the environment. Building deactivation builds on stabilization by removing systems and equipment contaminated by Special Nuclear Material. Decommissioning completes the facility closure process by removing any remaining process systems and structures, packaging and preparing all wastes and property for disposal, decontaminating the structure, and demolishing the building. Demolition includes dismantlement of walls, roofs, foundations, and connecting structures (breezeways, tunnels, and overhead walkways). Subsurface concrete is removed three feet below the existing grade (unless the building Rocky Flats Cleanup Agreement decision document specifies otherwise). Upon completion of decommissioning, the building footprint will transition to PBS RF-0030, Soil and Water Remediation, for any required remediation.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Through FY 2003, the site eliminated five Material Access Areas (83 percent), and completed removal of one Nuclear Facility (17 percent). In FY 2003, the site eliminated the final Material Access Area (one year earlier than the target metric). As of the end of FY 2003, the site had eliminated 87 Industrial Facilities (62 percent). In addition, 80 percent of the gloveboxes have been removed, 86 percent of the deactivation and 65 percent of the decommissioning work activities had been completed. This work is scheduled to continue through December 15, 2006.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Rocky Flats Environmental Technology Site.

- Continue deactivation and decommissioning activities in the nuclear buildings on schedule to accomplish a PBS completion date of December 15, 2006.
- Complete the dismantlement of Buildings 371, 374, 707, 776, 777; demolish Buildings 707 and 777; demolish 12 radioactive contaminated facilities; and demolish 14 industrial facilities.
- At the end of FY 2005, 100 percent of the radioactive and industrial facilities will be complete.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Material Access Areas Eliminated (Number of Areas)	0	1	0	6	6	100%
Nuclear Facility Completions (Number of Facilities)	0	1	2	4	6	67%
Radioactive Facility Completions (Number of Facilities)	3	7	12	22	22	100%
Industrial Facility Completions (Number of Facilities)	19	40	14	141	141	100%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Closed Building 371 Material Access Area (FY 2003).
- Completed the deactivation of Buildings 771/774, and 374 (FY 2003).
- Completed 56 work sets (FY 2003).
- Completed 21 deactivation and 230 decommissioning activities (FY 2003).
- Demolished 19 industrial facilities (FY 2003).
- Removed 306 gloveboxes (FY 2003).
- Complete the demolition of Building 771 (August 2004).
- Complete the deactivation and decommissioning of 48 facilities (September 2004).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Complete the deactivation and decommissioning of 28 facilities (FY 2005).

RF-0041 / Nuclear Facility D&D-South Side Facility Closures (life-cycle estimate $786,669K) …….. 88,957 133,458 97,938

The scope of this PBS is to decontaminate and decommission all facilities on the south side of the Rocky Flats site. There are 32 Radioactive Facilities and 176 Industrial Facilities included in this PBS with a total of about five million square feet of space and one Material Access Area. The activities that will be performed include building stabilization and decommissioning.

Building stabilization includes: 1) removing a building from operation, 2) placing the building in a safe and stable condition that eliminates or mitigates hazards, and 3) ensuring adequate protection to the workers and the environment. Specific stabilization activities include: 1) removing hazardous and non-hazardous materials; 2) draining fluids from equipment; 3) abating or encapsulating asbestos; 4) dispositioning excess property; and 5) reducing building fire loading. Decommissioning activities includes: 1) removing the building from site infrastructure; 2) packaging all wastes; 3) disposing of property and waste; 4) decontaminating the structure, and 5) demolishing the building. Demolition includes dismantlement of walls, roofs, foundations, and connecting structures (breezeways, tunnels, and overhead walkways). Subsurface concrete is removed three feet below the existing grade (unless the building Rocky Flats Cleanup Agreement decision document specifies otherwise).

Upon completion of decommissioning, the building footprint will transition to PBS RF-0030, Soils and Water Remediation, for final below grade remediation and/or closeout.

Prior to FY 2003, the site had eliminated one Material Access Area (100 percent). As of the end of FY 2003, the site had completed removal of 112 Industrial Facilities (64 percent). The scope of this PBS is expected to be complete in 2006.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Rocky Flats Environmental Technology Site.

- Decontaminate and decommission the South Side buildings, tanks, trailers, and infrastructure.
- Complete the decontamination and decommissioning of major facilities. These include: Buildings 130, 131, 460, 559, 883, 879, Water Treatment Plant and Sewage Treatment Plant.
- Complete 100 percent of the radioactive facilities and industrial facilities by the end of FY 2005.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Material Access Areas Eliminated (Number of Areas)	0	0	0	1	1	100%
Radioactive Facility Completions (Number of Facilities)	11	7	14	32	32	100%
Industrial Facility Completions (Number of Facilities)	29	0	64	176	176	100%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Demolished 29 Industrial Facilities (FY 2003).

SR-0011A / NM Stabilization and Disposition-2006 (life-cycle estimate $122,290K) ……..…….. 4,458 208 0

At the end of the Cold War, the nuclear materials complex at the Savannah River Site contained a large inventory of nuclear materials in various forms and stored in many locations (raw materials, in-process, finished products, in vaults, reactor basins, etc.) in several facilities. Many of these nuclear materials were never intended to stay in their existing form and location when the national security mission ceased. Materials Stabilization activities began with the issuance of the Defense Nuclear Facilities Safety Board recommendation 94-1 to stabilize "at-risk" nuclear materials which might pose a significant risk to the safety of the workers, the public, and/or the environment. The Defense Nuclear Facilities Safety Board Recommendation 2000-1 was issued to amplify the concern and the current Savannah River Site Program Performance Management Plan is intended to accelerate removal of the risks posed by these materials.

This PBS scope provides construction funding for two projects to modify several facilities so that they can operate safely through their remaining life-cycle and so that they can stabilize and package plutonium materials for safe storage pending disposition. The Canyon Exhaust Upgrade project is complete and the FB-Line Packaging and Stabilization project is being accelerated with completion in FY 2004. Operation of these facilities is covered in PBS SR-011B, Nuclear Material Stabilization and Disposition-2012.

Construction of the FB-Line Packaging and Stabilization project began in October 2001. Construction is complete and operations began in April 2003 for metals. In addition, construction will be completed and operations will begin in November 2003 for oxides. The commitment in the Department's Implementation Plan for the Defense Nuclear Facilities Safety Board Recommendation 2000-1 is to complete these stabilization activities by December 2005. Construction of the Canyon Exhaust Upgrade project began March 1996. Phase One, completed in mid-1997, rerouted the FB-Line exhaust and F-Canyon recycle vessel vent exhaust to the sand filter. Phase Two, completed in late 1998, replaced F- and H-Area diesel fuel tanks to conform to state and federal regulations for diesel fuel storage. Physical construction of Phase Three, the final phase, is complete. Final project close-out was approved on May 16, 2003.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- No funding requested in FY 2005.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
No metrics associated with this PBS						

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY2005)

- Canyon Exhaust (92-D-140) – Completed the startup testing and turnover of the remaining H-Area Canyon Exhaust Fan. Closed out project (FY 2003).
- FB-Line (02-D-420) – Completed start up (FY 2003).
- FB-Line (02-D-420) – Complete construction activities, begin start-up system testing and begin system turnover to operations (Critical 4B for packaging oxides) (September 2004).

VL-KCP-0030 / Soil and Water Remediation-Kansas City Plant (life-cycle estimate $28,660K)……. 2,257 2,066 3,506

The Kansas City Plant manufactures non-nuclear components for defense purposes. Legacy contamination resulted from hazardous wastes that were released from the 1940's to the 1980's. Projects necessary to complete environmental restoration are scheduled for completion by the end of FY 2006 under an accelerated cleanup approach. Kansas City has completed 42 of 43 release sites. The 95th Terrace is the final release site. Sites with limited risks will be managed through institutional controls. Storm sewers will be relined and grouted to reduce infiltration of polychlorinated biphenyl/solvent contamination. Groundwater contaminated with solvents will be treated prior to discharge into the sanitary sewer system.

The end-state (FY 2006) will be reached when the 95th Terrace project is complete. At that point all remaining monitoring and treatment activities will be transferred to the site landlord. Pump and treat activities for contaminated groundwater and maintenance of institutional controls will continue beyond project completion.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Kansas City Plant.

- Develop the 95th Terrace remediation design.
- Continue pump and treat operations and continue operation of the Groundwater Treatment Facility as required by the post Closure Permit.
- Continue remaining compliance work on the storm sewers.
- Treat volatile organic compound contaminated soil by using the Six Phase Soil Heating method.
- Refurbish Groundwater Treatment System/Facility.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Continue oversight and administration of the EM Project.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Remediation Complete (Number of Release Sites)	0	0	0	42	43	98%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Continued Storm Sewer Polychlorinated Biphenyl investigation (FY 2003).
- Continued groundwater treatment and monitoring through operation of the Groundwater Treatment Facility (FY 2003).
- Complete 95th Terrace Corrective Measures Study and Corrective Measures Implementation Work Plan (September 2004).
- Complete 95th Terrace remediation design (September 2005).

VL-LLNL-0013 / Solid Waste Stabilization and Disposition-Lawrence Livermore National Laboratory (life-cycle estimate $74,441K) ……..…… 7,102 4,545 7,555

The Solid Waste Stabilization and Disposition PBS scope involves the disposition of the remaining inventory of legacy waste from Lawrence Livermore National Laboratory. The scope of work in this PBS includes the characterization, packaging, treatment if needed, and safe removal of legacy waste from the Lawrence Livermore National Laboratory. Waste types include low-level waste, mixed low-level waste, combined low-level waste, (a mixture of California State regulated hazardous with low-level waste), transuranic waste, and mixed transuranic waste. Activities in this project ensure all wastes are managed safely and in compliance with Federal, State, and local regulations, DOE Orders, and the Lawrence Livermore National Laboratory policies and procedures.

By the end-state of this project the Department will have characterized and shipped: legacy transuranic waste and mixed transuranic waste to the Waste Isolation Pilot Plant; legacy mixed low-level waste to DOE sites and/or commercial entities for treatment and disposal; and legacy low-level waste to the Nevada Test Site and/or commercial disposal sites. This scope is to be accelerated as described in the Performance Management Plan's (August 2002) strategic initiative number two. This shifts the cleanup strategy from risk management to risk reduction by focusing resources on the packaging and disposition of all legacy waste by the end of FY 2006. The Lawrence Livermore National Laboratory Decontamination and Waste Treatment Facility will continue to be used for the treatment, storage, and disposal of legacy waste.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Lawrence Livermore National Laboratory.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Continue the disposition of legacy low-level and mixed low-level wastes in accordance with the Accelerated Plan.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Transuranic Waste Shipped for Disposal to WIPP (m^3)	0	0	0	0	98	0%
Low-Level and Mixed Low-Level Waste Disposed (m^3)	375	650	650	2,384	2,759	86%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Completed all start-up activities and began operations at the New Lawrence Livermore National Laboratory Decontamination and Waste Treatment Facility (FY 2003).
- Completed Authorization Basis documentation and Operation readiness review Plans of Action for the Transuranic Waste Mobile Vendor Project; shipped Federal Facility Compliance Act Mixed Waste to Toxic Substances Control Act Incinerator for treatment (FY 2003).
- Deploy mobile characterization units in close coordination with the Carlsbad Field Office; Begin operations readiness reviews and initiate characterization work (September 2004).
- Dispose of legacy low-level and mixed low-level waste as scheduled (September 2005).

VL-LLNL-0030 / Soil and Water Remediation - Lawrence Livermore National Laboratory - Main Site (life-cycle estimate $122,993K) ……..…….. 12,035 13,039 14,093

Past operations at the Lawrence Livermore National Laboratory Main Site, which involved the handling and storage of hazardous materials, resulted in the release and subsequent migration of contaminants into the soil and groundwater. The major contaminants are volatile organic compounds, primarily trichloroethylene.

The Lawrence Livermore National Laboratory Main Site restoration project consists of: activities associated with existing contamination from past operations; controlling contaminated groundwater migration; and effectively remediating soil and groundwater where contaminants exceed regulatory limits to protect human health, the environment, and beneficial uses of natural resources by conducting cost-effective, science-based, state-of-the-art environmental restoration. This PBS scope has one operable unit and 120 release sites of which 107 were completed as of September 2003.

The approved remedial actions required by the Record of Decision, and identified in the Performance Management Plan (August 2002) strategic initiatives, will be implemented by the end of FY 2006. Acceleration of these remedial actions will reduce the risks, overall liability, and mortgage at the Livermore Site associated with 39 distinct groundwater plumes contaminated with volatile organic compounds, nitrate, tritium, and/or metals. Activities in the scope of the project are consistent with the Performance Management Plan and focus on the build-out of the required remediation system scheduled to be complete in FY 2006, to accomplish risk reduction associated with groundwater contamination and complete the EM mission. The proposed end-state is that the Livermore Site remediation systems be phased into long-term operation and maintenance, and that the associated environmental monitoring be transferred to the National Nuclear Security Administration. The project has completed build-out of 27 treatment systems with 15 additional remedial actions planned through FY 2006. Active remediation will be completed at this time.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Lawrence Livermore National Laboratory.

- Continue to perform the annual surveillance and maintenance for operating 33 treatment systems at multiple on-site locations.
- Construct, install, and operate four new treatment systems to address groundwater contamination. The four new portable systems will be located at the TFD Hotspot, TFE Hotspot, TF406 Hotspot, and the northern portion of the East Traffic Circle Source Area. These systems continue to support the accelerated cleanup strategy, by using a prioritized risk-based approach (off-site plume capture and cleanup, prevention of further off-site plume migration, distal interior plume capture and cleanup, and source control, thereby mitigating risk to on-site workers and preventing further releases to groundwater) to achieve operational and functional capability of the regulatory-required remediation network by the end of FY 2006.
- Continue site-wide regulatory reporting and monitoring.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Remediation Complete (Number of Release Sites)	3	5	5	117	120	98%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Constructed, installed, and operated a portable treatment unit on-site at the following:
  - the north eastern portion of the treatment Facility C Area; and the northern portion of the treatment Facility G Area to prevent off-site plume migration (FY 2003).
  - the Eastern Landing Material Source Area to isolate and remediate the contaminated vadose zone and reduce contaminant concentrations in the source area (FY 2003).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Began Treatment Facility C Northeast (TFC-NE) remediation; Treatment Facility G North (TFG-N) remediation; and Eastern Landing Material (ELM) Source Area remediation (FY 2003).
- Construct, install, and operate a portable treatment unit at the following:
  - on-site at the Helipad Source Area to isolate and remediate the contaminated vadose zone and reduce contaminant concentrations in the source area (September 2004).
  - Building 518 Treatment Facility Area perched zone to remediate shallow source of volatile organic compounds and prevent additional impacts to underlying groundwater (September 2004).
  - in the southern portion of the East Traffic Circle Source Area to reduce contaminant concentrations in the source area and prevent plume migration and dispersion (September 2004).
- Construct, install, and operate a portable treatment unit at the following:
  - Treatment Facility D Hotspot to hydraulically contain and reduce volatile organic compound contamination in the vadose zone and hotspot that will prevent further degradation of water supply resources in this area (April 2005).
  - the Treatment Facility E Hotspot to hydraulically contain and reduce volatile organic compound contamination in the vadose zone and hotspot that will further prevent degradation of water supply resources in this area (June 2005).
  - the northern portion of the East Traffic Circle Source Area to hydraulically contain and reduce volatile organic compound contamination in the vadose zone that will prevent further degradation of water supply resources and accelerate cleanup of the distal plumes in this area (August 2005).
  - the Treatment Facility 406 Hotspot area to remediate and hydraulically contain volatile organic compound contamination that would otherwise further degrade water supplies in the area (September 2005).

	(dollars in thousands)		
	FY 2003	FY 2004	FY 2005
VL-SN-0030 / Soil and Water Remediation-Sandia National Laboratory (life-cycle estimate $230,721K) ……	**23,918**	**21,804**	**20,246**

The Sandia National Laboratories Environmental Restoration Project mission is to complete all necessary corrective actions at environmental restoration release sites in the most expeditious and cost-effective manner while minimizing worker, public health, and environmental risks, addressing public concerns, and complying with all Federal, State, and local laws. The end-state will be reached when (1) all solid waste management units and areas of concern are remediated or remediation systems are constructed and operational, and all waste disposed of, and (2) when the site is placed under institutional controls and long-term monitoring in accordance with State and Federal requirements. Remediation systems operation and maintenance, long-term environmental monitoring of cleaned up areas, and institutional control may be conducted by the site landlord, National Nuclear Security Administration. Release sites approved by the New Mexico Environment Department for No Further Action under the appropriate future-land-use category will be released for applicable reuse under current environmental regulations.

At the end of FY 2003, regulatory closure and removal from the permit has been completed at nearly 60 percent of the total release sites investigated at the Sandia National Laboratory, New Mexico. Of the remaining sites, approximately one-fourth have been characterized and, if required, remediated and are in various stages of the regulatory approval process. Another five sites, including two septic systems, are active and will remain on the operating permit until deactivation, which is not expected to occur during the projected life cycle of the Environmental Restoration Project. The remaining sites are subject to accelerated closure as outlined in the Performance Management Plan. Of these sites, the majority are Drains and Septic Systems that are undergoing characterization according to an agreement with the New Mexico Environment Department. The remaining sites include two major landfill projects currently undergoing Corrective Measures Study process, one of which has been excavated with backfilling operations. Remaining work includes remediation, regulatory documentation, and site closure. Most of the smaller sites including Drains and Septic Systems will have been completed or will be in site closure process by FY 2005. Under the Performance Management Plan for Sandia National Laboratory, the remediation scope in the PBS will be completed in FY 2006.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Sandia National Laboratory.

- Complete Corrective Measure Implementation field work at the Mixed Waste Landfill.
- Complete field implementation at the Solid Waste Management Unit 2.
- Complete field work remediation at Solid Waste Management Unit 68.
- Complete the Voluntary Corrective Measure field implementation at Solid Waste Management Unit 91.
- Submit 30 Solid Waste Management Unit Assessment Reports to the New Mexico Environment Department for the Drains and Septic Systems.
- Submit No Further Action proposals to the New Mexico Environment Department for Solid Waste Management Units 8, 58, 68, and 91.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Dispose of environmental restoration generated waste.
- Complete groundwater monitoring at all areas of concern.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Low-Level and Mixed Low-Level Waste Disposal (m3)	0	0	0	8	8	100%
Radioactive Facility Completions (Number of Facilities)	0	0	0	1	1	100%
Remediation Complete (Number of Release Sites)	1	40	32	224	263	85%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Completed the waste treatment at the Corrective Action Management Unit (FY 2003).
- Completed Corrective Action Management Unit disposal cell cover (FY 2003).
- Completed backfill of Radioactive and Classified Waste Landfills (FY 2003).
- Completed installation of groundwater monitoring networks at Canyons, Tijeras Arroyo, and Technical Area III/V (FY 2003).
- Complete the waste disposition at Classified Waste Landfill (September 2004).
- Complete Corrective Measure Implementation for the Mixed Waste Landfill (March 2005).
- Submit No Further Action proposals to the New Mexico Environment Department/Environmental Protection Agency for Solid Waste Management Units 8, 58, 68, and 91 (June 2005).

Total, 2006 Accelerated Completions……	**1,234,037**	**1,239,018**	**1,251,799**

Explanation of Funding Changes

	FY 2005 vs. FY 2004 ($000)
OR-0013A / Solid Waste Stabilization and Disposition-2006	
▪ Decrease in funding reflects the last year of legacy waste disposition……..	-27,470
OR-0030 / Soil and Water Remediation-Melton Valley	
▪ Increase in funding reflects the acceleration of the Melton Valley cleanup project to complete closure by FY 2006, including construction of caps for the Solid Waste Storage Area 5 and 6, which are on the critical path for completion.……..……	16,081
OH-AB-0030 / Soil and Water Remediation-Ashtabula	
▪ No significant change..……	132
OH-CL-0040 / Nuclear Facility D&D-West Jefferson	
▪ Decrease in funding is due to awarding a fixed-price construction contract for decontamination and decommissioning of buildings JN-2 and JN-3, allowing acceleration of completions from FY 2005 to FY 2004…….	-2,886
OH-FN-0013 / Solid Waste Stabilization and Disposition-Fernald	
▪ Decrease in funding is due to the completion of "waste pits" processing and shipping in FY 2004……..	-42,710
OH-FN-0030 / Soil and Water Remediation-Fernald	
▪ Increase in funding is due to costs associated with constructing liners and caps for the cells of the On-Site Disposal Facility. ……	66,738
OH-FN-0050 / Non-Nuclear Facility D&D-Fernald	
▪ Decrease in funding is due to completion in FY 2004 of the decontamination and dismantlement of several facility complexes (Plant 1 Phase II, Pilot Plant, and Liquid Storage Complex)……..……	-26,469
OH-MB-0013 / Solid Waste Stabilization and Disposition-Miamisburg	
▪ Increase in funding is due to a substantial increase in projected remediation waste volumes, including treatment and shipment of hazardous waste and waste volumes generated from Potential Release Site soils and an accelerated work schedule in FY 2005……..…….	39,869
OH-MB-0030 / Soil and Water Remediation-Miamisburg	
▪ Decrease in funding is due to the completion of soil excavation phase of Potential Release Site 66 and the complete remediation of Potential Release Sites 68 and 267 in FY 2004...……	-6,001
OH-MB-0040 / Nuclear Facility D&D-Miamisburg	
▪ Decrease in funding is due to the completion of all remaining facilities during the first half of FY 2005, except for the T Building verification sampling and transfer….	-29,932

	FY 2005 vs. FY 2004 ($000)
RF-0011 / NM Stabilization and Disposition	
▪ Decrease in funding is due to completion of activities in FY 2004……	-677
RF-0013 / Solid Waste Stabilization and Disposition	
▪ Increase in funding supports acceleration of waste shipping and disposal. ……...	86,968
RF-0030 / Soil and Water Remediation	
▪ Decrease reflects funding adjustments between activities to achieve a resequencing of the work necessary for project closure..……	-11,363
RF-0040 / Nuclear Facility D&D-North Side Facility Closures	
▪ Decrease in funding is due to accelerated decontamination and decommissioning activities in FY 2004……..	-17,717
RF-0041 / Nuclear Facility D&D-South Side Facility Closures	
▪ During FY 2004 the Site will significantly accelerate South Side decontamination and decommissioning activities while in FY 2005, decreasing the South Side funding requirements……	-35,520
SR-0011A / NM Stabilization and Disposition-2006	
▪ Decrease due to completion of projects……..	-208
VL-KCP-0030 / Soil and Water Remediation-Kansas City Plant	
▪ Increase in funding supports design costs for the 95th Terrace remediation to ensure project completion by the end of FY 2006 and upgrades to the Groundwater Treatment Facility and pump and treat system……..	1,440
VL-LLNL-0013 / Solid Waste Stabilization and Disposition-Lawrence Livermore National Laboratory	
▪ Increase in funding is attributable to the increased sampling and analytical costs required to disposition the remaining legacy waste streams and meet EM mission completion in FY 2005……	3,010
VL-LLNL-0030 / Soil and Water Remediation-Lawrence Livermore National Laboratory-Main Site	
▪ Increase in funding to address off-site plume control and source control, as delineated in the Performance Management Plan, thereby accelerating risk reduction activities…….	1,054
VL-SN-0030 / Soil and Water Remediation-Sandia National Laboratory	
▪ Decrease in funding reflects the ramp down of work scope as Sandia approaches completion in FY 2006……	-1,558
Total Funding Change, 2006 Accelerated Completions……...	**12,781**

2012 Accelerated Completions

Funding Schedule by Activity

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	$ Change	% Change
ID-0011 / NM Stabilization and Disposition.....	1,500	296	1,929	1,633	551.7%
ID-0012B-D / SNF Stabilization and Disposition - 2012 (Defense)……..	31,395	22,466	10,439	-12,027	-53.5%
ID-0013 / Solid Waste Stabilization and Disposition……	179,736	233,797	111,773	-122,024	-52.2%
ID-0014B / Radioactive Liquid Tank Waste Stabilization and Disposition-2012……..	126,369	131,860	130,317	-1,543	-1.2%
ID-0030B / Soil and Water Remediaiton-2012...	123,826	105,223	127,621	22,398	21.3%
ID-0040B / Nuclear Facility D&D-2012.....	3,487	6,587	5,539	-1,048	-15.9%
ID-0050B / Non-Nuclear Facility D&D-2012.....	6,975	8,933	27,560	18,627	208.5%
OR-0013B / Solid Waste Stabilization and Disposition-2012……..	51,787	54,956	47,471	-7,485	-13.6%
OR-0031 / Soil and Water Remediation-Offsites……..	543	6,839	13,021	6,182	90.4%
OR-0043 / Nuclear Facility D&D-East Tennessee Technology Park (Defense)……	2,741	5,184	6,677	1,493	28.8%
RL-0011 / NM Stabilization and Disposition-PFP……	119,670	143,322	182,861	39,539	27.6%
RL-0012 / SNF Stabilization and Disposition.....	191,715	166,610	125,468	-41,142	-24.7%
RL-0041 / Nuclear Facility D&D-River Corridor Closure Project……..	142,564	180,079	216,489	36,410	20.2%
ORP-0060 / Major Construction-Waste Treatment Plant……	690,000	686,036	690,000	3,964	0.6%
SR-0011B / NM Stabilization and Disposition-2012……	369,452	362,273	369,636	7,363	2.0%
VL-FOO-0013B-D / Solid Waste Stabilization and Disposition-Oakland Sites-2012 (Defense)……	378	458	486	28	6.1%
VL-LANL-0013 / Solid Waste Stabilization and Disposition-Los Alamos National Laboratory Legacy……	28,916	42,730	41,502	-1,228	-2.9%
VL-LLNL-0031 / Soil and Water Remediation-Lawrence Livermore National Laboratory-Site 300……	10,253	10,338	11,110	772	7.5%
VL-NV-0013 / Solid Waste Stabilization and Disposition-Nevada Test Site…….	6,315	10,218	6,221	-3,997	-39.1%
VL-PX-0030 / Soil and Water Remediation-Pantex……	14,914	18,430	19,714	1,284	7.0%
VL-PX-0040 / Nuclear Facility D&D-Pantex.....	77	2,703	4,807	2,104	77.8%
Total, 2012 Accelerated Completions.....	2,102,613	2,199,338	2,150,641	-48,697	-2.2%

Description

The 2012 Accelerated Completions program provides funding for completing cleanup and closing facilities contaminated as a result of nuclear weapons production. This program includes all geographic sites with a planned closure date of 2007 through 2012 (e.g., Pantex, Lawrence Livermore National Laboratory-Site 300). In addition, this program provides funding for EM sites where overall site cleanup will not be completed by 2012 but certain cleanup projects within a site (e.g., spent fuel removal, all transuranic waste shipped off-site) will be completed by 2012.

Benefits

This program provides funding to accelerate risk reduction and environmental cleanup at sites where cleanup will be completed by 2012 or certain cleanup projects within a site will be completed by 2012. As the cleanup of these sites and projects progress, the risk and hazard to human health and the environment is greatly reduced. In addition, as cleanup is completed and sites are closed, the financial resources needed to maintain site infrastructure will no longer be required. By focusing resources on accelerating risk reduction and cleanup rather than managing risk, the cleanup of these sites will be achieved in a shorter timeframe and at less cost.

Funding by Site

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	$ Change	% Change
Idaho					
Idaho National Laboratory	473,288	509,162	415,178	-93,984	-18.5%
Livermore Site Office					
Lawrence Livermore National Laboratory	10,253	10,338	11,110	772	7.5%
Los Alamos Site Office					
Los Alamos National Laboratory	28,916	42,730	41,502	-1,228	-2.9%
Nevada Site Office					
Nevada Test Site	6,315	10,218	6,221	-3,997	-39.1%
NNSA Service Center					
NNSA Service Center	378	458	486	28	6.1%
Oak Ridge					
East Tennessee Technology Park	2,741	5,184	6,677	1,493	28.8%
Oak Ridge Reservation	52,330	61,795	60,492	-1,303	-2.1%
Total, Oak Ridge	55,071	66,979	67,169	190	0.3%
Pantex Site Office	14,991	21,133	24,521	3,388	16.0%
Richland					
Hanford Site	453,949	490,011	524,818	34,807	7.1%
River Protection	690,000	686,036	690,000	3,964	0.6%
Savannah River Site	369,452	362,273	369,636	7,363	2.0%
Total, 2012 Accelerated Completions	2,102,613	2,199,338	2,150,641	-48,697	-2.2%

Detailed Justification

	(dollars in thousands)		
	FY 2003	FY 2004	FY 2005
ID-0011 / NM Stabilization and Disposition (life-cycle estimate $21,408K)……	**1,500**	**296**	**1,929**

The Idaho National Laboratory currently stores special nuclear material at several locations. To strengthen the safeguards and security and decrease the national security risk associated with special nuclear material this PBS consolidated approximately 2,771 kgs (total uranium) of special nuclear material stored at the Idaho National Laboratory by the end of FY 2003 at off-site location(s) with controlled storage. Such consolidation not only provides better security for these materials, but also reduces the annual maintenance and security costs by eliminating unnecessary special nuclear material storage locations.

The consolidation of special nuclear material is the primary activity to fulfilling the objectives of DOE's strategy to transfer all EM-managed special nuclear material off-site. This requires: 1) the safe, secure surveillance, monitoring and storage of special nuclear material in its current storage configuration; 2) development of shipping and receiving agreements with the appropriate program office(s) and/or location(s); 3) appropriate repackaging of the special nuclear material for shipment; and 4) final shipment and/or dispositioning with the agreed upon program office(s) at appropriate location(s).

The end-state for this PBS is to have all of the special nuclear material transferred to an off-site location(s) or dispositioned to other program sponsors by the end of FY 2009, in accordance with the Performance Management Plan for accelerating cleanup of the Idaho National Laboratory. To date, about 230 kgs (total uranium) of legacy special nuclear material have been transferred off-site.

In FY 2005, the following activity is planned to support the accelerated cleanup of the Idaho National Laboratory.

- Repackage and/or ship off-site 34 containers of special nuclear material.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Enriched Uranium Packaged for Long-Term Storage (Number of Containers)	55	313	34	607	1,029	59%
Material Access Areas Eliminated (Number of Areas)	0	0	0	0	1	0%

Key Accomplishments (FY 2003)/Planned Milestones (FY 2004/FY 2005)

- Repackaged and/or shipped off-site, 55 containers of special nuclear material (FY 2003).
- Complete the transfer of all denitrator products to the Savannah River Site and Nuclear Fuel Services (September 2004).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Disposition 34 containers of special nuclear material containing uranium (September 2005).

ID-0012B-D / SNF Stabilization and Disposition-2012
(life-cycle estimate $705,270K)…….. 31,395 22,466 10,439

The purpose of this PBS is to stabilize and disposition legacy spent nuclear fuel through 2012. The Idaho National Laboratory currently stores approximately 235 metric tonnes heavy metal (legacy and non-legacy) spent nuclear fuel in four locations. Of this, approximately 22 metric tonnes heavy metal (legacy and non-legacy) spent nuclear fuel is stored in water-filled pools. In accordance with the Performance Management Plan, this project accelerates the consolidation of legacy spent nuclear fuel at the Idaho Nuclear Technology and Engineering Center by the end of FY 2005. This project also accelerates the transfer of legacy spent nuclear fuel from wet to dry storage by the end of FY 2012, 11 years ahead of the previous baseline date of 2023, thereby reducing the environmental risks and the costs of interim storage. While the transfer of spent nuclear fuel from wet to dry storage remains the responsibility of EM and is supported by this PBS, the activities associated with surveillance and maintenance of the Chemical Processing Plant-666 fuel storage pool have transferred to the Office of Civilian Radioactive Waste Management and are funded within the Other Defense Activities appropriation.

This EM PBS includes future disposition of the Fermi blanket legacy spent nuclear fuel, which is a sodium-bonded fuel for which a treatment and disposal plan has not yet been finalized. (Non-legacy spent nuclear fuel is covered in PBS HQ-SNF-0012X, SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository.)

Previously, this PBS included the National Spent Nuclear Fuel Program that is responsible for working with the Office of Civilian Radioactive Waste Management to ensure future inclusion of the complex-wide DOE-owned spent nuclear fuel in the monitored geologic repository. This project is the primary interface that provides the packaging requirements necessary for disposal of DOE-owned spent nuclear fuel at the monitored geologic repository. Due to its intricacies with the repository program, the responsibility for the management and oversight of the National Spent Nuclear Fuel Program has also transferred to the Office of Civilian Radioactive Waste Management. Funding for the program is included in the Other Defense Activities appropriation.

The final packaging of stored spent nuclear fuel into road-ready configuration and shipment to the monitored geologic repository will occur by the end of CY 2034 and is addressed in PBS HQ-SNF-0012X, SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository.

To date, legacy spent nuclear fuel from the Advanced Reactivity Measurement Facility/Coupled Fast Reactivity Measurement Facility Canal, the Materials Test Reactor Canal, the Chemical Processing Plant-603 basins, the Power Burst Facility Canal, and from Test Area North-607 have been moved to dry storage.

The future end-state for this project will be achieved when all EM wet fuel is transferred to dry storage, which reduces environmental and security risks.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

In FY 2005, the following activities are planned to support the accelerated cleanup of the Idaho National Laboratory.

- Complete the receipt of spent fuel from the Advanced Test Reactor into the Chemical Processing Plant-666 pools.
- Complete preparation for transfer of Fermi driver spent nuclear fuel from Chemical Processing Plant-666 pools into the Irradiated Fuel Storage Facility.
- Initiate transfer of spent nuclear fuel from Chemical Processing Plant-666 into the Irradiated Fuel Storage Facility.
- Prepare for the transfer of Experimental Breeder Reactor-II Sodium-bonded spent nuclear fuel to the Argonne National Laboratory-West.
- Prepare to move Navy fuel to the Expended Core Facility.
- Prepare to receive Advanced Test Reactor fuel directly into the Irradiated Fuel Storage Facility.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
No metrics associated with this PBS						

Key Accomplishments (FY 2003)/Planned Milestones (FY 2004/FY 2005)

- Completed 28 shipments (0.186 metric tonnes heavy metal) of Advanced Test Reactor spent nuclear fuel into the Chemical Processing Plant-666 pools (FY 2003).
- Began preparations for transfer of Test Area North spent nuclear fuel (six casks, 38.3701 metric tonnes heavy metal) to the Idaho Nuclear Technology and Engineering Center (FY 2003).
- Complete analysis of DOE spent nuclear fuel to support inclusion in the monitored geologic repository license application (September 2004).
- Complete the consolidation of all EM-owned spent nuclear fuel at the Idaho National Laboratory to the Idaho Nuclear Technology and Engineering Center (September 2004).
- Manage the movement of spent nuclear fuel for safer, consolidated storage, including completing the transfer of fuel from the Advanced Test Reactor to the Chemical Processing Plant-666 (September 2005).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

ID-0013 / Solid Waste Stabilization and Disposition (life-cycle estimate $1,921,077K) …… 179,736 233,797 111,773

This waste treatment and disposal activity accelerates the disposition of stored transuranic waste, low-level waste, Resource Conservation and Recovery Act hazardous waste, and mixed low-level waste backlog; closes on-site low-level waste disposal facilities at the Radioactive Waste Management Complex; and accelerates the consolidation of waste management facilities to reduce operating costs. The various waste inventories to be dispositioned by this project were generated primarily by other DOE sites and also by active operations at the Idaho National Laboratory. Approximately 65,000 m^3 of stored transuranic waste comprised of both contact-handled and remote-handled waste will be characterized, treated and shipped to a permanent repository. Ongoing low-level waste disposal operations for currently generated low-level waste must cease to enable Comprehensive Environmental Response, Compensation, and Liability Act closure of the Radioactive Waste Management Complex Subsurface Disposal Area. A backlog of 2,250 m^3 of mixed low-level waste is in storage in several facilities at the Idaho National Laboratory. This project dispositions the Idaho National Laboratory inventory of transuranic waste, continues disposal of low-level waste on-site with a transition to off-site locations and dispositions the mixed low-level waste backlog to off-site treatment and disposal facilities.

Contact-handled transuranic waste will be processed in a privatized facility (Advanced Mixed Waste Treatment Project) and shipped to the Waste Isolation Pilot Plant for disposal. Remote-handled transuranic waste (approximately 360 m^3) will be dispositioned separately from the Advanced Mixed Waste Treatment Project and is expected to be characterized and shipped to the Waste Isolation Pilot Plant for disposal by the end of FY 2011. On-site low-level waste disposal at the Radioactive Waste Management Complex will continue through 2008 for contact-handled low-level waste and 2009 for remote-handled low-level waste. With cessation of the Radioactive Waste Management Complex disposal operations, low-level waste will be sent off-site to other DOE or commercial disposal facilities. The mixed low-level waste backlog of 2,250 m^3 will be treated and disposed of by the end of FY 2004. This allows the closure of storage and treatment facilities at the Waste Reductions Operations Complex by the end of FY 2004. Backlog liquid low-level waste will continue to be sent off-site to commercial treatment under an exiting contract. Resource Conservation and Recovery Act hazardous waste has no backlog, and is treated and disposed of off-site through a contract with a commercial vendor. Additionally, this project performs environmental monitoring of Air, Water, and Soils and Biota surveillances.

The future end-state for this project will be achieved, when all stored transuranic waste is disposed by the end of 2012, six years ahead of a DOE commitment to the State of Idaho under the Settlement Agreement. In addition, all backlogged liquid low-level waste will be dispositioned and legacy mixed low-level waste will be disposed off-site and the storage facilities that contain this waste will be Resource Conservation and Recovery Act closed. Solid low-level waste, which has no backlog, will continue to be disposed of on-site at the Radioactive Waste Management Complex through FY 2009. Subsequently, on-site disposal will cease and the low-level waste disposal pit will be included in the Comprehensive Environmental Response, Compensation and Liability Act closure of the Subsurface Disposal Area of Radioactive Waste Management Complex.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Through 2003, the project shipped for disposal about 3,400 m^3 (initial waste volume was about 3,250 m^3 of stored transuranic waste prior to repackaging for disposal) of transuranic waste to the Waste Isolation Pilot Plant, and approximately 800 m^3 of the mixed low-level waste backlog has been sent off-site for treatment and disposal. Additionally, construction of the Advanced Mixed Waste Treatment Project was completed (December 2002), waste retrieval operations commenced (March 2003) and preparations for treatment operations are progressing. Several treatment units and storage facilities have been Resource Conservation and Recovery Act closed, including the Waste Experimental Reduction Facility incinerator.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Idaho National Laboratory.

- Advanced Mixed Waste Treatment Facility operations will be in its second year of operations and will be operating ahead of the Idaho Settlement Agreement requirement to maintain a running average of no fewer than 2,000 m^3 (initial waste volume) per year being shipped out of the State of Idaho.
- Continue disposal operations of contact-handled and remote-handled low-level waste at the Radioactive Waste Management Complex Subsurface Disposal Area.
- Continue disposition of approximately 435 m^3 of Resource Conservation and Recovery Act Hazardous Waste to off-site facilities.
- Dispose of 100,000 lbs of mixed waste lead via a commercial treatment and disposal facility and recycle another 100,000 lbs of lead.
- Complete the conceptual design for implementation of remote-handled transuranic waste intrusive characterization and repackaging systems, and remote-handled-72B cask loading capabilities.
- Initiate limited operations to support early shipment of remote-handled transuranic waste to the Waste Isolation Pilot Plant.
- Perform environmental monitoring of Air, Water, and Soils and Biota surveillance.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Transuranic Waste Shipped for Disposal at WIPP (m^3)	538	7,615	7,864	18,883	64,251	29%
Low-Level and Mixed Low-Level Waste Disposed (m^3)	5,329	8,540	5,240	41,594	77,430	54%

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Key Accomplishments (FY 2003)/Planned Milestones
(FY 2004/FY 2005)

- Completed settlement agreement milestone for shipment of 3,100 m^3 (initial waste volume) of transuranic waste to the Waste Isolation Pilot Plant (FY 2003).
- Completed the Resource Conservation and Recovery Act Closure Waste Experimental Reduction Facility (FY 2003).
- Commence treatment operations of the Advanced Mixed Waste Treatment Facility to accelerate contact-handled transuranic waste shipments to the Waste Isolation Pilot Plant (April 2004).
- Complete remote-handled-transuranic waste technical strategy document, mission need documents, and conceptual design supporting treatment and off-site shipment of remote-handled transuranic waste (September 2004).
- Complete the Resource Conservation and Recovery Act Closure of the Waste Reduction Operations Complex (September 2004).
- Continue waste management operations including dispositioning nearly 8,000 m^3 of transuranic waste and more than 5,200 m3 of low-level and mixed low-level wastes (September 2005).

ID-0014B / Radioactive Liquid Tank Waste Stabilization and Disposition-2012 (life-cycle estimate $2,357,775K)…….. 126,369 131,860 130,317

This project addresses one of the highest Idaho National Laboratory environmental risks by accelerating removal and treatment of the liquid wastes stored over the Snake River Plain aquifer, transporting the treated waste out of the State of Idaho, and closing the emptied tank farm tanks. In addition, initial remediation activities for contaminated tank farm soils will be integrated with tank farm closures, and preliminary work will be accomplished to allow for final disposition of stored high-level waste calcine. Also, the backlog of used high-efficiency particulate air filters and debris associated with past Idaho Nuclear Technology and Engineering Center operations will be eliminated. The tank wastes were generated mainly from facility decontamination activities, but do contain some wastes associated with past spent fuel reprocessing operations. The tank waste is referred to as sodium-bearing waste, to differentiate it from high-level wastes previously produced directly from fuel reprocessing. The tank farm soils were contaminated by past leakage from tank transfer piping. About 4,400 m^3 of stored high-level waste calcine was produced from 1963 to 2000, from operations that converted liquid wastes to solid form. The overall objective of this project is to treat and dispose of the sodium-bearing tank wastes and close the tank farm tanks, perform initial tank soils remediation work to allow final remediation by 2020, and perform preliminary work on stored calcine waste to allow final disposition by 2030.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Specific activities to be accomplished throughout the life-cycle of this project include the accelerated treatment and disposal of approximately 900,000 gallons of liquid sodium-bearing radioactive waste stored in 11 underground tanks. The major investment and primary focus will be design, construction and operation of a facility that will retrieve and treat the sodium-bearing liquids and associated tank solids for disposal at a national waste repository. The type of facility constructed to treat the sodium-bearing waste will be determined by a rigorous technology selection process that will select the most effective and cost-efficient technology. The final selection of the primary technology will be completed during FY 2004 and design will be completed in FY 2005 so construction of the treatment facility can start in FY 2006. Other activities in this PBS include facility maintenance and operations of the Idaho Nuclear Technology and Engineering Center as well as accelerated cleaning and closure of the tank farm tanks and associated equipment by 2012, four years earlier than previous baselines.

Initial tank farm soils remediation work will focus on preparations for a future cap on the tank farm area to meet Comprehensive Environmental Response, Compensation, and Liability Act requirements. Integration of soils remediation work with Resource Conservation and Recover Act tank closure activities will allow for sampling as the tanks are closed to support a Comprehensive Environmental Response, Compensation, and Liability Act Record of Decision in 2010. Preliminary activities to prepare for final disposition of high-level waste calcine at the repository include: 1) demonstration of bin set retrieval technology to support the design and operating activities and characterization and demonstration of waste acceptance; 2) Resource Conservation and Recovery Act regulatory initiatives to allow disposal of calcine; 3) issuance of a Record of Decision in 2007 and associated calcine treatment technology selection and development; 4) conceptual and preliminary design; and 5) submission of a Resource Conservation and Recovery Act Part B permit in 2012 for a calcine retrieval and packaging facility. A Resource Conservation and Recovery Act Part B permit for interim storage of calcine in existing storage facilities will also be submitted in 2004.

The future end-state of this project (2012) is a tank farm facility that has been emptied, decontaminated, and closed in accordance with DOE and Resource Conservation and Recovery Act requirements. The sodium-bearing tank waste retrieved from the tanks will be treated and then disposed of outside the State of Idaho. Preliminary work will be ongoing to allow for final tank soils remediation by 2020. Initial work to select the calcine treatment method and initiate design of the calcine retrieval and treatment system will be completed to allow for final calcine disposition by 2030. The current backlog of legacy used high-efficiency particulate air filters and mixed low-level waste debris treatment will no longer exist.

Through 2003, six tank farm tanks were emptied, the liquid waste inventory reduced to the lowest level since 1958, and two of the emptied tanks cleaned in preparation for final closure. Closure plans were developed to address closure of the tank farm. Critical Decision 0 documents were developed and submitted for the sodium bearing waste treatment project in support of a treatment technology selection. Sampling and Analysis plans were developed to support additional characterization of stored calcine.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Because of uncertainties associated with a recent court ruling that finds the Department's plans to reclassify some high-level waste (Waste Incidental to Reprocessing) in violation of the Nuclear Waste Policy Act, the Department believes it is inadvisable to proceed with certain planned FY 2005 activities at this time. Therefore, those activities that are impacted by the court decision are presented in the High-Level Waste Proposal under the Defense Site Acceleration Completion appropriation including the Sodium Bearing Waste Treatment Facility project. Funding for this project will be requested only at such time as the legal issue is resolved.

In FY 2004 this PBS includes an appropriation of $20,379,050 for design of the Sodium Bearing Waste Treatment Facility under line-item 04-D-414, Project Engineering and Design.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Idaho National Laboratory.

- Continue safe and reliable operation of all the Idaho Nuclear Technology and Engineering Center utilities, and operation and maintenance of the process waste system, the process support laboratories, and of existing process facilities.
- Cease receipt of Newly Generated Liquid Waste into 11 high-level tank farm tanks at the Idaho Nuclear Technology and Engineering Center by September 2005.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Liquid Waste in Inventory Eliminated (thousands of gallons)	0	0	0	0	900	0%
Liquid Waste Tanks Closed (Number of Tanks)	0	1	1	2	11	18%
Transuranic Waste Shipped for Disposal at WIPP (m^3)	0	0	0	0	1,130	0%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Complete the characterization of remaining liquids and solids in the 11 underground sodium bearing waste tanks (September 2004).
- Complete Resource Conservation and Recovery Act Part B permit application for bin set storage of calcine and permit modification request for Volume 21 (December 2004).
- Cease receipt of Newly Generated Liquid Waste in the 11 high-level waste farm tanks (September 2005).

ID-0030B / Soil and Water Remediation-2012 (life-cycle estimate $1,148,952K) …… 123,826 105,223 127,621

(dollars in thousands)

FY 2003	FY 2004	FY 2005

As a result of nuclear energy related reactor and nuclear material processing operations over the last several decades, chemically hazardous and radiological contaminants were released to the environment at the nine major facility areas of the Idaho National Laboratory which in some cases have reached the groundwater. The Idaho National Laboratory is on the National Priorities List and is committed to achieving cleanup under a Comprehensive Environmental Response, Compensation, and Liability Act agreement (known as the Federal Facilities Agreement Consent Order) with the State of Idaho and the Environmental Protection Agency. The Federal Facility Agreement and consent order divides the site into 10 Waste Area Groups, one for each facility area and one for the groundwater and land area outside facility area boundaries. A separate Consent Order was signed by the State of Idaho and DOE in 2000 (the Voluntary Consent Order) to address existing self disclosed Resource Conservation and Recovery Act issues. Completion of the actions required to address these issues are also covered by this project. The objective of this project is to accelerate remediation of contaminated soil and groundwater and closure of legacy Resource Conservation and Recovery Act issues at the Idaho National Laboratory to eliminate risk to the underlying sole source Snake River Plain Aquifer.

The technical approach for this project is based on achieving compliance with the cleanup requirements of the Federal Facility Agreement and Consent Order. The project also addresses the Voluntary Consent Order actions, the largest of which is to characterize and disposition all known legacy hazardous waste tanks at the Idaho National Laboratory (estimated to be approximately 704). The Comprehensive Environmental Response, Compensation, and Liability Act project removes contaminated soils and debris from various waste sites across the Idaho National Laboratory, transports, and permanently disposes of these wastes. This project also includes all environmental monitoring to confirm effectiveness of selected Record of Decision remedies for protection of the Snake River Plain Aquifer and maintenance of institutional controls. Three additional Record of Decisions remain to be negotiated: the Record of Decision for the High-Level Waste Tank Farm Soils in Waste Area Group 3, the Record of Decision for Radioactive Waste Management Area, Waste Area Group 7, and the final Waste Area Group 10 Record of Decision, which will assess the impact of all activities on the aquifer. Assessment of the contamination present, the risk to the aquifer from contamination and the technical approaches available to achieve risk reduction will continue in FY 2005 to support these negotiations.

Activities completed to date include signature of 19 out of 22 Comprehensive Environmental Response, Compensation, and Liability Act Records of Decision. All commitments in 13 of these Records of Decisions will be met by the start of FY 2005. Implementation of 6 Record of Decisions will continue during FY 2005. Remediation is being completed on or ahead of regulatory schedules. Remediations have removed chemical contamination, stabilized short-lived radioactive contamination, controlled access through institutional controls, consolidated mixed waste in the Idaho Comprehensive Environmental Response, Compensation, and Liability Act Disposal Facility, implemented bioremediation of groundwater contamination, and implemented long-term compliance required monitoring of the aquifer and ecosystem. In addition, 28 Voluntary Consent Order enforceable milestones have been met to date, all ahead of schedule.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

The future end-state for this project, by 2012, is completion of remedial actions for all but two of the Waste Area Groups. As cleanup actions are completed for a Waste Area Group, institutional controls and stewardship management will be implemented to enable reuse of areas for current and future DOE missions, as assigned. The end-state for this project is being achieved through accelerated completion of specific Comprehensive Environmental Response, Compensation, and Liability Act and the Resource Conservation and Recovery Act cleanup activities identified in the EM Idaho National Laboratory Performance Management Plan, August 2002. By 2012, active remediation of Waste Area Group 1, Test Area North, Waste Area Group 2, Test Reactor Area, Waste Area Group 4, Central Facility Area, Waste Area Group 5, Power Burst Facility/Auxiliary Reactor Area, Waste and Area Group 6, BORAX Reactor Area will be complete, and all noncompliance items covered by the Voluntary Consent Order will be addressed. All Waste Area Group 10 soil actions will also be complete by 2012. No additional active remediation of the aquifer is anticipated but the final Record of Decision will not be signed until FY 2008. The remediation of Waste Area Group 3, Idaho Nuclear Technology and Engineering Center and Waste Area Group 7, Radioactive Waste Management Complex will continue beyond 2012. PBS ID-INEEL-0030C, Soil and Water Remediation-2035, covers the longer-term remediation of Waste Area Groups 3 and 7, as well as long-term environmental monitoring. The technical approach for Waste Area Group 3 cleanup cannot be completely implemented while spent fuel remains at this facility. The remedial approach for Waste Area Group 7 will be selected by 2007.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Idaho National Laboratory:

- Waste Area Group 1 (Test Area North): finish two thirds of remaining tank removals with completion of all actions in FY 2006 and continue remediation of organic and radioactive plume in Snake River Plain Aquifer.
- Waste Area Group 2 (Test Reactor Area); Waste Area Group 4 (Central Facility Area); Waste Area Group 5 (Power Burst Facility/Auxiliary Reactor Area); and Waste Area Group 6 (Experimental Breeder Reactor/BORAX): continue groundwater monitoring and institutional controls per existing Records of Decisions.
- Waste Area Group 3 (Idaho Nuclear Technology and Engineering Center): excavate 75,000 of 422,560 cubic yards of contaminated surface soils and dispose of at the Idaho National Laboratory Comprehensive Environmental Response, Compensation, and Liability Act Disposal Facility and remove, sample, and ship the SFE-20 tank off-site for final disposition.
- Waste Area Group 7 (Radioactive Waste Management Complex): complete the Remedial Investigation/Feasible Study for remedy selection; continue implementing signed Records of Decisions, remove Volatile Organic Compounds from the vadose zone; maintain Pad A; and complete the conceptual design for a system to retrieve and dispose of all transuranic waste material in Pit 9.
- Waste Area Group 10 (Sitewide): continue ecological risk and groundwater monitoring per Record of Decision to determine effectiveness of completed remedies; continue groundwater analysis to develop the final Snake River Plain Aquifer Record of Decision; and develop the work plan for gun-range remediation.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Voluntary Consent Order: continue Resource Conservation and Recovery Act closure activities and waste disposition on the Chemical Processing Plant-603 Basin Water Treatment System at the Idaho Nuclear Technology and Engineering Center; continue Resource Conservation and Recovery Act closure activities on buried lines outside Test Area North-616 and other Resource Conservation and Recovery Act closure activities on additional Test Area North tank systems; complete Resource Conservation and Recovery Act closure for the 730 Catch Tank System at Test Reactor Area; complete the enforceable milestone for characterizing 100 percent of the tanks; and complete other Resource Conservation and Recovery Act closure activities on Voluntary Consent Order tank systems.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Remediation Complete (Number of Release Sites)	43	3	3	148	199	74%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Waste Area Group 1: continued Test Area North soil remediation at the final two sites; completed technology evaluation for remediation of the V-tanks; issued a new Proposed Plan; and submitted a Record of Decision amendment for the Test Area North radioactive mixed waste V-Tank remediation (FY 2003).
- Waste Area Group 3: completed the Idaho Comprehensive Environmental Response, Compensation, and Liability Act Disposal Facility construction; began waste disposal operations with waste from Waste Area Group's 3 and 4; completed drainage improvements for the tank farm consistent with dispute resolution agreements; and analyzed perched water contaminants (FY 2003).
- Waste Area Group 4: completed final remedial actions at the Central Facilities Area (FY 2003).
- Waste Area 7: completed construction of the Pit 9 Glovebox Excavator Method Project which is ready for operations; completed Pit 9 full-scale retrieval (Stage III) Critical Decision-0 mission need documents; obtained approval of the Waste Area Group 7 Second Revision to Remedial Investigation/Feasibility Study Scope of Work for selecting the remedy; and completed the Subsurface Disposal Area probing campaign to verify disposal inventory information (FY 2003).
- Waste Area Group 10: completed plans to implement soils Record of Decision and completed ordnance removal actions (FY 2003).
- Voluntary Consent Order: dispositioned 75 percent of the legacy waste at the Test Reactor Area; completed disposition of the highly radioactive calcine handling tools; completed characterization of 50 percent of the Voluntary Consent Order tanks; and met legal disposition milestones (FY 2003).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Complete Glovebox Excavator Method Project (Pit 9) Critical Decision 4 for start of operations to excavate (February 2004).
- Complete the excavation of transuranic waste under Glovebox and Excavator Method Project (Pit 9) (June 2004).
- Complete physical remediation of Waste Area Group 5 (September 2004).
- Complete Central Facilities Area Waste Area Group 4 closeout and transfer to surveillance and maintenance project (September 2004).
- Complete Power Burst Facility Waste Area Group 5 Project closeout and transfer to surveillance and maintenance project (September 2004).
- Complete the Idaho Comprehensive Environmental Response, Compensation, and Liability Act Disposal Facility Cell 2 Construction (August 2005).
- Complete the Remedial Investigation/Feasibility Study for remedy selection of the Radioactive Waste Management Complex (September 2005).
- Submit 10 percent design for retrieval of remainder of Pit 9 (September 2005).
- Complete the Waste Area Group 1 project final remedial actions (September 2005).
- Site Tank 005: Perform hazardous waste and empty determination of 100 percent of Voluntary Consent Order tanks (September 2005).

ID-0040B / Nuclear Facility D&D-2012 (life-cycle estimate $140,142) ……	**3,487**	**6,587**	**5,539**

The Idaho National Laboratory is an 890 square mile government owned site with nine major facility areas including the Naval Reactor Facility and Argonne National Laboratory-West. Over the last several decades these areas have been dedicated to nuclear energy related reactor and nuclear material processing operations. In support of these operations the types of buildings required were designated as industrial, radiological, and nuclear. Many of the buildings used to support this work have reached the end of their useful and necessary life. During the years of operation many of the activities involved hazardous and radiological contaminants. The EM program is responsible for the eventual disposition of these buildings.

This project focuses on deactivation of high-risk radiologically contaminated Idaho National Laboratory nuclear buildings. The scope includes deactivation of four spent fuel storage pools, deactivation of three excess nuclear test reactors, and deactivation of a nuclear fuel reprocessing building. The spent nuclear fuel storage pools have had spent fuel removed, but are a risk to workers, public health and the environment because they contain contaminated water which could leak to the Snake River Plain Aquifer. Contaminated liquids stored over the Snake River Plain Aquifer are a critical concern of the stakeholders. The total contaminated water volume in the four pools is nearly 2.5 million gallons.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

The future end-state of this project is the removal of radiologically contaminated water from four nuclear fuel storage pools, demolition of three nuclear reactors, and demolition of a fuel reprocessing building. These demolition activities will achieve risk reduction, minimize the surveillance and maintenance requirements and allow mortgage reduction savings to be used for other deactivation efforts. Specific project activities include: 1) demolition of the spent nuclear fuel pools at Test Area North 607, Materials Testing Reactor 603, Power Burst Facility 620, and deactivation of Chemical Processing Plant-603; 2) demolition of the nuclear reactors at the Materials Testing Reactor, Engineering Test Reactor, and the Power Burst Facility; 3) demolition of the Chemical Processing Plant-601/627/640 nuclear fuel reprocessing building; and 4) final disposition of two nuclear facilities.

Activities completed to date include characterization, engineering and preparation of project execution plans for demolition of spent nuclear fuel pools at Test Area North 607, Materials Testing Reactor 603, and Power Burst Facility 620.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Idaho National Laboratory.

- Continue development of the National Environmental Policy Act environmental assessment and initiate the deactivation planning for the inactive Materials Test Reactor, Experimental Test Reactor, and Power Burst Facility reactor.
- Continue facility isolation and Resource Conservation and Recovery Act Closure Plan activities for Chemical Processing Plant-601/627/640 in support of completion of demolition by 2012.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Nuclear Facility Completions (Number of Facilities)	0	0	0	13	15	87%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Removed, packaged, and disposed of Materials Test Reactor 603 canal spent fuel racks, canisters, and test train hardware (FY 2003).
- Performed engineering evaluations and completed preparations for deactivation of the Test Area North 607 pool (FY 2003).
- Removed and disposed of out-of-service water treatment equipment and started sludge removal activities at the Test Area North 607 pool (FY 2003).
- Performed planning and engineering analysis for the Power Burst Facility 620 canal deactivation (FY 2003).
- Deactivate Materials Test Reactor Canal to the proposed end-state (September 2004).
- Deactivate Test Area North-607 pool to the proposed end-state (September 2004).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Complete the environmental assessment for deactivation, decontamination, and decommissioning of Materials Test Reactor, Environmental Test Reactor, and Power Burst Facility Reactor (September 2005).

ID-0050B / Non-Nuclear Facility D&D-2012 (life-cycle estimate $293,467) …….……. 6,975 8,933 27,560

The Idaho National Laboratory is an 890 square mile government owned site with nine major facility areas including the Nuclear Regulatory Facility and Argonne National Laboratory-West. Over the last several decades these areas have been dedicated to nuclear energy related reactor and nuclear material processing operations. In support of these operations the types of buildings required were designated as industrial, radiological, and nuclear. Many of the buildings used to support this work have reached the end of their useful and necessary life. During the years of operation many of the activities involved hazardous and radiological contaminates.

In FY 2003 the Idaho National Laboratory complex consisted of 526 buildings. As a result of changing the Lead Program Secretarial Office from EM to Nuclear Energy, the responsibility to maintain and eventually disposition 225 of these buildings was transferred to Nuclear Energy. The remaining 301 buildings are the responsibility of EM to maintain and eventually disposition. Of these 301 buildings, 228 are classified as non-nuclear and were used to support industrial and/or radiological related work activities not directly related to reactors or spent nuclear fuel storage and reprocessing. This project will disposition 39 of these buildings to their final end-state. A total of 189 of the buildings will be dispositioned under PBS ID-INEEL-0050C, Non-Nuclear Facility D&D-2035. Two of the buildings will be dispositioned under PBS ID-INEEL-0040B, Nuclear Facility D&D-2012, and the remaining 71 will be dispositioned under PBS ID-INEEL-0040C, Nuclear Facility D&D-2035.

At the completion of this project, 39 of the 228 EM owned non-nuclear buildings will be dispositioned in accordance with appropriate laws, regulations, and DOE orders. The end-state of the footprint cleared by the demolition activities shall meet the requirements of current and future non-EM missions assigned and will be consistent with continued government ownership and industrial use. Starting in FY 2013, the remaining 189 EM owned non-nuclear buildings will be dispositioned through PBS ID-INEEL-0050C, Non-Nuclear Facility D&D-2035.

The work associated with this project includes removal and disposal of hazardous materials and radioactive contamination and the dispositioning of 39 buildings to their final end state (demolish, dismantle, entomb, reassign to another Program Secretarial Officer, etc.).

The Idaho National Laboratory has established specific procedures and processes for determining the desired end-state of each facility area. These procedures and processes address all regulatory requirements necessary to achieve the final disposition for each building. To date the Idaho National Laboratory has already demolished numerous excess buildings and completed agreements with non-EM Program Secretarial Officers to transfer ownership of buildings that have additional useful life but are no longer needed by EM.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Idaho National Laboratory.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Complete the final dispositioning of buildings Test Area North-642, 643, 644, 645, and 646.
- Complete characterization activities for buildings Test Area North-633, 641, and 648.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Radioactive Facility Completions (Number of Facilities)	0	3	1	9	19	47%
Industrial Facility Completions (Number of Facilities)	6	4	3	59	71	83%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Completed final disposition of six buildings and three structures at Test Area North (FY 2003).
- Complete demolition of four industrial buildings and structures at Test Area North, two of which are large above ground oil storage tanks (September 2004).
- Complete the consolidation and reconfiguration of the Test Area North to determine long-term responsibility for facilities (September 2004).
- Inactivate an additional 52 EM buildings to a condition that is cold, dark, and dry (power, water, and heat disconnected) (September 2005).

OR-0013B / Solid Waste Stabilization and Disposition-2012 (life-cycle estimate $808,665K) …… 51,787 54,956 47,471

This PBS scope collects, stores, treats, and disposes of low-level, mixed low-level, hazardous, and sanitary waste from the East Tennessee Technology Park and polychlorinated biphenyl Federal Facility Compliance Agreement mixed waste from Y-12. It also includes the operation of the Toxic Substances Control Act Incinerator, the Central Neutralization Facility, management of the Reservation's 646 m^3 of transuranic waste and the design, construction, and operation of the Transuranic Waste Treatment Facility. It partially includes East Tennessee Technology Park infrastructure services, including fire protection, utility services, environmental, safety, and health programs, real property management, power operations and maintenance, and capital improvements and repairs.

Both newly generated low-level waste (DOE Order 435.1) and hazardous waste (Resource Conservation and Recovery Act) require disposal within one year of generation. This project addresses waste generated at the East Tennessee Technology Park under the Oak Ridge accelerated cleanup project through 2008, while the companion project (PBS OR-0013A, Solid Waste Stabilization and Disposition-2006) addresses all Melton Valley wastes, all legacy wastes at Y-12 and the East Tennessee Technology Park prior to 2006.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

In FY 2005, the following activities are planned to support the accelerated cleanup of the Oak Ridge Office.

- Newly Generated Transuranic Waste – Collect and store newly generated transuranic waste generated on the Oak Ridge Reservation primarily received from the Oak Ridge National Laboratory.
- Initiate contact-handled transuranic waste processing at the Transuranic Waste Treatment Facility.
- Complete the treatment of liquid low-level waste supernate at the Transuranic Waste Processing Facility and disposal of the dried supernate product at the Nevada Test Site.
- Treat 1,000,000-lbs. of liquid waste and up to 550,000 lbs of solids from Tennessee (and out of state DOE sites) at the Toxic Substances Control Act Incinerator, and dispose of residual wastes generated during FY 2005. Treat a total of 35,000,000 gallons of wastewater per year in the waste streams at Central Neutralization Facility and treat wastewater from the Environmental Management Waste Management Facility as needed. Treat, transport and dispose 300 30-gallon drums of sludge at Envirocare per year.
- Complete the disposition of ~250 m^3 of polychlorinated biphenyl Federal Facility Compliance Agreement Waste from the Y-12 Site.
- Continue disposition of the East Tennessee Technology park polychlorinated biphenyl Federal Facility Compliance Agreement Waste.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Transuranic Waste Shipped for Disposal at WIPP (m^3)	0	250	178	428	646	0%
Low-Level and Mixed Low-Level Waste Disposed (m^3)	1,607	1,249	1,181	9,500	12,704	75%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY2005)

- Maintained the safe and compliant storage for mixed low-level waste and transuranic waste (FY 2003).
- Newly Generated Transuranic Waste Disposition: up to 5 m^3 of contact-handled transuranic waste and up to 7 m^3 of remote-handled transuranic waste was accepted, verified, collected, and transported to transuranic waste storage facilities (FY 2003).

(dollars in thousands)

	FY 2003	FY 2004	FY 2005
▪ Treated 1,000,000 pounds of liquid waste and up to 550,000 pounds of solids from Tennessee (and out of state DOE sites) at the Toxic Substances Control Act Incinerator; completed the Toxic Substances Control Act Incinerator Equipment Life study; dispositioned 1,000 Resource Conservation and Recovery Act empty containers at Envirocare, repackage waste, Non-Destructive Assay hatboxes, installed monitors at the Toxic Substances Control Act Incinerator Facility. Treated a total of 35,730,000 gallons of wastewater in the waste streams at the Central Neutralization Facility and treated wastewater from the Environmental Management Waste Management Facility. Treated, transported, and disposed of 300 30-gallon drums of sludge at Envirocare per year (FY 2003).			
▪ Complete contact-handled-debris construction/operational testing at the Transuranic Waste Treatment Facility (January 2004).			
▪ Complete Site Treatment Plan milestone for West End Treatment Facility sludge (September 2004).			
▪ Initiate contact-handled transuranic waste processing at the Waste Processing Facility (September 2005).			
▪ Complete the treatment of Liquid Low-Level Waste Supernate at the Waste Processing Facility and disposal of the dried supernate product at the Nevada Test Site (September 2005).			
OR-0031 / Soil and Water Remediation-Offsites (life-cycle estimate $97,622K) ……	**543**	**6,839**	**13,021**

This project reduces risk and accelerates the cleanup of three privately owned properties that were contaminated due to the sale of contaminated materials from the DOE to private companies. The Department is responsible for the cleanup of these sites under the Tennessee Superfund law. The three sites are the Atomic City Auto Parts Site in Oak Ridge and the David Witherspoon, Inc. 901 and 1630 sites in Knoxville. The properties, which cover 64 acres combined, are in residential and commercial areas and are accessible to the public. Primary contaminants include uranium, polychlorinated biphenyls, and heavy metals. The Oak Ridge Performance Management Plan commits to the completion of these three sites by FY 2008. The cleanup actions at these sites will consist of removing, treating, and disposing of contaminated materials, equipment, soil, and sediment; demolishing facilities; and remediating groundwater actions. The scope also includes Offsite Program Site Evaluations, which are dependent on the results of a study scheduled for release in FY 2004 by the Agency for Toxic Substances and Disease Registry.

Actions taken to date include removal of highly contaminated items from the sites (e.g., transformers and yellow-cake-contaminated materials) and completion of remedial investigations and feasibility studies. Cleanup of the Atomic City Auto Parts Site will be completed in 2005 with work at the Witherspoon Sites completed by 2008. Upon completion, all three sites are expected to be suitable for future industrial use.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Oak Ridge Offsites.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Complete the remediation at the Atomic City Auto Parts in the City of Oak Ridge by the Tennessee Department of Environment and Conservation.
- Complete the interim action planning on the David Witherspoon 901 site and start the remediation.
- Start the interim action planning on the David Witherspoon 1630 sites.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Remediation Complete (Number of Release Sites)	0	0	1	6	10	60%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Started cleanup of David Witherspoon, Inc. 901 site, cleared vegetation and performed additional characterization and prepared an interim action work plan for decontamination and decommissioning and debris removal (FY 2003).
- Continue the David Witherspoon, Inc. site cleanups (September 2004).
- Complete Atomic City Auto Parts (September 2005).

OR-0043 / Nuclear Facility D&D-East Tennessee Technology Park (Defense) (life-cycle estimate $151,058K)……. 2,741 5,184 6,677

This PBS scope covers decontamination, decommissioning, and remedial actions for the East Tennessee Technology Park facilities that were not involved in enriching uranium for commercial clients (per the Energy Policy Act of 1992). This project, in combination with PBS OR-0040, Nuclear Facility D&D-East Tennessee Technology Park (Uranium Enrichment Decontamination and Decommissioning Fund), will complete the East Tennessee Technology Park cleanup by 2008 and will allow the closure of this major DOE site. The main activities will include decommissioning of the centrifuge development facilities at the site and the Toxic Substances Control Act Incinerator. The centrifuge facilities subproject includes 32 facilities covering 234,000 square feet. The Toxic Substances Control Act Incinerator facilities include 39 facilities and 59,000 square feet.

This scope also includes removal of centrifuge equipment that is stored inside the K-25 building. This equipment must be removed prior to K-25 demolition. The K-25 demolition is on the East Tennessee Technology Park site critical path and represents a major mortgage reduction opportunity. The project also includes surveillance and maintenance at the centrifuge and Toxic Substances Control Act Incinerator facilities while they await decontamination and decommissioning.

Finally, this project funds a portion of the site infrastructure services. The infrastructure services include fire protection, utility services, environmental, safety and health programs, real property management, power operations, and maintenance, and capital improvements and repairs.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

In FY 2005, the following activities are planned to support the accelerated cleanup of the East Tennessee Technology Park.

- Continue management, surveillance, inspection, testing, and maintenance of the East Tennessee Technology Park.
- Start the Centrifuge Facilities decontamination and decommissioning project.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Low-Level and Mixed Low-Level Waste Disposed (m^3)	0	0	0	32,979	32,979	100%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Continued management, surveillance, inspection, testing, and maintenance of the East Tennessee Technology Park defense facilities (FY 2003).
- Perform surveillance and maintenance on the centrifuge facilities (FY 2003/September 2004/September 2005).
- Complete centrifuge equipment removal from K-25 and K-27 (September 2004).
- Continue management, surveillance of the East Tennessee Technology Park. (September 2005).
- Begin decontamination and decommissioning of the centrifuge facilities (September 2005).

RL-0011 / NM Stabilization and Disposition-PFP (life-cycle estimate $1,743,012K) ……. 119,670 143,322 182,861

The Plutonium Finishing Plant Complex consists of several buildings that were used for defense production of plutonium nitrates, oxides and metal from 1950 through early 1989. Some of these materials and other special nuclear materials (such as the polycubes) remain on surfaces in the enclosed process areas (gloveboxes, etc) and in interim storage containers. The bulk of the plutonium bearing materials at the Plutonium Finishing Plant are stored in vaults. This PBS implements actions to: place the special nuclear materials and residues, that resulted from plutonium production, in a suitable form for long-term storage at the Savannah River Site or at another approved DOE facility; cleanout the facilities and demolish them to slab on grade; and maintain the facilities until they are demolished. These actions can be grouped in the following key categories: 1) stabilization, packaging and shipment of the special nuclear materials and residues from the Plutonium Finishing Plant Complex; 2) maintaining the facilities in a safe and secure manner until the completion of demolition; and 3) cleanout and demolition of facilities.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

The following key activities will be performed to reach slab on grade and reduce the protected area footprint: 1) complete stabilization of special nuclear materials and place the materials in about 3,000 DOE Standard 3013 containers; 2) ship the DOE Standard 3013 containers to the Savannah River Site or a DOE approved interim storage facility; 3) complete repackaging and shipment of 3,437 kilograms of bulk plutonium residues to Hanford's Central Waste Complex for transport to the Waste Isolation Pilot Plant; and 4) complete facility cleanout and demolish the Plutonium Finishing Plant Complex to slab on grade. These activities eliminate significant hazards to workers, the public, the environment and long-term surveillance and maintenance risks and costs.

As of September 30, 2003, the Plutonium Finishing Plant has packaged 2,100 containers that meet DOE Standard 3013 (50 year container design life) and completed repackaging of over 3,400 kilograms of bulk plutonium residues for eventual shipment to the Waste Isolation Pilot Plant. Current progress to date also includes completion of stabilization and packaging of Hanford ash polycubes, and all plutonium solutions. This supports interim Defense Nuclear Facilities Safety Board milestones for completion of all material stabilization.

The end-state for this PBS is the removal of all special nuclear materials from the Plutonium Finishing Plant to a long-term storage facility, reduction of the security protected area and demolishing of the Plutonium Finishing Plant Complex to slab on grade by September 30, 2009.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Richland Office.

- Complete legacy plutonium holdup removal activities at the Plutonium Finishing Plant by September 30, 2005, sufficient to enable the elimination of the security protected area.
- Transition 232-Z, 234-5Z, 241-Z, 242-Z, and 216-Z-9 facilities.
- Complete transfer of nuclear materials to Savannah River or to an interim storage facility.
- Provide minimum safe operations and required safety boundary maintenance.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Plutonium Metal or Oxide Packaged for Long-Term Storage (Number of Containers)	2,100	400	0	3,000	3,000	100%
Plutonium or Uranium Residues Packaged for Disposition (kg/bulk)	1,041	0	0	3,437	3,437	100%
Materials Access Areas Eliminated (Number of Areas)	0	0	1	1	2	50%
Nuclear Facility Completions (Number of Facilities)	2	0	0	3	60	5%

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Key Accomplishments (FY 2003) / Planned Milestones
(FY 2004/FY 2005)

- Completed polycube stabilization and residue repackaging ahead of schedule (FY 2003).
- Complete repackaging of residues and transport them to the Central Waste Complex (February 2004).
- Defense Nuclear Facilities Safety Board 94-1/2000-1 Plutonium bearing material stabilized and packaged (February 2004).
- Complete the definitive design and construction of alternative nuclear materials storage facility if shipment to the Savannah River Site is delayed (September 2004).
- Start glovebox cleanout and removal activities in Building 234-5Z (September 2004).
- Complete transfer of nuclear material to Savannah River or DOE approved interim storage facility (September 2005).
- Complete legacy holdup removal and packaging/disposition of material/waste (September 2005).

RL-0012 / SNF Stabilization and Disposition (life-cycle estimate $1,749,553K) ……. 191,715 166,610 125,468

This project will package and move approximately 2,100 metric tonnes of degrading spent nuclear fuel, and up to 45 m^3 of radioactive sludge (estimated to weight approximately 18 metric tonnes) generated by the degrading fuel, from wet storage in the K Basins near the Columbia River to safe, dry interim storage on the 200 Area Central Plateau. The K Basin facilities are well past their design lives and are a major threat to the environment due to the potential for radioactive basin water to the surrounding soil and the Columbia River.

The end-state of this PBS by FY 2007 is the removal of all spent nuclear fuel from the K Basins, and subsequently repackage, dry and transport to interim on-site storage at the Canister Storage Building; removal of radioactive sludge from the K Basins and transport to T-Plant for on-site interim storage; permanent disposal of debris from the K Basins in the 200 Area; transport K-Basin water to the 200 Area for treatment and disposal; and consolidation of all non defense production spent nuclear fuel in the Central Hanford 200 Area pending final disposition. All 100 Area facilities will be transitioned to the River Corridor Contractor (PBS RL-0041, Nuclear Facility Decontamination and Decommissioning-River Corridor Closure Project) for final disposition.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Construction of the Sludge and Removal Water System has been completed and final preparations for sludge removal from K-East Basin are underway. Debris/empty fuel canister removal is continuing. Final debris and water removal is to follow, supporting complete removal of all fuel, sludge, debris, and water from K-East Basin by June 30, 2005 (a three month acceleration), and from K-West Basin by September 30, 2005 (a one year acceleration). This eliminates a significant risk to the Columbia River and public. Deactivation and transition to PBS RL-0041, Nuclear Facility D&D-River Corridor Closure Project, of the 100 Area K facilities will occur by October 30, 2005, nearly 21 months early. This project's completion will mean the removal of more than 55 million curies of radioactivity - more than 95 percent of the radioactivity in Hanford's River Corridor.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Richland Office.

- Provide surveillance and maintenance of K-East and K-West Basins systems. Assure that aging and deteriorating basins are maintained in a safe condition until sludge removal operations are complete.
- Remove, treat, and prepare K-East and K-West sludge for disposition. Transfer and transport of all waste products from K-East and K-West to interim or final disposition facilities.
- Deactivate assigned 100 K Area facilities sufficient to achieve end-point criteria for facility transfer to River Corridor Closure contractor.
- Provide surveillance and maintenance of the balance of 100 K Area systems. Prepare and package secondary waste streams for disposition as required, and transfer to dedicated disposition facilities as appropriate.
- Operate and maintain the Canister Storage Building for staging and interim storage of approximately 2,100 metric tons of irradiated metallic uranium fuel, following the removal of the fuel from K Basins. Operation and maintenance of the Canister Storage Building equipment including the Multi-Canister Overpack Handling Machine, gas sampling of MCO's and welding of the MCO's. Acquire MCO welding equipment.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Spent Nuclear Fuel Packaged for Final Disposition (MTHM)	805	631	0	2,074	2,124	98%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY2005)

- Continued debris/empty fuel canister removal (FY 2003).
- Complete the transfer of all K-East fuel to K-West Basin for subsequent processing and removal (May 2004).
- Complete K Basin sludge removal (August 2004).
- Initiate full scale K-East Basin water removal (September 2004).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Complete the cleanout of K-East Basin (fuel, sludge, debris, and water) (June 2005).
- Complete the cleanout of K-West Basin (fuel, sludge, debris, and water) (September 2005).
- Deactivation and transition the 100 K Facilities to River Corridor Closure Project (September 2005).

RL-0041 / Nuclear Facility D&D-River Corridor Closure Project (life-cycle estimate $3,135,899K) …….. 142,564 180,079 216,489

The Hanford site supported national defense programs, largely through production of nuclear materials. One legacy of Hanford operations is a significant waste inventory of radioactive and regulated chemical materials. Past releases of these materials have contaminated Hanford's facilities and environment. Over 625,000 m^3 of solid waste, containing an estimated 4.8 million curies of radioactive materials, were buried in Hanford site soils, while 1.7 trillion liters of liquid waste containing radioactive and chemical contamination have been discharged to the ground. Legacy disposal practices resulted in contamination above current Federal standards at Hanford.

The River Corridor Closure Project will complete remediation of 758 contaminated waste sites, (including 50 burial grounds), the decontamination, decommissioning, and demolition of 283 facilities that are adjacent to the Columbia River and place eight reactors into interim safe storage condition. This cleanup will be completed in accordance with the interim Record of Decision. The Project will remediate the sources of radiological and chemical contamination that threaten the air, groundwater, or the Columbia River. The work includes digging up contaminated soil, constructing interim safe storage (cocooning) for the reactors, demolishing facilities in the old reactor complexes and facilities in the 300 Area, disposing of waste in the Environmental Restoration Disposal Facility, and construction of surface barriers/caps, when needed, over contaminated sites.

This PBS is targeted for completion by 2012, with three notable exceptions: 1) the eight cocooned reactors will remain in place through 2035; 2) cleanup of the 618-10 and 618-11 burial grounds will be completed in 2018 (funded by PBS RL-0040, Nuclear Facility Decontamination and Decommission-Remainder of Hanford); and 3) operation of the Environmental Restoration Disposal Facility after 2012 will be included in PBS RL-0013, Solid Waste Stabilization and Disposition-200 Area (2035 Accelerated Completions). Operation of the Environmental Restoration Disposal Facility through 2012 is funded under this PBS due to the River Corridor Closure Project being the primary user of the disposal facility through that time. An estimated 15.9 million metric tonnes of life-cycle remediation waste generated during Hanford site-wide cleanup under the Comprehensive Environmental Response, Compensation, and Liability Act will be disposed of in the Environmental Restoration Disposal Facility.

At completion in 2012, DOE will seek approval to delist from the National Priority List the project sites cleaned up according to interim Record of Decisions. There will be limited DOE activities remaining in the River Corridor after the 2012 completion including operation of the Pacific Northwest National Laboratory Facilities in the 300 Area. The River Corridor project has the goal of ensuring that the land is sufficiently clean to support transfer to the Department of Interior. At that time, the footprint of active Hanford cleanup will be reduced from the present 586 square miles to about 75 square miles. At the end of FY 2003, activities completed included: cocooning 3 of 8 reactors (the 9th reactor, "B Reactor" may become a museum); remediation of approximately 257 of the 758 life-cycle waste sites and burial grounds, and 8 of 283 excess facilities, the removal of 2.2 metric tonnes of spent nuclear fuel from the 300 Area which is near the river and local community; and disposed a total of 4.4 million metric tonnes of remediation waste in the Environmental Restoration Disposal Facility. This project accelerates the completion of the River Corridor cleanup more than 20 years earlier than previously planned.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Hanford Site.

- Complete waste site remediations bringing the cumulative total to 346.
- Complete the decommissioning/demolition of a cumulative total of seven Radiological Facilities and 16 Industrial Facilities.
- Perform remaining activities for Interim Safe Storage of the H Reactor to ensure completion by December 31, 2005.
- Continue operation of the Environmental Restoration Disposal Facility, receiving more than 500,000 tons of remediation waste, and completion of additional disposal cells.
- Complete the backfill of the 100 B/C pipelines (by February 28, 2005).
- Continue surveillance and maintenance of radioactively contaminated facilities.
- Perform deactivation activities at 324 and 327 facilities in the 300 Area.
- Provide safe storage of approximately 825 metric tonnes of unirradiated uranium fuel in the 300 Area facilities and begin preparations for shipping (scheduled to dispose of on-site in the 200 Area during FY 2006).

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Enriched Uranium Packaged for Long-Term Storage (Number of Containers)	0	0	0	1,648	2,958	56%
Depleted and Other Uranium Packaged for Disposition (metric tonnes)	0	0	0	3,100	3,100	100%
Nuclear Facility Completions (Number of Facilities)	0	0	0	0	14	0%
Radioactive Facility Completions	2	2	3	7	50	14%

				(dollars in thousands)		
				FY 2003	FY 2004	FY 2005
(Number of Facilities)						
Industrial Facility Completions (Number of Facilities)	1	0	8	16	219	7%
Remediation Complete (Number of Release Sites)	35	37	49	346	758	46%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Initiated remedial action of liquid waste site in the 100-KR-1 operable unit (FY 2003).
- Completed 100-HR-3 Phase III Barrier Emplacement to prevent groundwater contamination from reaching the Columbia River (FY 2003).
- Completed remediation excavation of the 618-5 burial ground (FY 2003).
- Completed cocooning of F Reactor (100 percent), D Reactor (90 percent), and continued cocooning H Reactor (56 percent) (FY 2003).
- Completed remediation of a major liquid waste site in 100 F Area (FY 2003).
- Complete 105-D Reactor Interim Safe Storage activities (September 2004).
- Complete excavation/removal of 100 B/C Process Effluent Pipeline (September 2004).
- Complete remedial action of 37 waste sites (September 2004).
- Dispose 500,000 tons of remediation waste in the Environmental Restoration Disposal Facility (September 2004).
- Complete backfill of 100 B/C process effluent pipeline excavations (February 2005).
- Initiate remedial actions for remaining waste sites for 100 F Area (July 2005).
- Complete construction of cells 5 and 6 at the Environmental Restoration Disposal Facility (September 2005).
- Complete remediation action of 49 release sites (September 2005).
- Complete decommissioning/demolition of three Radiological Facilities and eight Industrial Facilities (September 2005).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

ORP-0060 / Major Construction-Waste Treatment Plant (life-cycle estimate $6,210,193)…….…… 690,000 686,036 690,000

This PBS scope includes line-item project 01-D-416, Waste Treatment and Immobilization Plant, which will design, construct, and commission the treatment plant. This facility is critical to the completion of the Hanford tank waste program by 2035 by providing the primary facility to immobilize (vitrify) the high-level radioactive liquid waste at the Hanford Site. The Waste Treatment and Immobilization Plant Complex currently consists of five major facilities: Pretreatment facility, Low Activity Waste facility, High-Level Waste facility, Analytical Laboratory, and the Balance of Facilities. The Pretreatment facility will separate the Hanford radioactive tank waste into low activity and high-level fractions. The high-level fraction will be sent to the High-Level Waste facility for immobilization (i.e., into glass), ready for disposal at a national geologic repository. A substantial portion of the low activity fraction will be sent to the Low Activity Waste facility for immobilization, ready for disposal at the Hanford Site. The Analytical Laboratory will provide real-time analytical support for plant operations. Office facilities, chemical storage, site utilities, and infrastructure are provided as part of the Balance of Facilities.

At the end of FY 2003, approximately 55 percent of the facility design was completed, 25 percent of the structural concrete was placed, and the project is 24 percent complete. The construction of the Waste Treatment and Immobilization Plant began in July 2002, and will be completed in 2008. Commissioning of major facilities will begin in 2009 and be completed in 2011.

The end-state of this project will be the completion of the Waste Treatment and Immobilization Plant Hot Commissioning in FY 2011. To achieve the end-state, the design, construction, and commissioning must be completed.

In FY 2005, the following activities are planned to support the accelerated cleanup of the River Protection Office.

- Complete approximately 90 percent of facility design, approximately 45 percent of construction, and most technology testing for the ultra filtration and resins, pulse jet mixers, and modeling.
- Continue major bulk commodity and equipment procurements.
- Construction progress will be significant, with continued placement of up to 70 percent of structural concrete, 35 percent of structural steel, and 10 percent of Heating, Ventilation, and Air Conditioning ductwork. Installation of other commodities includes: 3 percent cable; 20 percent pipe; and 5 percent conduit.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
No metrics associated with this PBS						

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Placed first structural steel for low-activity waste Facility and High-Level Waste Facility (FY 2003).
- Initiated construction on Pretreatment Facility, Steam Plant, and Chiller/Compressor Facilities (Balance of Facilities) (FY 2003).
- Continue placement of up to 45 percent (of a total 240,000 cubic yards) of structural concrete; installation of the first 15 percent of 21,000 tons of structural steel; installation of the first 5 percent of the process pipe (a total of 700,000 linear feet); and installation of 5 percent of 3,760,000 pounds of heating, ventilation, and air conditioning ductwork (September 2004).
- Continue design and engineering to 75 percent complete (September 2004).
- Continue the Waste Treatment and Immobilization Plant construction to 30 percent complete (September 2004).
- Initiate construction of the Analytical Laboratory (June 2005).
- Complete 45 percent of facility construction (September 2005).

SR-0011B / NM Stabilization and Disposition-2012 (life-cycle estimate $4,057,568K) ……. 369,452 362,273 369,636

At the end of the Cold War, the nuclear materials complex at the Savannah River Site contained a large inventory of nuclear materials in various forms and stored in many locations (raw materials, in-process, finished products, in vaults, reactor basins, etc.) in several facilities. Many of these nuclear materials were never intended to stay in their existing form and location when the national security mission ceased and the materials stabilization mission began. Further impetus for these materials stabilization activities resulted from the issuance of the Defense Nuclear Facilities Safety Board recommendation 94-1 to stabilize "at-risk" nuclear materials, which might pose a significant risk to the safety of the workers, the public, and/or the environment. The Defense Nuclear Facilities Safety Board issued a supplemental recommendation 2000-1 to amplify the concern and the current Savannah River Site Program Performance Management Plan is intended to accelerate removal of the risks posed by these materials. The Savannah River Site has made real progress in cleanup in that more than 86 percent of the scheduled nuclear materials have been stabilized (122,600 of 143,300 items) and 46 of the 54 Defense Nuclear Facilities Safety Board commitments have been completed.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

The scope of this PBS is to support operations of F- and H-Area facilities to complete stabilization/disposition of EM legacy nuclear materials and then either deactivate the facilities as part of the transition to long-term surveillance and maintenance or transfer ownership to other DOE program offices. The Savannah River Site will transition F-Area processing facilities to a safe suspension state and deactivate them by FY 2007, an acceleration of 6 years from the previous plan to accomplish this by 2012. Other DOE program offices are funding some activities that will occur concurrently with EM mission work associated with H-Canyon (i.e., National Nuclear Security Administration highly enriched uranium blend down). Following completion of EM work in FY 2008, the H-Area facilities may be transferred to another program office having a continuing mission.

The remaining materials to be stabilized/dispositioned in F-Area include classified metals and composites and composites received from the Rocky Flats Environmental Technology Site, and the Savannah River Site metals, oxides and residues, depleted uranium solutions and oxides. Integral to the Performance Management Plan are the initiatives that support the accelerated deactivation of F-Canyon and H-Canyon. This includes: the transfer of cold chemical makeup responsibilities to H-Canyon; the shutdown of Low Activity Waste and General Purpose Evaporators, and the Acid Recovery Unit; elimination of substantial surveillance and maintenance costs by disposition/solidification of the depleted uranium solutions and relocation of the PUREX solvent; disposition of depleted uranium oxide from buildings 728-F and 730-F; and elimination of infrastructure and safeguards and security requirements for significant portions of F-Area. Packaging and stabilization of metal and oxides in FB-Line is 43 percent complete and will be complete in FY 2006 (baseline) or FY 2005 (accelerated schedule).

The remaining materials to be stabilized/dispositioned in H-Area include: plutonium-239 solutions; highly enriched uranium solutions; neptunium solutions; the Savannah River Site spent fuel assemblies; unirradiated Mk-22 tubes; miscellaneous fuels; Savannah River Site plutonium residues; and enriched uranium residues.

This PBS scope also incorporates the Receiving Basin for Off-Site Fuels. Receiving Basin for Off-Site Fuels will be de-inventoried in FY 2004 and deactivated in FY 2005 after which it will await final disposition. Incoming Foreign Research Reactor and domestic fuels will be received in the L-Basin.

This PBS includes funding in FY 2004 of $2,982,000 and in FY 2005 $3,000,000 for Project Engineering and Design, 04-D-414, and $1,127,000 in FY 2004 and in FY 2005 $20,640,000 for construction of the 3013 Container Surveillance and Storage Capability (04-D-423) in 235-F. Also included is a subproject that will upgrade exhaust systems for the 221-H facility (FY 2004 request $685,000). For more information on this subproject, a Subproject Detail description is included in the Appendix.

The end-state for this project is the deactivation of F- and H-Canyon nuclear materials and spent nuclear fuel processing facilities, placing the facilities in a minimal surveillance and maintenance condition.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Savannah River Site.

- Complete F Canyon de-inventory of depleted uranium solutions, continue facility deactivation.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Complete FB Line stabilization and packaging plutonium to DOE Standard 3013, characterization and repackaging of plutonium residues for dissolution or direct disposal, de-inventory of the FB Line vault, and begin facility deactivation.
- Complete design, begin construction of the 3013 surveillance capability in 235-F.
- Continue H Canyon dissolution of unirradiated Mk22 tubes and support the National Nuclear Security Administration funded efforts to blend highly enriched uranium solutions to low enriched uranium, package and ship the low enriched uranium to the Tennessee Valley Authority, and support processing of Np solutions to Oxide.
- Continue HB Line Phase I dissolution of plutonium residues and complete dissolution of the Idaho National Laboratory oxides and the Savannah River Site enriched uranium residues.
- Complete HB Line Phase II startup and begin to process neptunium solutions to oxide.
- Complete the design for Old HB Line Exhaust Upgrades.
- Complete the deactivation of the Receiving Basin for Offsite Fuels.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Plutonium Metal or Oxide Packaged for Long-Term Storage (Number of Containers)	54	423	165	642	750	86%
Enriched Uranium Packaged for Long-Term Storage (Number of Containers)	146	612	635	1,393	2,809	50%
Plutonium or Uranium Residues Packaged for Disposition (kg/bulk)	99	49	44	414	414	100%
Depleted and Other Uranium Packaged for Disposition (metric tonnes)	4,551	0	0	4,551	23,182	20%
Spent Nuclear Fuel Packaged for Final Disposition (MTHM)	2	1	0	3	36	9%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Restarted HB-Line Phase II and began conversion of plutonium residue solutions to plutonium oxide from the Scrap Recovery Facility (FY 2003).
- Completed suspension planning for F Area nuclear materials processing facilities, began implementing the suspension plan (FY 2003).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Completed stabilization of Mk-53 targets, pre-existing H-Area Pu-239 solutions, and Sterling Forest Oxide dissolution campaign (FY 2003).
- Completed repackaging of the Savannah River Site and Rocky Flats plutonium metal in FB Line (FY 2003).
- Packaged Rocky Flats classified metal through Bagless Transfer System (FY 2003).
- Completed facility deactivation planning for the F Area nuclear materials processing facilities (FY 2003).
- Received Foreign Research Reactor Spent Fuel into the Receiving Basin for Offsite fuels and continued basin de-inventory shipments to L-Basin (FY 2003).
- Begin FB-Line Packaging and Stabilization of Plutonium Oxide (November 2003).
- Continue Mk-16/22 multi-year dissolution campaign (FY 2003/FY 2004).
- Complete Critical Decision 2 (for 235-F 3013 Container Project) (September 2004).
- Complete Critical Decision 3 (for 235-F 3013 Container Project) (September 2004).
- Complete MK 16/22 legacy spent nuclear fuel dissolutions (September 2004).
- De-inventory fuel from Receiving Basin for Off-site Fuels basin (November 2004).
- Begin processing neptunium solutions (March 2005).
- Complete the deactivation of the Receiving Basin for Offsite Fuel facility (September 2005).
- Complete F Canyon deinventory of depleted uranium and FB Line stabilization and packaging of plutonium to DOE 3013 Standards (September 2005).

VL-FOO-0013B-D / Solid Waste Stabilization and Disposition-Oakland Sites-2012 (Defense) (life-cycle estimate $15,278K)…..	**378**	**458**	**486**

Activities performed under this PBS achieve efficiencies through supporting multiple waste management and environmental restoration activities at the Lawrence Livermore National Laboratory and the Separations Process Research Unit. Rather than each project awarding its own separate contract, economies of scale are achieved by managing waste consolidation, characterization, aggregation, packaging, and transport – especially to commercial facilities. Services for site investigations, hydrogeologic studies, regulatory review, and stakeholder liaisons are also managed within this project through wide applicability of these restoration activities to multiple projects/sites.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

This project will end when the underlying projects/sites supported by the waste management and environmental restoration activities achieve their end-state, and there is no longer a need for a separate project to achieve multi-project/site savings and efficiencies.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Oakland Sites.

- Support ongoing environmental/safety activities and disposal activities related to all forms of waste.
- Conduct environmental and engineering evaluation of treatment options for Government wastes and materials.
- Continue to transport packaged wastes and materials to designated facilities.
- Perform assessment and cleanup tasks involving work plan preparation, site assessments, Resource Conservation and Recovery Act closures, environmental analysis, and other technical activities that pertain to environmental support.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
No metrics associated with this PBS						

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

No Key Accomplishments or Planned Milestones associated with this PBS.

VL-LANL-0013 / Solid Waste Stabilization and Disposition-LANL Legacy (life-cycle estimate $443,839K) ……. 28,916 42,730 41,502

This PBS scope provides for the treatment, storage, and/or disposal of all legacy waste generated before FY 1999 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. The end-state for this project, is the disposal of all legacy waste at the Los Alamos National Laboratory are the cleanup of the storage to treatment facilities. The Los Alamos National Laboratory is committed to complete waste disposition by FY 2010, which is consistent with the Performance Management Plan. The accelerated cleanup efforts will support acceleration of the schedule by 20 years. The cornerstone to the planned completion is Revision 19a to the Nuclear Regulatory Commission Safety Analysis Report for the TRUPACT-II (transuranic waste shipping container) transportation requirements. Revision 19a enables the Los Alamos National Laboratory to ship 2,000 above-ground high-activity drums to the Waste Isolation Pilot Plant without repackaging due to wattage limits. Another Nuclear Regulatory Commission exemption similar to Revision 19a will be required to ship below-ground high-wattage transuranic waste without repackaging.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Part of the FY 2010 plan includes funds for the Waste Isolation Pilot Plant provision of two additional transuranic waste characterization lines running simultaneously with the Los Alamos National Laboratories' characterization line. This accelerated schedule also includes: decontaminating and reducing the volume of the oversized boxes containing transuranic waste at the Decontamination and Volume Reduction System facility; characterizing and shipping 100 percent of transuranic waste inventory including transferring Sandia National Laboratory and the Inhalation Toxicology Laboratory transuranic waste to the Los Alamos National Laboratory; and completing treatment and disposition of legacy mixed low-level waste.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Los Alamos National Laboratory.

- Initiate retrieval of legacy transuranic waste stored below ground.
- Will permanently disposition 1,400 m^3 of legacy transuranic waste through an integrated strategy of sorting, segregating, decontaminating, and shipping to the Waste Isolation Pilot Plant. (The Los Alamos National Laboratory expects deployment of Carlsbad Characterization Project capabilities to meet volume commitments for legacy transuranic waste. If deployment does not occur as planned, volume of legacy transuranic waste shipped to the Waste Isolation Pilot Plant will be significantly less).

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Transuranic Waste Shipped for Disposal at WIPP (m^3)	306	1,400	1,400	3,406	9,200	37%
Low-Level and Mixed Low-Level Disposed (m^3)	10	0	0	469	483	97%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Began shipments of high-wattage transuranic waste under Nuclear Regulatory Commission Revision 19a, which reduces the number of shipments significantly (FY 2003).
- Accelerated transuranic waste shipments to the Waste Isolation Pilot Plant, from one to two per week (FY 2003).
- Treated and disposed of 10 m^3 of mixed low-level waste leaving an inventory of less than 25 m^3 of legacy mixed low-level waste (FY 2003).
- Decrease legacy transuranic waste by 618 m^3 (September 2004).
- Decrease legacy transuranic waste volume by 1,400 m^3 (September 2005).
- Initiate retrieval of legacy transuranic waste stored below ground (September 2005).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

VL-LLNL-0031 / Soil and Water Remediation-Lawrence Livermore National Laboratory-Site 300 (life-cycle estimate $122,039K) …….. 10,253 10,338 11,110

Past operations at the Lawrence Livermore National Laboratory Site 300 have resulted in the release of hazardous and radioactive materials, primarily from surface spills, leaching from unlined landfills and pits, high explosive test detonations, and previous disposal of waste fluids in lagoons and dry wells.

The Lawrence Livermore National Laboratory Site 300 Remedial Action project remediates contamination from past operations. By conducting cost-effective, science-based, state-of-the-art environmental restoration, the project will control contaminated groundwater migration, and effectively remediate soil and groundwater where contaminants exceed regulatory limits to protect human health, the environment, and beneficial uses of natural resources. This project consists of eight operable units and 73 release sites, 61 of which have been completed to date (September 30, 2003).

The approved remedial actions required by regulatory decision documents can be implemented by the end of FY 2008, thereby reducing the risks, overall liability, and mortgage at Site 300 associated with thirty-seven (37) distinct groundwater plumes contaminated with volatile organic compounds, high explosives, nitrate, perchlorate, tritium, and/or depleted uranium. Build-out of the required remediation network system, scheduled for FY 2008, will address risk reduction associated with groundwater contamination and will complete the EM mission.

The project completed build-out of fourteen (14) treatment systems with ten (10) additional facilities planned in the outyears (thru FY 2008). Remediation will be complete when the selected remedial action for each operable unit has met agreed-upon cleanup standards.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Lawrence Livermore National Laboratory.

- Remove contaminated surface soil and sand pile at Building 850.
- Submit final plan for the Pit 7 Complex.
- Construct, install, and operate groundwater extraction and treatment facility in the source area of highly enriched process area Operable Unit Building 829.
- Construct, install, and operate groundwater extraction and treatment facility on the proximal area of highly enriched process area Operable Unit Building 817.
- Submit Building 832 Canyon Final Interim Remedial Design Report and Building 865 (ATA) Characterization Summary Report.
- Conduct surface soil sampling for the Sandia Test Site.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Remediation Complete (Number of Release Sites)	3	4	1	66	73	90%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Constructed, installed, and operated Building 830-SRC groundwater and soil vapor extraction and treatment facility in the Building 832 Canyon Operable Unit (FY 2003).
- Buildout and upgrade of the Building 834-SRC groundwater and soil vapor treatment facility in the Building 834 Operable Unit (FY 2003).
- Constructed, installed, and operated Building 817-SRC groundwater extraction and treatment facility in the High Explosives Process Area Operable Unit (FY 2003).
- Installed monitoring wells for Building 812 and conduct surface soil sampling for area characterization (FY 2003).
- Completed the Remedial Investigation for the Pit 7 Complex (FY 2003).
- Completed Building 854 Draft Interim Remedial Design Report (FY 2003).
- Construct, install, and operate a portable groundwater extraction and treatment facility in Building 832 Canyon Operable Unit to reduce the contaminants in the proximal area of the plume (September 2004).
- Continue operation and maintenance of 16 operating groundwater treatment systems at the Lawrence Livermore National Laboratory (September 2004).
- Remove contaminated surface soil and sand pile at Building 850 (September 2005).
- Construct, install, and operate groundwater extraction and treatment facility in the source area of HE Process Area Operable Unit (Building 829) (September 2005).
- Construct, install, and operate groundwater extraction and treatment facility in the proximal area of HE Process Area Operable Unit (Building 817) (September 2005).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

VL-NV-0013 / Solid Waste Stabilization and Disposition-
Nevada Test Site (life-cycle estimate $76,660K) …….. 6,315 10,218 6,221

The Solid Waste Stabilization and Disposition PBS scope includes on-site transuranic and mixed transuranic waste and material, including storage, treatment (as needed), and disposal/disposition. Activities include: characterization, certification, and shipment of approximately 1,650 drums of waste to the Waste Isolation Pilot Plant for disposal; resizing and dispositioning 58 oversized boxes of mixed transuranic waste; disposition of 248 drums of classified material and two experimental spheres; and safe, compliant storage of all of the above until disposition. The Waste Examination Facility, Transuranic Pad Storage Building, and the classified material storage area are maintained with appropriate authorization bases and will be transferred or decommissioned upon completion of the scope. Inspections of mixed transuranic waste will be conducted according to hazardous waste requirements, as mandated by the Resource Conservation and Recovery Act, until waste is dispositioned.

Transuranic waste in legacy drums will be shipped to the Waste Isolation Pilot Plant for disposal, which will reduce the risk to the Nevada Test Site workers and the environment resulting from continued storage. Transuranic waste with no current path forward for disposition will have a new technology implemented at the Nevada Test Site. If the proposed treatment for the Nevada Test Site legacy transuranic waste is unsuccessful, the Western Small Quantity Site Acceleration Program identified in the Waste Isolation Pilot Plant Performance Management Plan will be the alternative path forward. These activities will eliminate the need for continued storage of classified material and will allow all the Nevada Test Site transuranic waste related facilities to be decontaminated and transitioned to other uses. The accelerated end date for transuranic waste disposition is FY 2007 under strategic initiative number five in the Nevada Performance Management Plan.

The end-state for this project will be the disposition of all transuranic waste at the Nevada Test Site by disposal at the Waste Isolation Pilot Plant or by treatment and disposal.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Nevada Test Site.

- Complete characterization and disposition of 1,650 legacy drums (approximately 395 m^3—198 m^3 in FY 2004 and 197 m^3 in FY 2005).
- Develop characterization and disposition plan for drums (i.e., prohibited item drums) without a path forward. Remaining material/waste (approximately 321 m^3) will consist of 58 oversized boxes, 248 drums of classified material.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Transuranic Waste Shipped for Disposal at WIPP (m^3)	0	198	197	395	734	54%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Implemented and maintained nuclear safety authorization basis documents (FY 2003).
- Initiate shipments of legacy transuranic waste to the Waste Isolation Pilot Plant (September 2004).
- Continue shipments of legacy transuranic waste to the Waste Isolation Pilot Plant (September 2005).

VL-PX-0030 / Soil and Water Remediation-Pantex (life-cycle estimate $175,050K) …….. 14,914 18,430 19,714

Since the early 1950's, the Pantex Plant produced high explosives for nuclear weapons and assembled and disassembled nuclear weapons. These operations contaminated soils and portions of the upper or perched groundwater with high explosives, metals, and solvents; and minute traces of constituents have been identified in the underlying Ogallala Aquifer. In 1989, the U.S. Environmental Protection Agency conducted a Resource Conservation and Recovery Act Facility Assessment of the Pantex Plant and identified 144 Solid Waste Management Units (250 release sites). This Assessment resulted in an Environmental Protection Agency Order stipulating response measures for these release sites. The Pantex Environmental Restoration Project became part of the Plant permit in 1991 with the Pantex site added to the National Priorities List (Comprehensive Environmental Response, Compensation, and Liability Act) in 1994. Two additional release sites were identified during the normal course of site investigations from new information (252 release sites).

Since the environmental remediations began, the Texas regulatory authority has approved 76 of 252 release sites as requiring no further action. The Environmental Management program has initiated interim corrective measures at the higher risk release sites. Most notably, the operation of a groundwater pump and treatment system for the perched groundwater beginning in 1996, and the operation of a Soil Vapor Extraction system beginning in 2002 at the Burning Grounds area of the Plant, near adjacent property owners. In addition, the project is characterizing trace contamination in the Ogallala Aquifer (a regional drinking water source) and, as a precautionary measure, conducting routine sampling of neighboring residential wells and providing bottled water to those residences.

The end-state for this project is that all corrective measures will be implemented for EM legacy contamination at Pantex, and the monitoring and maintenance of the corrective measures will be turned over to the landlord.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

The Pantex Performance Management Plan (July 2002) describes the strategic initiatives, key objectives, and milestones necessary to complete the remaining remediation activities by the end of FY 2008. Under this accelerated cleanup plan, Pantex will have completed all investigations by May 2004. By September 2008, Pantex will have completed all corrective measures to reduce risk. This will include: continued operation of the pump and treatment system and, if feasible, the deployment of in-situ technologies (e.g., bioremediation) to mitigate perched groundwater contamination; removal or containment of source term contamination in surface and subsurface soils using hot spot removal, engineered barriers, soil vapor extraction, and other technologies; and implementation of a risk-based compliance plan approved by the regulators for the protection of the Ogallala Aquifer. In FY 2009, these sites may transfer to the landlord for long-term stewardship.

In FY 2005, the following activities are planned to support the accelerated cleanup of Pantex.

- Complete the Interim Corrective Measure (soil vapor extraction) for Burning Grounds vadose zone contamination. This treatment system is key to mitigating a significant source of volatile organic compound soil contamination and to meeting the Performance Management Plan milestone "Acceleration of Soil Remediation" for installation of all soil corrective measures by July 2006.
- Complete Interim Corrective Measures (engineered covers) on the Burning Ground Landfill. This action is critical to meeting the Performance Management Plan milestone "Acceleration of Soil Remediation" for installation of all soil corrective measures by July 2006.
- Complete and obtain regulatory approval of the Ecological Risk Assessment and the Human Health Risk Assessment. These actions are key to evaluating risk of source term sites, upon which corrective action decisions will be based, and to meeting the Performance Management Plan milestones "Acceleration of Soil Remediation" and "Acceleration of Perched Groundwater Remediation" for completing all soil and perched groundwater corrective measures by July 2006 and May 2008 respectively.
- Complete the Zone 11/12 Groundwater source-term Interim Corrective Measures. This action is key to meeting the Performance Management Plan milestone "Acceleration of Perched Groundwater Remediation" for completion of all perched groundwater corrective actions by May 2008.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Remediation Complete (Number of Release Sites)	22	0	0	76	237	32%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY2005)

- Obtained Regulator approval of Resource Conservation and Recovery Act Facility Investigation Reports for Fire Training Area Burn Pits and Burning Grounds soils. This facilitates completing all soil corrective measures (FY 2003).

	(dollars in thousands)		
	FY 2003	FY 2004	FY 2005

- Completed Resource Conservation and Recovery Act Facility Investigation Reports; Zone 12 Soils; Ditches and Playas. These documents are necessary to remain under the current state cleanup regulations that will be replaced by more stringent regulations (FY 2003).
- Continued operation of Soil Vapor Extraction System to remove vadose zone contamination and protect Ogallala Aquifer. This is a key component of completing the Soils and Groundwater Project portion of the EM Project because the action removes significant contamination in the soil (FY 2003).
- Complete Resource Conservation and Recovery Act Facility Investigation Reports, Zone 10 Soils; Zone 11 Soils; Zone 11/12 Perched Groundwater; Burning Grounds Groundwater. These documents are necessary to remain under the current state cleanup regulations that will be replaced by more stringent regulations (September 2004).
- Complete construction and begin operation of the Zone 11, soil vapor extraction system, to remove contamination from the vadose zone and protection of groundwater (September 2004).
- Complete the Burning Grounds soil vapor extraction interim corrective measure for removal of contamination from the vadose zone and protection of groundwater (September 2004/September 2005).
- Complete Zone 11 soil vapor extraction for removal of contamination from the vadose zone and protection of groundwater (September 2005).
- Complete the Burning Grounds landfills interim corrective measure (engineered covers) to secure wastes and protect groundwater (September 2005).

VL-PX-0040 / Nuclear Facility D&D-Pantex (life-cycle estimate $17,241K) …….	**77**	**2,703**	**4,807**

The Pantex Deactivation and Decommissioning project reduces the plant footprint and risks to workers, public health, and the environment through safe shutdown, decontamination, and demolition of contaminated surplus facilities. The PBS scope began in FY 2002 with the transfer of the following four surplus facilities from Plant Operations to Environmental Management: Building 12-24 Complex (multiple buildings/structures), Zone 10 Ruins (multiple buildings/structures), Building 8-008, and Building 11-44. These facilities represent approximately 1 million square feet, are 50 to 60 years old, and, in some cases, are a contributing source of legacy contaminants into the environment. Project activities include hazard characterization and controls; termination of existing utilities; decontamination; and removal and recycling/disposal of plant equipment and structures (e.g., piping, concrete pads, roofs, underground concrete walls). Remediation of underlying soil and groundwater may be required for some facilities, and will be coordinated with the Pantex Environmental Restoration Project (VL-PX-0030) consistent with Environmental Management accelerated cleanup objectives. These facilities are targeted

(dollars in thousands)

FY 2003	FY 2004	FY 2005

for completion of deactivation and decommissioning activities during FY 2004 through FY 2007. When completed, the facility sites may be transferred to the landlord for potential reuse or long-term monitoring.

The end-state for this project is the sites of the decommissioned and demolished facilities will be returned to the landlord for alternative uses or for surveillance and monitoring if necessary.

In FY 2005, the following activities are planned to support the accelerated cleanup of Pantex under the Albuquerque Office.

- Complete the demolition of Zone 10 Ruins.
- Complete the decontamination and decommissioning of Building 12-24 Complex.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Industrial Facility Completions (Number of Facilities)	0	0	0	1	5	20%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Developed Statement of Work and Cost Estimates for Zone 10 Ruins and Building 12-24 Complex and prepared design work (FY 2003).
- Complete demolition of Zone 10 Ruins and initiate actions for the demolition of Building 12-24 Complex (September 2004).
- Complete the decontamination and decommissioning of Building 12-24 Complex (September 2005).
- Complete the demolition of Zone 10 Ruins (September 2005).

Total, 2012 Accelerated Completions……	**2,102,613**	**2,199,338**	**2,150,641**

Explanation of Funding Changes

	FY 2005 vs. FY 2004 ($000)
ID-0011 / NM Stabilization and Disposition	
▪ Increase reflects repackaging and shipping activities and preparation for repackaging in outyears for nuclear material stored in the Idaho Nuclear Technology and Engineering Center vault…….	1,633
ID-0012B-D / SNF Stabilization and Disposition-2012 (Defense)	

	FY 2005 vs. FY 2004 ($000)
▪ Decrease reflects completion of consolidation of EM-owned spent nuclear fuel to the Idaho Nuclear Technology and Engineering Center……..	-12,027
ID-0013 / Solid Waste Stabilization and Disposition	
▪ Decrease reflects completion of the mixed low-level waste backlog project and the final increment of privatization funding for Advanced Mixed Waste Treatment Project received in FY 2004. These decreases are partially offset by increases for ramp-up of Advanced Mixed Waste Treatment Project operations……	-122,024
ID-0014B / Radioactive Liquid Tank Waste Stabilization and Disposition-2012	
▪ Reflects the separate High-Level Waste Proposal for certain activities that are impacted by the court's decision on the Department's plan to reclassify some wastes as Waste Incidental to Reprocessing……..	-1,543
ID-0030B / Soil and Water Remediation-2012	
▪ Increase reflects: completion for V-Tanks remedial design/remedial action work plan and start of field work; start of excavation and disposal of contaminated soils; Comprehensive Environmental Response, Compensation, and Liability Act satellite storage area; acceleration of tank farm soils remediation; design of Operable Unit 7-10 Stage III retrieval and treatment; and acceleration of Voluntary Consent Order implementation. …….	22,398
ID-0040B / Nuclear Facility D&D-2012	
▪ Decrease reflects completion of Test Area North 607 deactivation and an increase in Power Burst Facility reactor deactivation. …….	-1,048
ID-0050B / Non-Nuclear Facility D&D-2012	
▪ Increase reflects final disposition of Test Area North Buildings 642, 643, 644, 645, and 646 and completed characterization of Test Area North 633, 640, 641, and 648…	18,627
OR-0013B / Solid Waste Stabilization and Disposition-2012	
▪ Decrease reflects efficiencies in operations, the reduction of mixed waste storage because of the completion of the mixed low-level waste treatment and disposition….	-7,485
OR-0031 / Soil and Water Remediation-Offsites	
▪ Increase reflects the start of the remediation (soil removal) at the David Witherspoon 901 Site and the start of the David Witherspoon 1630 Site project. Also, the increase supports the completion of the Atomic City Auto Parts Project……	6,182
OR-0043 / Nuclear Facility D&D-East Tennessee Technology Park (Defense)	
▪ Increase reflects the start of the Centrifuge Facilities D&D Project…..……	1,493

	FY 2005 vs. FY 2004 ($000)
RL-0011 / NM Stabilization and Disposition-PFP	
▪ Increase reflects the decommissioning work scope associated with legacy holdup removal, process equipment removal and preparations required to accelerate the Plutonium Finishing Plant demolition. Process equipment removal accelerations occur primarily in the 234-5Z building (main Plutonium Finishing Plant facility) and in the Plutonium Reclamation Facility, building 236-Z.……	39,539
RL-0012 / SNF Stabilization and Disposition	
▪ Decrease reflects the ramp down of the spent nuclear fuel program as it approaches completion in FY 2006. ……..	-41,142
RL-0041 / Nuclear Facility D&D-River Corridor Closure Project	
▪ Increase reflects accelerated cleanup including increase in the number of waste sites remediations from 37 to 49; increase in the number of facility decommissioning/demolition projects; and the completion of construction for two additional waste disposal cells (#5 and #6) at the Environmental Restoration Disposal Facility…….	36,410
ORP-0060 / Major Construction-Waste Treatment Plant	
▪ Increase reflects effect of FY 2004 Rescission only. There is no increase in planned FY 2005 workscope…….	3,964
SR-0011B / NM Stabilization and Disposition-2012	
▪ Increase supports the continued acceleration of F-Area Closure, the continued acceleration of H-Area completion and provides funds to work on the 3013 surveillance capability in 235-F…….	7,363
VL-FOO-0013B-D / Solid Waste and Disposition-Oakland Sites-2012 (Defense)	
▪ No significant change. …….	28
VL-LANL-0013 / Solid Waste Stabilization and Disposition-Los Alamos National Laboratory Legacy	
▪ Decrease in funding due to reducing total volume of legacy transuranic waste to be shipped to the Waste Isolation Pilot Plant from the Los Alamos National Laboratory.	-1,228
VL-LLNL-0031 / Soil and Water Remediation-Lawrence Livermore National Laboratory-Site 300	
▪ Increase reflects funding to address plume contamination, source control, and soil removal, thereby accelerating risk reduction activities. …….	772
VL-NV-0013 / Solid Waste Stabilization and Disposition-Nevada Test Site	
▪ Decrease reflects significant reduction in waste certification activities in FY 2005 for shipment of drums to the Waste Isolation Pilot Plant, since much of this activity will be completed in FY 2004. ……..	-3,997

	FY 2005 vs. FY 2004 ($000)
VL-PX-0030 / Soil and Water Remediation-Pantex	
▪ Increase reflects acceleration of soil remediation and perched groundwater remediation activities…….	1,284
VL-PX-0040 / Nuclear Facility D&D-Pantex	
▪ Increase reflects the completion of demolition of Zone 10 Ruins 2 and decontamination and decommissioning of Building 12-24 Complex ……	2,104
**Total Funding Change, 2012 Accelerated Completions…….. **	**-48,697**

2035 Accelerated Completions

Funding Schedule by Activity

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	$ Change	% Change
CB-0080 / Operate Waste Disposal Facility-WIPP……	164,533	139,026	163,416	24,390	17.5%
CB-0090 / Transporation-WIPP.....	13,631	43,994	40,751	-3,243	-7.4%
ID-0030C / Soil and Water Remediation-2035...	0	439	0	-439	-100.0%
OR-0041 / Nuclear Facility D&D-Y-12.....	28,462	28,095	28,611	516	1.8%
OR-0042 / Nuclear Facility D&D-Oak Ridge National Laboratory…….	41,786	27,010	20,028	-6,982	-25.8%
RL-0013 / Solid Waste Stabilization and Disposition-200 Area……	125,613	152,149	197,044	44,895	29.5%
RL-0030 / Soil and Water Remediation-Groundwater/Vadose Zone…….	43,175	45,999	51,088	5,089	11.1%
RL-0040 / Nuclear Facility D&D-Remainder of Hanford……..	89,816	115,645	131,277	15,632	13.5%
RL-0080 / Operate Waste Disposal Facility…	4,871	9,264	6,207	-3,057	-33.0%
ORP-0014 / Radioactive Liquid Tank Waste Stabilization and Disposition……..	427,820	401,898	348,570	-53,328	-13.3%
SR-0011C / NM Stabilization and Disposition-2035……..	24,498	72,409	43,955	-28,454	-39.3%
SR-0012 / SNF Stabilization and Disposition.....	21,880	33,740	23,155	-10,585	-31.4%
SR-0013 / Solid Waste Stabilization and Disposition……	72,437	84,067	89,819	5,752	6.8%
SR-0014C / Radioactive Liquid Tank Waste Stabilization and Disposition-2035……	443,165	515,871	432,197	-83,674	-16.2%
SR-0030 / Soil and Water Remediation.....	107,091	68,419	123,736	55,317	80.9%
SR-0040 / Nuclear Facility D&D.....	48,947	29,691	22,131	-7,560	-25.5%
VL-LANL-0030 / Soil and Water Remediation-Los Alamos National Laboratory……	71,453	70,890	79,692	8,802	12.4%
VL-NV-0030 / Soil and Water Remediation-Nevada Test Site and Offsites……	74,410	69,071	80,940	11,869	17.2%
VL-NV-0080 / Operate Waste Disposal Facility-Nevada…….	7,259	5,287	5,014	-273	-5.2%
VL-SPRU-0040 / Nuclear Facility D&D-Separations Process Research Unit……	716	5,411	5,708	297	5.5%
Total, 2035 Accelerated Completions.....	1,811,563	1,918,375	1,893,339	-25,036	-1.3%

Description

The 2035 Accelerated Completions program provides funding for completing cleanup and closing facilities contaminated as a result of nuclear weapons production. This program provides funding for site closures and site specific cleanup and closure projects that are expected to be completed after 2012. Environmental Management has established a goal of completing cleanup at all its sites by 2035.

Benefits

This program provides funding to accelerate risk reduction and environmental cleanup at sites where cleanup will be completed by 2035. As the cleanup of these sites and projects progress, the risk and hazard to human health and the environment is greatly reduced. In addition, as cleanup is completed and sites are closed, the financial resources needed to maintain site infrastructure will no longer be required. By focusing resources on accelerating risk reduction and cleanup rather than managing risk, the cleanup of these sites will be achieved in a shorter timeframe and at less cost.

Funding by Site

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	$ Change	% Change
Carlsbad					
Waste Isolation Pilot Plant	178,164	183,020	204,167	21,147	11.6%
Idaho					
Idaho National Laboratory	0	439	0	-439	-100.0%
Los Alamos Site Office					
Los Alamos National Laboratory	71,453	70,890	79,692	8,802	12.4%
Nevada Site Office					
Nevada Site Office	12,474	13,726	11,797	-1,929	-14.1%
Nevada Test Site	69,195	60,632	74,157	13,525	22.3%
Total, Nevada Site Office	81,669	74,358	85,954	11,596	15.6%
NNSA Service Center					
Separations Process Research Unit	716	5,411	5,708	297	5.5%
Total, NNSA Service Center	716	5,411	5,708	297	5.5%
Oak Ridge					
Oak Ridge National Laboratory	41,786	27,010	20,028	-6,982	-25.8%
Y-12 Plant	28,462	28,095	28,611	516	1.8%
Total, Oak Ridge	70,248	55,105	48,639	-6,466	-11.7%
Richland					
Hanford Site	263,475	323,057	385,616	62,559	19.4%
River Protection	427,820	401,898	348,570	-53,328	-13.3%
Savannah River Site	718,018	804,197	734,993	-69,204	-8.6%
Total, 2035 Accelerated Completions	1,811,563	1,918,375	1,893,339	-25,036	-1.3%

Detailed Justification

(dollars in thousands)		
FY 2003	FY 2004	FY 2005

CB-0080 / Operate Waste Disposal Facility-WIPP (life-cycle estimate $5,084,685K)…….. 164,533 139,026 163,416

The Waste Isolation Pilot Plant, in Carlsbad, New Mexico, is the nation's first deep geologic repository for the permanent disposal of defense-generated transuranic waste. The Carlsbad Field Office was created to serve as the focal point to lead the nation's transuranic waste management efforts. Transuranic waste is currently stored at 23 sites across the country. All transuranic waste has been removed from another four sites (ARCO Medical Products Company, Energy Technology Engineering Center, Missouri University Research Reactor, and Mound legacy waste). The defense-generated transuranic waste from all of the generator sites must ultimately come to the Waste Isolation Pilot Plant for receipt, handling, and disposal. The Carlsbad Field Office has the responsibility for management of the National Transuranic Waste Program, whose mission is the implementation and management of a national system that safely and cost-effectively provides for the disposal of this waste.

This PBS supports all activities related to the disposal of transuranic waste at the Waste Isolation Pilot Plant. Key elements of this system are: 1) operation of the Waste Isolation Pilot Plant facility—including mining, waste handling, and the infrastructure to safely maintain the disposal facility and operations in compliance with all Federal and state laws, regulations, and environmental requirements; 2) Environmental Compliance—maintenance of compliance certification through monitoring and verifying the performance of the system's sensitive parameters and pursuit of regulatory changes to reduce requirements that are redundant or unnecessary; and 3) National Transuranic Waste Management Program—integration and infrastructure activities required to certify the transuranic waste and coordinate all activities across the transuranic waste complex for shipments of waste to the Waste Isolation Pilot Plant.

End-States: By 2015, all legacy transuranic waste across the DOE complex will be disposed of at the Waste Isolation Pilot Plant. Receipt of newly generated waste will continue until 2030. Decommissioning of the surface facilities and permanent closure of the underground will be complete in 2035. The surface area is assumed to remain under institutional controls for 100 years after the disposal phase ends.

In FY 2005, the following activities are planned to support the accelerated cleanup of transuranic waste.

- Increase characterization rates by continuing to operate mobile/modular units at Hanford, the Los Alamos National Laboratory, and the Savannah River Site to facilitate accelerated cleanup.
- Acceleration of waste cleanup activities across the complex requires additional waste characterization systems, waste handling staff, underground mining and panel closures. These activities are required for continued contact-handled transuranic waste disposal and future disposal of remote-handled transuranic waste in FY 2006.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
No metrics associated with this PBS						

Key Accomplishments (FY 2003)/Planned Milestones (FY 2004/FY 2005)

- Developed the capability to receive 100 TRUPACT-IIs and HalfPacts per week (FY 2003).
- Completed disposal of 3,100 m^3 of transuranic waste from the Idaho National Laboratory, to meet the Idaho settlement agreement milestone (FY 2003).
- Received draft authorization from the Environmental Protection Agency Region VI for the Toxic Substances Control Act exemption allowing the Waste Isolation Pilot Plant to dispose of polychlorinated biphenyl-contaminated waste (FY 2003).
- Completed disposal in Panel 1 and initiate closure activities (FY 2003).
- Initiated panel 3 mining (FY 2003).
- Submitted proposal permit modifications to the Environmental Protection Agency for disposal of supercompacted waste and definition of characterization requirements for sealed sources (FY 2003).
- Submitted permit modification requests to the New Mexico Environment Department for: panel closure redesign; removal of underground booster fan; and allowing the use of Panels 4 through 10 for waste disposal (FY 2003).
- Ramped up to 24 shipments per month, by the end of FY 2003, from the Savannah River Site (FY 2003).
- Completed characterization and certification of all legacy debris waste and homogeneous waste at the Argonne National Laboratory-East, and began shipments to the Waste Isolation Pilot Plant (FY 2003).
- Deployed mobile/module systems at the Los Alamos National Laboratory, and Hanford (FY 2003).
- Began shipping homogeneous waste from the Rocky Flats Environmental Technology Site, the Los Alamos National Laboratory, and the Savannah River Site (FY 2003).
- Completed cleanup of three small quantity sites (FY 2003).
- Complete hot cell facility modifications to support remote-handled program (January 2004).
- Begin waste emplacement in Panel 3 (July 2004).
- Complete Panel 1 Closure (August 2004).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Receive Environmental Protection Agency recertification that repository is in compliance with the radioactive waste disposal standards (FY 2004).
- Procure Non-Destructive Assay/Non-Destructive Evaluation System for large boxes (January 2005).
- Prepare for receipt of remote-handled waste in FY 2006 (FY 2005).

CB-0090 / Transportation-WIPP (life-cycle estimate $753,317K)…….. 13,631 43,994 40,751

This PBS includes all transportation activities required to support the disposal of both contact-handled and remote-handled transuranic waste at the Waste Isolation Pilot Plant, including carrier services, transportation packaging, shipping coordination, and stakeholder interfaces related to transportation. As required in the Waste Isolation Pilot Plant Land Withdrawal Act, provides for technical assistance for the purpose of training public safety officials and other emergency responders as described in part 1910.120 of Title 29, CFR, in any State or Indian tribal land through whose jurisdiction the Secretary plans to transport transuranic waste to or from the Waste Isolation Pilot Plant.

End-States: The Carlsbad Field Office has the capability to transport and receive 34 shipments per week, which is the anticipated level in both 2004 and 2005. All shipping activities are scheduled to end in 2030.

In FY 2005, the following activities are planned to support the accelerated cleanup of legacy transuranic waste.

- Complete remote-handled certification audit at the Oak Ridge National Laboratory.
- Receive Nuclear Regulatory Commission Certificate of Compliance for TRUPACT IIIs (packaging for large box waste containers).
- Prepare for receipt of remote-handled shipments in FY 2006.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
No metrics associated with this PBS						

Key Accomplishments (FY 2003)/Planned Milestones (FY 2004/FY 2005)

- Increased TRUPACT-II fleet size from 67 to 76 (with two in acceptance review), and declare readiness for use of HalfPACT to support accelerated cleanup activities (FY 2003).
- Completed inter-site shipments from the Energy Technology Engineering Center, Missouri University Research Reactor (FY 2003).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Completed 24 shipments per month from the Savannah River Site by the end of FY 2003 (September 2003).
- Received final remote-handled-72B cask from fabricator (FY 2003).
- Conducted contact-handled certification audit at the Advanced Mixed Waste Treatment Facility at the Idaho National Laboratory and remote-handled demonstration at the Los Alamos National Laboratory (FY 2003).
- Procure 11 remote-handled trailers for a total of 14 (September 2004).
- Increase carrier capacity from 25 to 34 shipments per week (September 2004).
- Complete the TRUPACT II fabrication to obtain fleet of 84 TRUPACTS (September 2004).
- Submit draft TRUPACT-III Safety Analysis Report for Packaging to the Nuclear Regulatory Commission (September 2004).
- Receive certificate of compliance for TRUPACT-III and begin fabrication (September 2005).

ID-0030C / Soil and Water Remediation-2035 (life-cycle estimate $1,849,946K)…… 0 439 0

The Idaho National Laboratory is an 890 square mile government-owned site with nine major facility areas. As a result of nuclear energy related reactor and nuclear material processing operations over the last several decades, chemically hazardous and radiological contaminants were released to the environment in all of these facilities and to the groundwater. The Idaho National Laboratory was placed on the National Priorities List and is committed to achieving cleanup under a Comprehensive Environmental Response, Compensation, and Liability Act agreement with the State of Idaho and Environmental Protection Agency.

The Environmental Management (EM) program is responsible for addressing the cleanup of chemical and radioactive contamination to soil and groundwater. Most soil contamination is confined to the nine facility areas while groundwater contamination is being addressed to prevent off-site releases from ever exceeding drinking water standards. The Comprehensive Environmental Response, Compensation, and Liability Act agreement divides the site into 10 Waste Area Groups, one for each facility area and one for the groundwater and area outside facility area fences. This project accelerates remediation of contaminated soil and groundwater and closure of legacy tank systems to the sole source Snake River Plain Aquifer.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

The future end-state for this project is completion of all Comprehensive Environmental Response, Compensation, and Liability Act cleanup actions to enable reuse of the land consistent with current and future missions, as assigned. Completing this work demonstrates the DOE commitment to stewardship of the Idaho National Laboratory land and supports future uses at the site, as appropriate to the multi-program mission of the Idaho National Laboratory. This project provides for the completion of any remedies that are not completed by 2012 and for the long-term maintenance of remedies, monitoring of groundwater and the ecosystem, records management and other tasks required to address waste left on the site.

This PBS encompasses remediation of Waste Area Group 3, Idaho Nuclear Technology and Engineering Center and Waste Area Group 7, Radioactive Waste Management Complex, which will be actively managed beyond 2012. The remedial approach for Waste Area Group 3 has been selected. Implementation will continue beyond 2013. The remedial approach for Waste Area Group 7 will not be selected until 2007.

By 2013 all Comprehensive Environmental Response, Compensation, and Liability Act Records of Decision will be signed and all commitments in 21 of the Record of Decisions will be met, allowing closure of most Idaho National Laboratory facility areas. All Voluntary Consent Order legacy tanks will have been dispositioned and active remediation of the Radioactive Waste Management Complex and the Idaho Nuclear Technology Engineering Center remaining facility areas will be underway.

- There are no activities planned for FY 2005.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
No metrics associated with this PBS						

Key Accomplishments (FY 2003)/Planned Milestones (FY 2004/FY 2005)

No Key Accomplishments or Planned Milestones associated with this PBS.

OR-0041 / Nuclear Facility D&D-Y-12 (life-cycle estimate $1,070,451K) …….. 28,462 28,095 28,611

The scope of this PBS: reduces risk by accelerating the cleanup at the Y-12 National Security Complex, as committed to in the Oak Ridge Performance Management Plan; designs, builds, operates, and closes the on-site Environmental Management Waste Management Facility; and performs surveillance and maintenance of surplus facilities at the Y-12 National Security Complex.

The Y-12 National Security Complex, like the rest of the Oak Ridge Reservation, is located in a water-rich environment. Each area of the reservation drains into one of the tributaries of the Clinch River/Watts Bar reservoir system, making surface water the dominant media for contaminant transport. Y-12 is a significant contributor of mercury, radionuclides, and volatile organic compound

contamination to Upper East Fork Poplar Creek, which flows through the City of Oak Ridge. In addition, Bear Creek Valley, which is located just west of the Y-12 plant, is the site of numerous liquid and solid waste disposal areas. As a result, several high-risk reduction projects are planned for completion by 2008. These include construction and operation of a water treatment system to remediate mercury contamination in surface water, remediation of the East End Volatile Organic Compound Plume to prevent further migration off-site, and excavation of the Boneyard/Burnyard burial ground to reduce the flux of uranium contamination into surface water. After completion of these high-risk reduction activities, remaining cleanup activities at Y-12, including facility deactivation and decommissioning and soil/sediment removal, will be completed. Surveillance and maintenance activities for the Y-12 National Security Complex will be ongoing as part of this project, which also includes coordination of environmental monitoring throughout the Oak Ridge Reservation to assess the effectiveness of cleanup actions.

The scope also includes the operation and maintenance of the Oak Ridge Reservation Landfills consisting of Sanitary/Industrial and Construction/Demolition Landfills located at the Y-12 Site. The landfills will be operated in accordance with permits, regulations, and orders. Operation of the Oak Ridge Reservation Landfills requires the acceptance and disposition of waste meeting the Waste Acceptance Criteria from all three sites, all DOE program offices, and all approved generators on the Oak Ridge Reservation. In addition to the operation and maintenance this scope includes the design, construction and operation of landfill expansions and landfill closures as required to maintain landfill capacity. The ongoing operation will continue past the period of the accelerated cleanup.

Finally, this scope also includes operation of the Environmental Management Waste Management Facility and modular design and construction for expansions beyond 1,200,000 cubic yards. The Environmental Management Waste Management Facility was constructed for the disposal of cleanup wastes, and is essential to the accelerated cleanup of the Oak Ridge Reservation. The Environmental Management Waste Management Facility will receive approximately 2.2 million cubic yards of waste for disposal from Oak Ridge Reservation cleanup projects. The modular design allows incremental expansions to the cell capacity. Annual payments of $1M, which started in Calendar Year 2000, will be paid over a period of 14 years to the State of Tennessee to provide funds for the perpetual care of the Environmental Management Waste Management Facility after final closure.

By 2014, all cleanup actions at Y-12 will be completed, allowing for the continued use of the site as an industrial facility.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Oak Ridge Office.

- Complete the Phase 2 construction of the Environmental Management Waste Management Facility and dispose of waste received from remedial action/decontamination and decommissioning projects.
- Complete the Environmental Management Waste Management Facility Maximum Site Capacity Design.
- Continue on-going operations of the Oak Ridge Reservation landfills and design, construct, open, and close landfill areas as required to maintain capacity.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Close out the Upper East Fork Poplar Creek Building 9201-2 Water Treatment System construction Project and start operations.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Industrial Facility Completions (Number of Facilities)	0	3	0	4	6	67%
Remediation Complete (Number of Release Sites)	3	0	2	30	138	22%

Key Accomplishments (FY 2003)/Planned Milestones (FY 2004/FY 2005)

- Selected a subcontractor for design and construction of the Environmental Management Waste Management Facility build-out, and disposed of 99,000 tons of waste received from remedial action/decontamination and decommissioning projects (FY 2003).
- Completed design and started construction of the 9201-2 Water Treatment System (FY 2003).
- Completed Upper East Fork Poplar Creek Sitewide Soils Focused Feasibility Study and initiated preparation of the Proposed Plan (FY 2003).
- Completed boneyard/burnyard (FY 2003).
- Complete the construction of the 9201-2 Water Treatment System to remediate mercury contamination in surface water (September 2004).
- Complete Upper East Fork Poplar Creek soils record of decision (September 2005).

OR-0042 / Nuclear Facility D&D-Oak Ridge National Laboratory (life-cycle estimate $668,476K) …… 41,786 27,010 20,028

Due to the many multi-disciplinary research activities conducted over the past 57 years at the Oak Ridge National Laboratory, environmental media and facilities became contaminated as a result of operations, leaks, spills, and past waste disposal practices. The presence of creeks and shallow groundwater provides a ready transport mechanism of contaminants into White Oak Creek, which flows to the Clinch River, a major drinking water source and recreational area.

Areas requiring remediation include more than 50 inactive facilities (including six inactive research reactors), three former solid waste burial grounds, three significant plumes of contaminated groundwater, contaminated surface water, and numerous areas of soil and sediment contamination. Several projects have already reduced environmental risk at the site, including clean-out and stabilization of the eight large Gunite Tanks and numerous smaller inactive liquid low-level waste tanks throughout the laboratory and demolition of the former Metal Recovery Facility. The strategy for

continued remediation under this project is to complete remaining high-risk reduction activities by 2008 as committed to in the Oak Ridge Performance Management Plan. These projects include: remediation of the source of the most significant groundwater contaminant plume at the Oak Ridge National Laboratory (i.e., the Core Hole 8 plume); excavation of highly contaminated sediments from surface impoundments located adjacent to White Oak Creek; and decontamination and decommissioning of high-priority facilities to ensure worker safety and mitigate the potential for contaminant release. In addition, the Molten Salt Reactor Experiment facility will undergo removal of the fuel and flush salts, which is an important and challenging activity required for eventual demolition of the facility. Cleanup of all remaining contaminated areas at the Oak Ridge National Laboratory will be completed by 2015, including the decontamination and decommissioning of remaining inactive facilities, capping of buried waste areas, bioremediation of groundwater contamination, and soil/sediment removal.

This project also includes surveillance and maintenance activities to maintain contaminated sites and facilities in a safe and compliant state prior to cleanup to ensure protectiveness following cleanup, and to perform monitoring to assess the effective cleanup actions at the Oak Ridge National Laboratory. Upon completion of this project, the Oak Ridge National Laboratory will continue its mission as a premier national science laboratory.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Oak Ridge Reservation.

- Bethel Valley Groundwater Action Engineering Study – complete field activities, data analysis for Engineering Studies Report, and submit the draft Engineering study for review by the regulators.
- Complete Molten Salt Reactor Experiment fuel salt removal from fuel drain Tank No. 1.
- Complete processing and packaging of Molten Salt Reactor Experiment fuel and flush salts.
- Surveillance and Maintenance - provide oversight of surveillance and maintenance contractor, perform annual safety document updates, implement safety documents, and disposal of waste at the Nevada Test Site, Envirocare, and Hanford.
- Long Term Surveillance and Maintenance - perform annual safety document updates, implement safety documents, and disposal of waste at Envirocare.
- Continue monitoring the Oak Ridge National Laboratory Water Quality Program.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Nuclear Facility Completions (Number of Facilities)	0	0	1	1	16	6%
Radioactive Facility Completions (Number of Facilities)	0	1	0	4	29	14%
Industrial Facility Completions (Number of Facilities)	0	0	0	7	16	44%
Remediation Complete (Number of Release Sites)	2	0	0	80	164	49%

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Bethel Valley Corehole 8 Plume: completed sampling and analysis of containerized black residue soil and concrete and yellow material; transferred the waste to the remedial action projects Stored Waste Disposition project; performed additional analysis on 166 B-12 boxes of soil as required by the Nevada Test Site for characterization; performed statistical evaluation on additional analytical data of soil; and determined the number of containers that can be accepted by the Nevada Test Site (FY 2003).
- Old Hydrofracture Waste: disposed of intermodel containers at the Environmental Management Waste Management Facility and demobilization (FY 2003).
- Oak Ridge National Laboratory Main Plant Surface Impoundments: completed retrieval and treatment of sediments from Impoundment B; completed post remedial survey, sampling, and backfill of Impoundment B; disposed of bricks at the Environmental Management Waste Management Facility; received regulator approval of D1 and D2 Remedial Action Report; completed final grading of Impoundments A and B placement of asphalt cover; and dismantled and disposed of the Waste Treatment Facility (FY 2003).
- Complete the Molten Salt Reactor Experiment flush salt removal from Drain Tank No. 2 (September 2004).
- Complete Molten Salt Reactor Experiment fuel salt removal from fuel drain Tank Number 1 and complete processing and packaging of fuel and flush salts (September 2005).
- Perform surveillance and maintenance on various surplus and inactive facilities (FY 2003, September 2004, and September 2005).

RL-0013 / Solid Waste Stabilization and Disposition-200 Area (life-cycle estimate $6,304,170K) ……. 125,613 152,149 197,044

Hanford has in excess of 40,000 containers of legacy (previously generated) "suspect" transuranic waste temporarily stored awaiting retrieval and permanent disposal. “Suspect” waste is defined as the retrievably-stored transuranic waste in the low-level burial ground, which was originally designated as transuranic waste but may not meet the current definition of transuranic waste. During cleanup, more solid and liquid wastes will be generated and will need to be characterized, possibly treated, and disposed.

The scope of this PBS is linked to the strategic initiative Accelerate Waste Disposal under the Performance Management Plan for the Accelerated Cleanup of the Hanford Site. It will accelerate mixed low-level waste treatment and disposal, accelerate the retrieval of suspect transuranic waste from the temporary storage in burial grounds, and accelerate the disposal of transuranic waste to the Waste Isolation Pilot Plant in New Mexico. This PBS provides for the following activities:

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Low-Level Waste: Provides for retrieval, storage, and disposal of low-level waste. Current forecasted life-cycle on-site generated legacy low-level waste volumes are approximately 69,000 m^3. Through FY 2003, Hanford has disposed of approximately 31,600 m^3 of low-level waste. By 2035, all low-level waste disposal sites will have a temporary cap.
- Mixed Low-Level Waste: Hanford has mixed low-level waste temporarily stored above-ground awaiting permanent disposal. Hanford cleanup activities will generate more mixed low-level waste, which will need to be characterized, possibly treated, and disposed. Current forecasted life-cycle mixed low-level waste volumes are approximately 55,000 m^3. Through FY 2003, Hanford has disposed of approximately 1,200 m^3 of mixed low-level waste. Near-term performance incentive milestones include treatment and/or disposal of 7,000 m^3 of stored mixed low-level waste by September 30, 2006. By 2035, all mixed low-level waste disposal sites will have a temporary cap.
- Transuranic Waste: Hanford has legacy (previously generated) suspect transuranic waste awaiting retrieval and processing for disposal at the Waste Isolation Pilot Plant. Current forecasted life-cycle transuranic waste volumes are approximately 28,000 m^3. As of September 30, 2003, Hanford has shipped 337 m^3 of transuranic waste to the Waste Isolation Pilot Plant. By 2030, all retrieved transuranic waste will be shipped to the Waste Isolation Pilot Plant. Near-term performance incentive milestones include shipment of 2,000 m^3 of transuranic waste and disposition of 15,000 drums of post-1970 retrievably-stored suspect transuranic waste by September 30, 2006.
- Liquid Waste: This project provides for treatment and disposal of liquid waste from the 242-A Evaporator, Liquid Effluent Retention Facility, Effluent Treatment Facility, the 200 and 300 Area Treated Effluent Disposal Facility, as well as the surveillance and maintenance of the 340 Facility. So far, the 242-A Evaporator has been evaporating approximately 1 million gallons of high-level waste per year at the request of the Office of River Protection to reduce liquid waste volumes in the tank farms. The 242-A Evaporator will be transferred to the Office of River Protection by FY 2004. By 2023, all remaining liquid waste treatment will be terminated and stored waste will be dispositioned.
- Cesium and Strontium Capsules: Hanford's 1,936 cesium and strontium capsules contain about 130 million curies of radioactivity, which is approximately 37 percent of the site's total radioactivity. This project provides interim storage of cesium and strontium capsules at the Waste Encapsulation and Storage Facility, i.e., water-cooled pool cells, followed by transfer of the capsules to a secure long-term dry storage facility by 2008. This project will reach its end-state when all capsules are transferred to dry storage in FY 2008 and the Waste Encapsulation and Storage Facility is deactivated in FY 2010.
- T-Plant and 2706-T Facility: Provide decontamination and waste verification. T-Plant was cleared to receive K-Basin sludge for storage in FY 2003. The facility may be modified in the future for processing of remote-handled transuranic waste that cannot be processed at the Waste Receiving and Processing Facility for disposal at the Waste Isolation Pilot Plant. By 2025, T Plant will be deactivated, decontaminated, and decommissioned.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Canister Storage Building: This PBS will fund the storage of spent nuclear fuel and immobilized high-level waste in the Canister Storage Building from FY 2005 through 2009. The Canister Storage Building, operation beyond FY 2009, will be funded by PBS HQ-SNF-0012X, SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository (Defense Environmental Services: Non-Closure Environmental Activities).
- The operation of the Environmental Restoration Disposal Facility is funded under PBS RL-0041, Nuclear Facility D&D-River Corridor Closure Project (2012 Accelerated Completions). This PBS (RL-0013) will fund the operation of the Environmental Remediation Disposal Facility after 2012.

End-State: All facilities unless otherwise noted will be closed via this PBS (demolition of facilities will be addressed under PBS RL-0040, Nuclear Facility D&D-Remainder of Hanford) or transferred to other DOE programs.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Richland Office.

- Low-Level Waste: Dispose of approximately 1,600 m^3 of on-site generated low-level waste.
- Mixed Low-Level Waste: Treat 1,200 m^3 and dispose of approximately 2,300 m^3 of mixed low-level waste. Provide interim storage of mixed low-level and transuranic waste prior to treatment/disposal.
- Transuranic Waste: Increase transuranic waste shipments to the Waste Isolation Pilot Plant to 983 m^3 . Increase retrieval of transuranic waste from 3,500 drums in FY 2004 to 7,000 drums. Provide interim storage of transuranic waste. Operation of the Waste Receiving and Processing facility to provide certification and repackaging of transuranic waste for disposal at the Waste Isolation Pilot Plant.
- Waste Management Facilities: Store, treat, and/or dispose of liquid effluents in the Liquid Effluent Retention Facility, Effluent Treatment Facility, and the 200 and 300 area Treated Effluent Disposal Facility. Provide waste disposal services for on-and off-site customers. Provide interim storage of cesium/strontium capsules at the Waste Encapsulation and Storage Facility and continue acquisition activities for dry storage of the capsules begun in FY 2004. Utilize T Plant for support of various waste management missions including repackaging of mixed low-level and transuranic wastes. Prepare T Plant to support M-91 milestone requirements for repackaging of large/remote handled mixed low-level and transuranic wastes.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Transuranic Waste Shipped for Disposal at WIPP (m^3)	238	200	983	1,520	28,369	5%
Low-Level and Mixed Low-Level Waste Disposed (m^3)	3,634	3,323	3,875	43,680	69,391	63%

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Low-Level Waste: Disposed of 1,846 m^3 of on-site and off-site generated low-level waste (FY 2003).
- Mixed Low-Level Waste: Treated and disposed 1,788 m^3 of mixed low-level waste to reduce stored waste inventory (FY 2003).
- Liquid Waste: Completed evaporation of three million gallons of high-level waste to reduce liquid waste volumes in tank farms (FY 2003).
- Low-Level Waste: Dispose of 1,446 m^3 on-site and off-site generated low-level waste (September 2004).
- Mixed Low-Level Waste: Dispose of 1,877 m^3 of mixed low-level waste to reduce inventory (September 2004).
- Transuranic Waste: Shipped 238 m^3 in FY 2003, 160 m^3 more than planned, and will ship 200 m^3 transuranic waste to the Waste Isolation Pilot Plant and retrieve 3,500 drums of transuranic waste (September 2004).
- Transuranic Waste: Ship all above-ground transuranic waste to the Waste Isolation Pilot Plant (September 2005).

RL-0030 / Soil and Water Remediation-Groundwater/Vadose Zone (life-cycle estimate $1,591,810K) ……. 43,175 45,999 51,088

The Hanford site supported national defense programs, largely through the production of nuclear materials. One legacy of Hanford operations is a significant waste inventory of radioactive and regulated chemical materials. Past releases of these materials have contaminated Hanford's facilities and environment. Over 625,000 m^3 of solid waste, containing an estimated 4.8 million curies of radioactive materials, were buried in Hanford site soils, while over 1.7 trillion liters of liquid waste containing radioactive and chemical contamination have been discharged to the ground at Hanford Site. Legacy disposal practices resulted in contamination above current federal standards at Hanford.

The groundwater/vadose zone under the Hanford Site has been contaminated from past Hanford operations through discharge of radioactive liquid waste to cribs, ditches, trenches, ponds, and from leaky waste tanks. Currently, approximately 220 square kilometers of groundwater exceed drinking water standards and portions of these plumes have reached the Columbia River. This PBS provides for groundwater/vadose zone management, sampling and analysis, monitoring, and remediation activities that address groundwater contamination by carbon tetrachloride, chromium, technetium 99, strontium, and uranium plumes, and protection of the groundwater resources on Hanford Site. Also, includes groundwater surveillance and maintenance activities required prior to site closure.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

The objective of this PBS is to complete final active remedial actions for six groundwater plumes by 2012 and to complete the Comprehensive Environmental Response, Compensation, and Liability Act process for five other operable units that have either no remediation action, or natural attenuation, as the final remedial approach. The PBS scope also addresses the vadose zone contamination at 800 waste sites that can potentially result in future groundwater plumes in the central plateau area of the site. Significant characterization, coupled with applied science and technology, are being applied to these legacy issues.

The end-state and exit strategy for the groundwater issues will be fully developed by 2006 and implemented by 2012. Groundwater completion activities will follow waste tank and waste site closure activities through the 2024 time frame. Interim remedial actions are in place. These generally consist of pump and treat facilities that will operate until final Records of Decisions are issued. By 2024, approximately 2,500 abandoned wells will be decommissioned. To date only a small number have been decommissioned.

At the end of FY 2003: (1) a total of 380 kilograms of chromium and 1.2 curies of strontium-90 were removed from the groundwater in the 100 Area, and (2) 180 kilograms of uranium, 105 grams of technetium-99 and 86,000 kilograms of carbon tetrachloride were removed from the groundwater in the 200 Area. Installation of the In-situ Redox Manipulation (ISRM) system was completed in the 100 D area to treat the chromium plume. ISRM is an innovative alternative to conventional pump and treat groundwater remediation methods. Remedial action objective concentrations were achieved in most of the wells for the 100-HR3H groundwater cleanup site. Successful completion of remedial actions for this site are expected in the next several years. Source removal actions are underway to facilitate final remedial actions for the 200 UP-1 and 100 HR-2 groundwater remediation sites. A detailed groundwater management plan for accelerated cleanup and protection of Hanford's groundwater was developed and is being implemented. The five key elements are: (1) Remediate High-Risk Waste Sites; (2) Shrink the Contaminated Area; (3) Reduce Recharge; (4) Remediation Groundwater; (5) Monitor Groundwater.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Richland Office.

- Prevent contaminants from reaching the groundwater by decommissioning an additional 140 high-risk wells.
- Complete the Environmental Protection Agency Comprehensive Environmental Response, Compensation, and Liability Act five-year review of groundwater remedial actions.
- Complete site-wide assessment composite analysis/final composite analysis.
- Develop remedial alternative for N Springs and U-Plant 1.
- Complete 60 percent of the installation of high priority wells (Revised Tri-Party Agreement Milestone 24 – revision date December 2003).
- Monitor 700 plus wells for contaminants of concern above drinking water standards.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
No metrics associated with this PBS						

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Completed first draft Record of Decision for waste site remediation on Central Plateau (FY 2003).
- Completed final testing and began full operations of the in-situ redox manipulation groundwater treatment system (FY 2003).
- Began decommissioning of high-risk wells (FY 2003).
- Upgraded and operated the groundwater interim action remediation systems in the River Corridor and on the Central Plateau Areas (FY 2003).
- Prevented contaminants from reaching the groundwater by repairing four major leaking water lines (FY 2003).
- Installed 12 of 60 wells to complete integrated monitoring network (FY 2003).
- Implemented actions for completion of remediation at three groundwater plume contamination sites (FY 2003).
- Perform groundwater and vadose zone sampling and analysis for 1,000 plus wells on the Hanford Site (September 2004).
- Complete installation of high priority wells in 200 Area to gather additional data to support groundwater remediation strategy development by 2006 (September 2004).
- Complete decommissioning of 140 high-risk wells (September 2005).
- Complete waste site remediation of two record of decisions and three feasibility studies (September 2005).
- Develop final remedial alternative for N Springs and U-Plant 1 (September 2005).
- Complete installation of high priority wells (September 2005).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

RL-0040 / Nuclear Facility D&D-Remainder of Hanford (life-cycle estimate $7,484,496K) ……. 89,816 115,645 131,277

The Hanford site supported national defense programs, largely through the production of nuclear materials. One legacy of Hanford operations is a significant waste inventory of radioactive and regulated chemical materials. Past releases of these materials have contaminated Hanford's facilities, groundwater, soils, and environment. Over 625,000 m^3 of solid waste, containing an estimated 4.8 million curies of radioactive materials, were buried in Hanford site soils, while more than 1.7 trillion liters of liquid waste containing radioactive and chemical contamination have been discharged to the ground. Legacy disposal practices resulted in contamination above current federal standards at Hanford.

This PBS scope implements various Hanford Site cleanup initiatives such as: accelerating cleanup of radioactivity and chemical contamination in 860 waste sites, including burial grounds, and 1,076 facilities on the Central Plateau (200 Area), South Hanford Industrial Area, 400 Area, and remaining 300 Area; accelerating cleanup and protection of Hanford Groundwater; continuing support for Hanford downwinder litigation activities; and streamlining Hanford's Infrastructure operation to achieve completion of the Hanford EM mission by 2035.

Life-cycle workscope to accomplish these initiatives includes: 1) Decontamination, decommissioning, dismantlement, and disposition of surplus facilities and remediation of high risk waste sites containing large inventories of mobile contaminants (e.g., carbon tetrachloride, uranium, iodine-129 and technetium-99) that are causing groundwater plumes; 2) Remediation of the canyon facilities, remediation of all 200 Area waste sites and construction of surface barrier caps over waste sites; 3) Remediation of the 618-10 and 618-11 Burial Grounds that contain approximately 50,000 drum-equivalents of remote- and contact-handled transuranic waste; 4) Deactivation and disposition of contaminated equipment; 5) Final disposition of Cold War legacy wastes and DOE facilities remaining at the Pacific Northwest National Laboratory; 6) Sampling of the Hanford environment to protect public health and safety and ecological and cultural resources; 7) Provide minimum safe operations to facilities awaiting to be deactivated and demolished; and 8) Repair infrastructure to remedy failing or failed systems.

The end-state of this PBS (in 2035) will be determined by the completion of the following activities: 1) Facilities demolished and debris buried in the Environmental Restoration Disposal Facility; 2) Canyons buried, or have roof replacements for use as above ground radioactive waste disposal for maximum isolation from the environment, and waste sites remediated; 3) Completion of 618-10 and 618-11 remediation by 2018; 4) Contaminated equipment deactivated and disposed; 5) Nuclear Energy Program legacy facilities deactivated and made available for alternative usage; and 6) Cold War legacy wastes disposed and facilities remediated. Remedial investigations of waste sites in the 200 Area have been initiated and will be completed in FY 2008.

This PBS also funds design and construction of the A-8 Electrical Substation Upgrade. The appropriation in FY 2003 was $400,000 and in FY 2004 is $983,000. The request in FY 2005 is $1,069,000. For more information on this subproject, a Subproject Detail description is included in the Appendix.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Hanford Site.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Implement Regional Closure Prototype: Continue U-Plant pre-demolition activities.
- Apply innovative technology to remediation: Develop technology for in-situ transuranic waste detection and testing of excavation for 618-10 and 618-11burial grounds.
- Disposition surplus facilities: Continue demolition of plutonium concentration facilities.
- Plan, Manage, and Transition Assets: Continue transfer of Hanford Reach National Monument lands to U.S. Fish and Wildlife Service.
- Prepare Comprehensive Environmental Response, Compensation, and Liability Act/Resource Conservation and Recovery Act decision documentation for waste sites and surplus facilities and continue follow on design activities for cleanup; complete a Record of Decision on 200 North waste site remediation, and complete design work and procurement needed to initiate remedial action on B/C Cribs (high risk waste site).
- Operate Environmental Management facilities at the Pacific Northwest National Laboratory and continue operations of the 325 Radiochemical Processing Laboratory Facility for analytical operations in support of Hanford cleanup activities.
- Provide surveillance and maintenance.
- Implement Hanford Site infrastructure reliability projects.
- Provide for activities such as continuing support for downwinder litigation, and services contracts for laundry and steam.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Nuclear Facility Completions (Number of Facilities)	0	2	0	2	98	2%
Radioactive Facility Completions (Number of Facilities)	0	0	0	0	342	0%
Industrial Facility Completions (Number of Facilities)	2	3	5	164	636	26%
Remediation Complete (Number of Release Sites)	0	0	0	5	860	1%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Completed Radon Holdup System disposition (FY 2003).
- Dispositioned six facilities, railcars, and heavy equipment (FY 2003).
- Awarded contract and completed removal of the residual sodium from the Composite Reactor Components Test Activity, 3718-M tanks, and the 337 High-Bay Building (FY 2003).

(dollars in thousands)

	FY 2003	FY 2004	FY 2005
▪ Dispositioned the cold trap from the 337 High-Bay Building (FY 2003).			
▪ Completed B-Plant and PUREX roof replacement, to maintain facilities within a safe condition (FY 2003).			
▪ Demolish 233-S and 233-SA facilities (June 2004).			
▪ Dispose 63.5 m^3 of low-level waste and 1 m^3 of mixed low-level waste from the decontamination of 300 Area facilities (September 2004).			
▪ Complete the transfer of the Fitzner/Eberhardt Arid Lands Ecology Reserve permanently from Department of Energy to the Department of Interior (September 2004).			
▪ Complete the disposition for all Hanford non-radioactive sodium (September 2004).			
▪ Initiate demolition of 224-B and 224-T buildings to be completed in FY 2006 (September 2005).			
▪ Initiate U-Plant pre-demolition activities (September 2005).			
▪ Complete Comprehensive Environmental Response, Compensation, and Liability Act Record of Decision on 200 North waste site remediation (September 2005).			
▪ Complete design work and procurement needed to initiate remedial action at B/C Cribs (September 2005).			
▪ Complete the final disposition of five additional facilities (September 2005).			
▪ Develop technology for in-situ transuranic waste detection and testing of excavation for 618-10 and 618-11 burial grounds cleanup (September 2005).			
▪ Complete transfer of the Riverlands and Wahluke Slope National Monument land to the Department of Interior (September 2005).			
RL-0080 / Operate Waste Disposal Facility (life-cycle estimate $241,757K) …….	**4,871**	**9,264**	**6,207**

The complex-wide Waste Management Programmatic Environmental Impact Statement designated Hanford as one of the disposal sites for off-site low-level waste and mixed low-level waste. This PBS scope provides on-going operations of the Hanford low-level waste and mixed low-level waste disposal facilities, e.g., burial grounds. Examples of the operations include: surveillance and maintenance, Resource Conservation and Recovery Act inspections, sample analysis, waste acceptance criteria review and update, support to operating assessments/audits, performance assessments/composite analysis, facility permitting, risk assessments, regulatory support, transportation and packaging support to move waste around the burial grounds, etc.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

These operations support remediation and other operational mission goals of Hanford and other off-site DOE and Department of Defense generators. It provides significant support for other DOE site closures. These generators include but are not limited to: Rocketdyne, Babcock and Wilcox-Parks Township, University of Missouri, Seattle University, Knolls Atomic Power Laboratory-Tennessee, Fermi National Accelerator Laboratory, Puget Sound Naval Shipyard, Princeton Plasma Physics Laboratory, Brookhaven National Laboratory, Ames Laboratory, Massachusetts Institute of Technology, Paducah Gaseous Diffusion Plant, Knolls Atomic Power Laboratory-Windsor, Pearl Harbor Naval Shipyard, University of California-Davis, Battelle Columbus Laboratory, Idaho National Laboratory, General Atomics, Rocky Flats Plant, National Renewable Energy Laboratory, University of Utah, Lawrence Berkeley Laboratory, Argonne National Laboratory-East, and Stanford Linear Accelerator Center. Disposal costs are paid for by generators and are not funded under this PBS.

The end-state of this PBS is completion of shipment of off-site waste to Hanford and cessation of Hanford waste production. PBS RL-0040, Nuclear Facility Decontamination and Decommissioning-Remainder of Hanford, will demolish facilities and close the disposal sites by 2035. By that time each of the disposal sites will have a temporary cover.

In FY 2005, the following activities are planned to support the accelerated cleanup (stabilization and disposition of solid wastes) in the 200-Area of the Hanford Site.

- Operate the Hanford Site solid waste disposal facilities for low-level waste and mixed low-level waste.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
No metrics associated with this PBS						

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY2005)

- Provided on-going operations of the Hanford Site solid waste disposal facilities (low-level waste and mixed low-level waste) (FY 2003).
- Provide on-going operations of the Hanford Site solid waste disposal facilities for low-level waste and mixed low-level waste. Disposal is funded by the generators, hence the disposal volumes are not tracked under this PBS (September 2004).
- Provide on-going operations of the Hanford Sites waste disposal facilities for the low-level and mixed low-level waste (September 2005).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

ORP-0014 / Radioactive Liquid Tank Waste Stabilization and Disposition (life-cycle estimate $24,330,467K) ……. 427,820 401,898 348,570

This PBS includes activities required to stabilize more than 50 million gallons of high-level radioactive waste stored underground in 177 tanks by 2035, including retrieval, treatment, disposal and closure of the facilities. Construction and commissioning of the Waste Treatment and Immobilization Plant, which will treat the tank waste to meet regulatory disposal requirements, is included in PBS ORP-0060, Major Construction-Waste Treatment Plant.

The radioactive waste stored in the Hanford tanks was produced as part of the nation's defense program and has been accumulating since 1944. The tanks are old; sixty-seven tanks are believed to have leaked a total of about one million gallons of waste into the soil. Continued leakage could threaten the Columbia River, located between 7 and 10 miles away. In order to protect the river, the waste must be removed and processed to a form suitable for disposal, and the tanks stabilized. The processed waste will be disposed in the geologic repository when available, and lower hazard waste forms will be deposited in approved buried waste facilities on the Hanford site. The tanks, ancillary equipment below grade, and any residual waste that cannot be retrieved will be stabilized in place. Above ground facilities will be removed. Appropriate caps and barriers will be used to remediate the contaminated soil surrounding the tanks as required. The area surrounding the remediated tank farms is planned for industrial use.

Specific activities in the scope of this PBS include:

- Design, construction, and operation of tank waste retrieval and transfer systems to transport the waste from the tanks for stabilization in either the Waste Treatment and Immobilization Plant or supplemental/alternative treatment facilities beginning in 2011 and ending in 2028.
- Operation of treatment facilities to complete the tank waste program by 2032.
- Closure of 149 single-shell tanks, 28 double-shell tanks, tank farms, and facilities including completing necessary cleanup actions on tanks, ancillary equipment, contaminated soils, treatment facilities, the immobilized high-level waste storage facilities and on-site immobilized low-activity waste disposal facilities. Closure of high-level tanks will begin in 2004 when six tanks will be interim closed, and continue until all tank waste is stabilized in 2028. By 2032 closure of the remaining facilities will be completed.
- Construction and operation (beginning in 2010) of immobilized high-level waste canister storage facilities where these canisters will be stored prior to shipment to a geologic repository beginning in 2012.
- Disposal of immobilized low-activity waste containers at the Hanford Site beginning in 2010 and continuing until all tank waste is stabilized in 2028.
- Continue packaging of tank waste that is determined to be contact- or remote-handled transuranic waste, and ship that waste to the Waste Isolation Pilot Plant for final disposition.
- Radiological, nuclear, and process safety for the Waste Treatment and Immobilization Plant through authorization of regulatory actions and execution of a comprehensive inspection program.

- Maintenance of the tank farms in a safe and compliant manner until the waste is retrieved for processing and the tank farms are closed. To date the retrieval system design and construction to support waste feed delivery to the Waste Treatment and Immobilization Plant have been initiated; the development of additional single-shell tank retrieval technology demonstrations are ongoing; an accelerated National Environmental Policy Act process for closure of tanks and the study of supplemental treatment technologies has begun; and the Department has submitted the tank closure plan for modification of the Hanford Site Resource Conservation and Recovery Act Part B permit. Determine the supplemental treatment process that will be used and obtain regulatory approval. Implementation costs for supplemental treatment technologies not included in this PBS.

Specifically, the interim stabilization of all single-shell tanks will be completed, and waste will begin to be retrieved from these tanks, preparing them for interim closure. C-106 (first closure tank) waste retrieval will be completed and closure activities initiated. Critical design of the integrated disposal facility for storage of immobilized low activity waste will be at 80 percent. The tank farm restoration and safe operations project will complete all Phase 1 upgrade construction activities; Phase 2 upgrade design and construction activities will be initiated in four tank farms, with design activities completed in three tank farms.

The end-state is achieved by 2032, when the waste in the 177 underground storage tanks is stabilized, and the tank farms, ancillary facilities, the Waste Treatment and Immobilization Plant, and disposal facilities are closed. To achieve this end-state, construction of the retrieval and transfer systems needs to be completed, the tank waste needs to be treated through the Waste Treatment and Immobilization Plant or other supplemental treatment, the low-activity waste needs to be disposed, and all the facilities need to be closed.

This PBS includes funding for two subprojects with FY 2005 funding requirements: Initial Tank Retrieval Systems, $15,960,000 and Tank Farm Restoration and Safe Operations, $6,000,000 to complete construction in FY 2005.

Because of uncertainties associated with a recent court ruling that finds the Department's plans to reclassify some high-level waste (Waste Incidental to Reprocessing) in violation of the Nuclear Waste Policy Act, the Department believes it is inadvisable to proceed with certain planned FY 2005 activities at this time. Therefore, those activities that are impacted by the court decision are presented in the High-Level Waste Proposal under the Defense Site Acceleration Completion appropriation. Funding for this activities will be requested only at such time as the legal issue is resolved.

In FY 2005, the following activities are planned to support the accelerated cleanup of the River Protection Office.

- Eight single-shell tanks will be interim closed and construction will be completed on ten single-shell tanks retrieval systems in preparation for interim closure.
- Initiate waste retrieval from 11 single-shell tanks.
- Initiate site preparation for the integrated disposal facility that will provide a disposal path for Immobilized Low-Activity Waste produced at the Waste Treatment and Immobilization Plant.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Complete the Tank Farm Restoration and Safe Operations project, a major Tri-Party Agreement Milestone.
- Complete construction of the double-shell tank transfer system that will provide environmentally compliant upgrades to the waste transfer systems and support waste feed to the Waste Treatment and Immobilization Plant.
- Complete approximately five 242-A evaporator campaigns, in order to reduce waste volume in the double-shell tank system.
- Complete Construction on Tank AN-101 tank retrieval systems.
- Start Construction on Tank AY-102 tank retrieval systems.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Liquid Waste in Inventory Eliminated (thousands of gallons)	0	0	0	0	54,000	0%
Liquid Waste Tanks Closed (Number of Tanks)	0	6	8	14	177	8%
High-Level Waste Packaged for Final Disposition (Number of Containers)	0	0	0	0	9,200	0%
Low-Level and Mixed Low-Level Disposed (m^3)	0	0	0	0	310,000	0%
Nuclear Facilities Completions (Number of Facilities)	0	0	0	0	18	0%
Radioactive Facility Completions (Number of Facilities)	0	0	0	0	28	0%
Industrial Facility Completions (Number of Facilities)	0	0	0	0	102	0%
Remediation Complete (Number of Release Sites)	0	0	0	5	322	2%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Reduced total single-shell tank liquid waste to two percent to support final retrieval and closure activities (FY 2003).
- Completed initial upgrades in transfer lines AY, AZ, AW, and AN, needed for waste feed delivery to the Waste Treatment and Immobilization Plant (FY 2003).
- Completed Interim Stabilization of 244-AR Vault (FY 2003).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Performed approximately 25 double-shell tank to double-shell tank transfers in support of waste feed delivery, single-shell tank retrieval, and 242-A evaporator operation (FY 2003).
- Completed design for AP farm upgrades including ventilation, waste transfer and electrical systems (FY 2003).
- Completed construction on upgrades for AN farm ventilation, waste transfer and electrical systems (FY 2003).
- Started retrieval of C-106 Tank in preparation for interim closure (FY 2003).
- Completed and issued for public review Draft Environmental Impact Statement for retrieval, tank closure, and supplemental technologies (October 2003).
- Completed Interim Closure of Tank C-106 (December 2003).
- Complete construction of AP Tank Farm to Waste Treatment and Immobilization Plant transfer line (March 2004).
- Complete design of the Immobilized High-Level Waste Interim Storage Facility required for storing high-level waste until shipment to a high-level waste repository (April 2004).
- Initiate construction of the Immobilized High-Level Waste Interim Storage Facility (June 2004).
- Complete construction of AZ-101 retrieval system for first high-level waste feed delivery to the Waste Treatment and Immobilization Plant (June 2004).
- Complete interim stabilization of single-shell tanks, which completes pumping all pumpable liquids from single-shell tanks (September 2004).
- Interim close six single-shell tanks (September 2004).
- Initiate waste retrieval from eleven single-shell tanks (December 2004).
- Initiate site preparation of the integrated disposal facility immobilized low activity waste (February 2005).
- Complete saltcake dissolution retrieval demonstration (March 2005).
- Complete the Tank Farms Restoration and Safe Operations project (Tri-Party Agreement Milestone M-43) (June 2005).
- Initiate waste retrieval from eleven single-shell tanks (September 2005).
- Complete the design and initiate construction of the AY-102 Retrieval System (September 2005).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

SR-0011C / NM Stabilization and Disposition-2035 (life-cycle estimate $1,276,496K) …….. 24,498 72,409 43,955

At the end of the Cold War, the nuclear materials complex at the Savannah River Site contained a large inventory of nuclear materials in various forms and stored in many locations (raw materials, in-process, finished products, in vaults, reactor basins, etc.) in several facilities. Many of these nuclear materials were never intended to stay in their existing form and location when the national security mission ceased and the materials disposition mission began. These materials disposition activities began with the issuance of the Defense Nuclear Facilities Safety Board Recommendation 94-1 to stabilize "at-risk" nuclear materials, which might pose a significant risk to the safety of the workers, the public, and/or the environment. The Defense Nuclear Facilities Safety Board issued a supplemental recommendation 2000-1 to amplify the concern and the current Savannah River Site Program Performance Management Plan is intended to accelerate removal of the risks posed by these materials.

The PBS scope is to operate K-Area Material Storage and the 235-F Facility as storage and surveillance facilities for stabilized materials. The receipt, storage, and disposition of materials at the Savannah River Site allows for de-inventory and shutdown of other DOE complex sites providing substantial risk reduction and significant mortgage reduction savings to the Department. These facilities will be operated in compliance with applicable laws, regulations, and DOE Orders such that safety risks are less than the Department's safety goals and worker health and safety is protected. Special nuclear materials will be protected from theft and sabotage and protective capabilities upgraded as appropriate. The special nuclear materials will be managed until final disposition facilities are available.

The K-Area continues to serve as a material storage facility for unirradiated highly enriched uranium, large amounts of tritiated heavy water consolidated from other facilities, and Plutonium being received and stored in the K-Area Material Storage from other DOE complex locations. The vaults in 235-F will operate to store stabilized nuclear materials. A planned DOE STD-3013 surveillance and repackaging capability will be operated for the storage containers within the facility. The K Reactor and 235-F process areas will be maintained in a safe and environmentally sound shutdown condition. Plutonium that meets the criteria for disposition via the National Nuclear Security Administration mixed-oxide fuel program may be transferred to the National Nuclear Security Administration and dispositioned by FY 2020. Environmental Management is reviewing options to transfer or disposition the remaining fissile materials that cannot go into the mixed-oxide fuel process.

In compliance with State Department commitments, the K-Area Material Storage Facility is being modified to allow implementation of International Atomic Energy Agency control protocols for plutonium oxide. Following completion of required facility upgrades, implementation of International Atomic Energy Agency controls requires: isotopic counting of oxide material in nuclear material counting equipment; application of International Atomic Energy Agency tamper indicating devices; and storage of material in a specially identified International Atomic Energy Agency storage location segregated from the rest of the K-Area Material Storage. The additional operational activities are over and above existing K-Area Material Storage requirements for general materials and require coordination with International Atomic Energy Agency personnel and transfer of information/data. After the special nuclear materials are transferred to their final disposition facilities, the K-Reactor and 235-F facilities will be deactivated and decommissioned, which is the end-state for this project.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

In FY 2005, the following activities are planned to support the accelerated cleanup of the Savannah River Site.

- Material shipments to support the Savannah River Site FB Line repackaging and de-inventory
- Continue support for highly enriched uranium ingot shipments to an off-site vendor.
- Continue unirradiated fuel tube shipments to the Savannah River Site H-Canyon Facility.
- Continue safe, monitored storage for de-inventoried DOE Complex and other Savannah River Site facility nuclear materials. The facilities will be maintained and operated within the facilities' authorization bases and applicable permits and Federal regulations. These two storage facilities, K-Area Material Storage and 235-F are expected to operate in tandem. They will be utilized for receiving materials, performing material surveillance and maintenance, and shipping materials through the end of the mission when all materials have been dispositioned. Specific FY 2005 planned facility activities include assuring nuclear material incident monitoring and fire protection capabilities, nuclear material accountability and safe storage, facility surveillance and maintenance to ensure the safeguarding of worker health and safety, facility viability for mission support and environmental compliance.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
No metrics associated with this PBS (Only covers storage in the K-Area Materials Storage and 235-F)						

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Initiated shipment of highly enriched uranium ingots off-site (FY 2003).
- Completed receipt and placement in storage at K-Area Materials Storage of all remaining Rocky Flats plutonium and highly enriched uranium items (FY 2003).
- Initiate Design Safety Analysis assessment for the235-F material storage area (January 2004).
- Continue to operate K-Area Material Storage facility and complete optimization of storage configuration studies (September 2004).
- Complete Design Safety Analysis assessment for 235-F facility (December 2004).
- Continue operation of K Area Material Storage facility including intrasite material transfers (September 2005).
- Initiate operations for 235-F expanded storage capability (September 2005).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

SR-0012 / SNF Stabilization and Disposition (life-cycle estimate $348,680K) …….. 21,880 33,740 23,155

This PBS covers the scope and funding for the legacy Spent Nuclear Fuel originating from Atomic Energy Commission and DOE activities. (Non-legacy spent nuclear fuel is covered in PBS HQ-SNF-0012X, SNF Stabilization and Disposition-Storage Operations awaiting Geologic Repository.) The end of the Cold War and the end of materials production at the Savannah River Site left a large inventory of (Savannah River Site produced) irradiated spent nuclear fuel and other materials in underwater storage in three spent nuclear fuel storage basins; the K and L production reactor disassembly basins, and the Receiving Basin for Off-site Fuels (current operation of this facility is covered in PBS SR-0011B, NM Stabilization and Disposition - 2012). The condition of some of these legacy fuels was noted in the Defense Nuclear Facility Safety Board Recommendation 94-1 and subsequent recommendation 2000-1 concerning the need to ensure safe storage of the spent nuclear fuel and the need to stabilize the degraded spent fuel.

The scope of this PBS includes programmatic and physical support efforts related to safe storage and preparation for final disposition of Savannah River Site legacy spent nuclear fuel inventories that remain after FY 2004. The end-state of this project is the safe disposition of all legacy spent nuclear fuel that remains after FY 2004 at the Savannah River Site in accordance with the Performance Management Plan for accelerating cleanup of the Savannah River Site. Various options for disposition are still being evaluated.

Activities include: receipt of legacy spent nuclear fuel (from Receiving Basin for Off-site Fuel) in L-Disassembly Basin, cask unloading and preparation for underwater storage, cask loading and shipments of the Defense Nuclear Facilities Safety Board 94-1/2000-1 irradiated spent nuclear fuel and miscellaneous non-legacy materials to H-Canyon for stabilization; and surveillance and maintenance of legacy spent nuclear fuel. A basin de-ionization system will be operated in support of fuel storage and water chemistry control requirements. (The scope and funding requirements for the de-inventory of Receiving Basin for Off-site Fuel is included in PBS SR-0011B, NM Stabilization and Disposition - 2012.) These activities fully support the accelerated clean up objective of dispositioning spent nuclear fuel under EM cognizance from the previous baseline of 2037 to 2022 (a 15-year schedule improvement).

In FY 2005, the following activities are planned to support the accelerated cleanup of the Savannah River Site.

- Facility surveillance and maintenance activities, including sampling, radiation monitoring and nuclear safety systems maintenance will be performed to ensure compliance with Federal regulations and the facilities authorization basis.
- Basin Operation Activities – continue operation of de-ionization systems and fuel handling (loading and unloading capability), maintaining the capability to receive (at a 7 cask/month rate) and store spent nuclear fuel.
- Continue the installation of spent nuclear fuel storage racks, through FY 2006, to accommodate the projected inventory requirements.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
No metrics associated with this PBS						

Key Accomplishments (FY 2003) / Planned Milestones
(FY 2004/FY 2005)

- Continued to receive spent nuclear fuel as scheduled for storage into L-Basin, awaiting disposition (FY 2003).
- Remaining cask shipments of about 206 assemblies of Mk16/22 spent nuclear fuel will be made to H-Canyon for stabilization (March 2004).
- Maintain capability to receive and store spent nuclear fuel at the Savannah River Site in support of non-proliferation goals (September 2005).

SR-0013 / Solid Waste Stabilization and Disposition (life-cycle estimate $2,449,932K) …… 72,437 84,067 89,819

This PBS scope covers the storage, treatment and disposal functions for transuranic, low-level, mixed low-level, hazardous, and sanitary waste, as well as Pollution Prevention, Waste Minimization, Waste Certification and other waste management support functions. In addition, this project covers surveillance and maintenance activities for the Consolidated Incinerator Facility project, and general "landlord" functions, which are necessary for the general operation of the site, and care of the site's shared infrastructure components and centralized support activities. Procurement and installation of capital equipment / general plant projects, which support landlord facilities and operations, are also covered by this project.

Legacy inventories of low-level waste, mixed low-level waste, and hazardous waste will be eliminated by FY 2006. Drummed transuranic legacy waste will be eliminated by FY 2009, in accordance with the Savannah River Site Program Management Plan Initiative Waste Management-3 / Expedite Transuranic Waste Shipments to the Waste Isolation Pilot Plan. In addition, boxed / bulk transuranic legacy waste will be eliminated by 2013, in accordance with the Savannah River Site Performance Management Plan Initiative Waste Management-4 / Accelerate Risk Reduction through Expedited Management of High-Activity Transuranic Waste. Also, this scope will cover surveillance and maintenance activities for the Consolidated Incinerator Facility, through FY 2009, while working toward decommissioning of the facility at that time. Alternative disposal options for PUREX (i.e., Plutonium - Uranium Extraction) waste are being developed to allow the Consolidated Incinerator Facility to close, and this effort is in accordance with the Savannah River Site Performance Management Plan. It is anticipated that some level of general "landlord" functions, and procurement and installation of capital equipment / general plant projects will continue until the end-date of FY 2025.

The end-state for this project will be the shipment of all legacy transuranic waste to the Waste Isolation Pilot Plant; the treatment of PUREX waste; and the elimination of all legacy inventories and steady state disposition of newly generated low-level waste, mixed low-level waste; and hazardous waste.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

In FY 2005, the following activities are planned to support the accelerated cleanup of the Savannah River Site.

- Ship 4,000 drums (840 m^3) of transuranic waste to the Waste Isolation Pilot Plant, in addition to the continued receipt and storage of newly generated transuranic waste.
- Reduce legacy low-level waste inventory to zero, in addition to the disposal of newly-generated waste received.
- Reduce the legacy mixed low-level waste inventory to 201 m^3, in addition to disposal of newly generated waste received.
- Reduce the legacy hazardous waste inventory to 30 m^3, in addition to disposal of newly generated waste received.
- Continue the initiative for stabilization of organic PUREX solvent/waste, with treatment beginning by FY 2007.
- Maintain effective Waste Minimization and Waste Certification programs.
- Complete necessary common site infrastructure projects for continued operations in support of site missions.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Transuranic Waste Shipped for Disposal at WIPP (m^3)	1,263	840	840	3,139	15,326	20%
Low-Level and Mixed Low-Level Waste Disposed (m^3)	12,682	10,744	10,364	80,848	219,320	37%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY2005)

- Established the capability to perform limited sort and segregation of drummed transuranic waste using the existing Transuranic Waste Visual Examination Facility (FY 2003).
- Disposed of approximately 12,000 m^3 of low-level waste/mixed low-level waste (FY 2003).
- Selected treatment method for organic PUREX stabilization (FY 2003).
- Transuranic Waste – included receipt of new waste from generators and storage, receipt of all transuranic waste from Mound Site Closure, and 144 transuranic waste shipments to the Waste Isolation Pilot Plant (4,000 drums/840 m^3) (FY 2003).
- Hazardous Waste - the legacy inventory remained constant; newly generated waste received was dispositioned (FY 2003).
- Complete 144 shipments of transuranic waste to the Waste Isolation Pilot Plant (4,000 drums/840 m^3) (September 2004).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Dispose of 10,744 m^3 of low-level waste/mixed low-level waste (September 2004).
- Complete 144 shipments of transuranic waste to the Waste Isolation Pilot Plant (4,000 drums/840 m^3) (September 2005).
- Dispose of 10,364 m^3 of low-level waste/mixed low-level waste (September 2005).

SR-0014C / Radioactive Liquid Tank Waste Stabilization and Disposition-2035 (life-cycle estimate $11,867,072K)…….. 443,165 515,871 432,197

This PBS supports the mission of the high-level waste program, at the Savannah River Site, to safely and efficiently treat, stabilize, and dispose of approximately 37 million gallons of legacy highly radioactive waste. This waste is stored in 49 underground storage tanks (approximately 33.1 million gallons of radioactive salt waste and 3.9 million gallons of radioactive sludge waste). In addition, the Savannah River Site will: reduce the volume of high-level waste by evaporation to ensure that storage tank space is available to receive additional legacy waste volume from on-going nuclear material stabilization and waste processing activities; pretreat the high-level waste by segregating the waste into sludge, low curie salt, low curie salt with higher actinide content, and high curie salt with higher actinide content allowing less costly treatment methods to be used on the waste containing lower curie levels (radioactivity) and shorter lived radionuclides; vitrify sludge and high curie/high actinide high-level waste into canisters and then store and ship the canisters to the Federal Repository for final disposal; treat and dispose the low-level waste fraction resulting from high-level waste pretreatment as Saltstone grout; treat and discharge evaporator overheads through the effluent treat facility; empty and permanently close in place using grout all high-level waste tanks and support systems; and ensure that risks to the environment and human health and safety from high-level waste operations are eliminated or reduced to acceptable levels.

The end-state of this project will result in the permanent disposal of all the liquid high-level waste currently stored at the Savannah River Site as well as all legacy high-level waste from planned nuclear materials stabilization activities by FY 2019. It will also result in the permanent closure of the remaining 49 underground storage tanks by FY 2020 (two of the original 51 tanks have already been closed in place in FY 1997 using grout).

Because of uncertainties associated with a recent court ruling that finds the Department's plans to reclassify some high-level waste (Waste Incidental to Reprocessing) in violation of the Nuclear Waste Policy Act, the Department believes it is inadvisable to proceed with certain planned FY 2005 activities at this time. Therefore, those activities that are impacted by the court decision are presented in the High-Level Waste Proposal under the Defense Site Acceleration Completion appropriation including both the design and initial construction of the Salt Waste Processing Facility. Funding for this project will be requested only at such time as the legal issue is resolved.

In FY 2003 and FY 2004 this PBS included appropriations of $4,842,000 and $51,196,000, respectively, for design of the Salt Waste Processing Facility under line-item 03-D-414, Project Engineering and Design. Additionally, $20,139,000 was appropriated in FY 2004 and $43,827,000 is requested in FY 2005 for the construction of the Glass Waste Storage Building #2, line-item 04-D-408.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

In FY 2005, the following activities are planned to support the accelerated cleanup of the Savannah River Site.

- Fill 250 canisters with vitrified waste, complete fabrication of Melter Number 3, and place procurement contracts for Melter Number 4 at the Defense Waste Processing Facility.
- Continue preparation of Sludge Batch 4 with the removal of bulk waste from three High-Level Waste tanks.
- In support of the High-Level Waste system, continue capacity-based operation of the H and F Tank Farm Disposition and Effluent Treatment Projects.
- Continue construction of an additional high-level waste canister storage facility (Glass Waste Storage Building II) in support of accelerated Defense Waste Processing Facility production.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Liquid Waste in Inventory Eliminated (thousands of gallons)	0	1,300	1,900	3,200	33,100	10%
Liquid waste Tanks Closed (Number of Tanks)	0	2	0	4	51	8%
High-Level Waste Packaged for Final Disposition (Number of Containers)	115	250	250	1,952	5,060	39%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Completed installation of Tank 18 bulk waste removal equipment (FY 2003).
- Completed D&R of the neutralization dike and tanks at the 2H Evaporator and returned Tank 37 to service as a concentrate receipt tank for the 3H Evaporator (FY 2003).
- Completed Tank 51 receipt of americium/curium material from F-Canyon (FY 2003).
- Replaced the Defense Waste Processing Facility Glass Melter, and returned the Defense Waste Processing Facility to canister production (FY 2003).
- Implemented the 10 CFR 830 Documented Safety Analysis for the High-Level Waste Tank Farms (FY 2003).
- Restored Building 512S to operability (FY 2003).
- Produced 115 canisters of vitrified high-level waste (FY 2003).
- Regulatory close two high-level waste tanks (Tanks 18 and 19), which completes the closure of the first tank grouping (September 2004).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Produce 250 canisters of vitrified high-level waste (September 2004).
- Prepare and feed Sludge Batch 3 to the Defense Waste Processing Facility (September 2004).
- Complete 512-S modifications necessary to support Actinide Removal Salt Processing and begin hot operations with salt solutions (September 2004).
- Complete the conceptual design for an optimal scale Salt Waste Processing Facility (September 2004).
- Complete the Tank II Waste Removal Project and Bulk Waste Removal from Tank II to accelerate the preparation of Sludge Batch 4 (September 2004).
- Complete the dissolution of low curie salt in Tank 41 (September 2004).
- Pretreat and process 1,300,000 gallons of low-level radioactive salt waste into saltstone grout (September 2004).
- Initiate construction of an additional high-level waste canister storage facility (Glass Waste Storage Building II) (September 2004).
- Initiate dissolution of low curie salt in Tank 29 (September 2004).
- Produce 250 canisters of vitrified high-level waste (September 2005).
- Begin preparing tanks 4 and 6 for bulk waste removal (September 2005).
- Complete bulk waste removal in Tank 5 (September 2005).
- Prepare Sludge Batch 4 and initiate preparation of Sludge Batch 5 (September 2005).

SR-0030 / Soil and Water Remediation (life-cycle estimate $2,707,661K) …….. 107,091 68,419 123,736

The Soil and Water Remediation PBS scope includes assessment and remediation of contaminated waste sites and groundwater, thereby reducing risk to the site worker, the public, and the environment by 2026. For the 515 waste sites at the Savannah River Site, 300 were completed through FY 2003. For the remaining 215, particular attention is paid to waste sites with mobile contaminants that are or have the potential to migrate off Savannah River Site. Remediation is planned on a prioritized risk-based approach, and conducted using fundamental project management principles, risk based cleanup levels consistent with future land use and the Savannah River Site missions.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

The cleanup approach is to aggressively remove or immobilize substantial sources of contaminants and remediate contaminated groundwater using passive and natural remedies to keep the cost of the remedy in line with risk-based end-states. This supports the accelerated clean-up objectives of constructing final remedies for soil and groundwater by 2026, 12 years ahead of the previous baseline. Waste sites and groundwater will be managed such that all regulatory compliance agreements are met. Compliance agreements reflect prioritization as negotiated with the two primary regulatory oversight agencies (U.S. Environmental Protection Agency and the South Carolina Department of Health and Environmental Control). All projects will use the streamlined regulatory process developed among DOE, the Environmental Protection Agency, and South Carolina to shorten schedules, maximize innovation, and drive down cost to achieve accelerated risk reduction. This project includes the Old Radioactive Waste Burial Ground (to be completed in FY 2008) and the Dynamic Underground Stripping project (to be completed in FY 2007).

The end-state for this PBS is completion of area surface units by 2020 and completion of groundwater and surface water cleanup by 2023.

In FY 2005, the following activities are planned to support the environmental restoration of the Savannah River Site.

- Accelerate remediation of significant sub-projects including: TNX Operable Unit, D-Area Expanded Operable Unit, F and H Groundwater Barrier Wall and Base Injection, and P-Area Reactor Seepage Basins.
- Achieve field start at L-Area Hot Shop.
- Achieve major electrical and mechanical construction of dynamic underground stripping system in A/M area. Operate and maintain groundwater remediation systems.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Low-Level and Mixed Low-Level Waste Disposed (m^3)	0	0	0	206	206	100%
Remediation Complete (Number of Release Sites)	23	13	3	320	515	62%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Closed ten remaining solvent tanks at Old Radioactive Waste Burial Ground (FY 2003).
- Completed base injection pilot testing at the F-Area Seepage Basin Groundwater Unit to demonstrate in place treatment of metals (FY 2003).
- Designed the remedial action for the General Separations Area Consolidated Unit including the Old Radioactive Waste Burial Ground (FY 2003).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Mobilized the construction of Dynamic Underground Steam Stripping Project to support solvent removal in A/M Groundwater (FY 2003).
- Completed remediation at Ford Building Seepage Basin, Road A Chemical Basin, and D-Area Trash Pile (FY 2003).
- Complete the remediation of L-Area Reactor Seepage Basin and L-Area Burning Rubble Pit (September 2004).
- Accomplish major electrical and mechanical construction on Dynamic Underground Steam Stripping Project (September 2004).
- Secure temporary F-Area Groundwater Treatment Unit shutdown authorization (September 2004).
- Achieve remedial action start of the General Separations Area Operable Unit (September 2004).
- Achieve remedial action start at the P-reactor Seepage Basin (September 2004).
- Complete the closure of 13 sites (September 2004).
- Continue accelerated remediation at the Old Radioactive Waste Burial Ground, TXN Operable Unit, TNX Outfall Delta, D-Area Operable Unit, P-Reactor Seepage Basins, and A/M Groundwater (September 2005).
- Operate and provide maintenance on 13 groundwater treatment systems (four existing systems shut down and four new systems added) (September 2005).
- Complete the remedial action at P-Area Burning Rubble Pit and L-Area Hot Shop (September 2005).
- Complete closure of four release sites (September 2005).
- Achieve remedial action start for R-Area Seepage Basin (September 2005).

SR-0040 / Nuclear Facility D&D (life-cycle estimate $1,585,793K) ……..	**48,947**	**29,691**	**22,131**

The Savannah River Site has a total of 837 major facilities (both excess and operating); 25 facilities have been decommissioned and demolished in FY 2003. These facilities range in size and complexity from small storage buildings to large nuclear reactors. Decommissioning places a facility in its final end-state, and can include dismantlement, decontamination, or some other activity that makes the land available for either unrestricted use or for limited application. The draft Savannah River Site EM End-States Plan was completed in November 2003 and identified the end-states for all the facilities. The Savannah River Site Cleanup Reform Vision is to accelerate completion of the Site's Environmental Management missions and transform the Savannah River Site fully to a site focused on National Security. The overall goal is to decommission those facilities that do not support the enduring National Security mission.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

The Savannah River Site Performance Management Plan outlines specific actions that DOE is taking to accelerate cleanup from 2070 to 2025. Also included in the Performance Management Plan is an initiative (DD-1) that accelerates the demolition of virtually all currently inactive facilities outside the site's central core area by 2006 and reducing life-cycle cost by $945 million. This entails the removal of up to 72 facilities, with a footprint of over 600,000 square feet, located in the T, D, and M areas, which are inactive with no defined or anticipated future mission. This initiative is consistent with the Savannah River Site Environmental Management End-States Vision to consolidate the continuing National Security missions to the center of the site, and decommission inactive facilities in the Environmental Research Park surrounding the central core area. The previous baseline for these facilities provided for their deactivation in the 2000 to 2006 time frame followed by long-term surveillance and maintenance until 2070 when eventual decommissioning would take place.

In addition to dispositioning those facilities that have already been identified as excess, the program will aggressively pursue decommissioning strategies for facilities that are determined to be no longer necessary to support the Savannah River Site missions. For instance, F-Canyon, the Receiving Basin for Off-site Fuel and Consolidated Incinerator Facility are likely candidates to shutdown and transfer to the disposition program for decommissioning.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Savannah River Site.

- Complete evaporation activities at R Reactor Basin and complete preparations (regulatory approvals and equipment installation) for the evaporation of P Reactor Basin.
- Decommission and demolish multiple Industrial Facilities and 1 Radioactive Facilities in M, D, and F Areas.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Nuclear Facility Completions (Number of Facilities)	2	2	0	4	200	2%
Radioactive Facility Completions (Number of Facilities)	0	6	2	8	45	18%
Industrial Facility Completions (Number of Facilities)	23	23	5	51	592	9%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Decommissioned and demolished 23 industrial facilities, removed two nuclear facilities, and decommissioned and demolished five radioactive facilities (FY 2003).
- Completed the evaporation of 1 million gallons of basin water (FY 2003).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Issued the Savannah River Site Integrated Decontamination and Decommissioning Plan in April 2003. This plan defines the end states and appropriate disposition activities for all the Savannah River Site facilities (both operating and excess), and drives the priority and schedule for decommissioning activities for the 837 facilities at the Savannah River Site (FY 2003).
- Continued to stabilize the R-Reactor Basin in order to prevent contaminated basin water from leaking into the groundwater in R Area (FY 2003).
- Complete decommissioning of multiple radioactive facilities (including 322-M Metallurgical Laboratory) and industrial facilities (September 2004).
- Complete decommissioning of seven industrial and radioactive facilities (September 2005).

VL-LANL-0030 / Soil and Water Remediation-LANL (life-cycle estimate $1,067,835K) ……. 71,453 70,890 79,692

The Los Alamos National Laboratory Environmental Restoration Project resolves issues connected with historic wastes that were released into the environment since the Manhattan Project in the 1940s. More than 2,100 potential release sites spread over 43 square miles were originally identified including septic tanks and lines, chemical storage areas, wastewater outfalls, landfills, incinerators, firing ranges, surface spills, and electric transformers. Initial assessments, and grouping/consolidation for efficiency in remediation approval has reduced this number to about 1,800 sites.

The Environmental Restoration Project represented in this PBS scope is divided into eight watersheds and work within those watersheds is prioritized to assure the maximum amount of risk reduction. Since the Environmental Restoration Project began, the number of Potential Release Sites needing action has been reduced by 60 percent through active remediation or by confirming that no further characterization or cleanup action is needed. A shared commitment by the Department of Energy, University of California, New Mexico Environment Department, and the Environmental Protection Agency on risk reduction and accelerated completion will accomplish the completion of all cleanup corrective actions by 2015, and the protection of groundwater supplies at the Los Alamos National Laboratory by 2007. This commitment is documented in a Letter of Intent signed by the parties in May 2002. The Los Alamos National Laboratory Performance Management Plan (August 2002) describes the strategic initiatives, key objectives, and milestones necessary to support the completion of all Environmental Management activities at the Los Alamos National Laboratory by 2015.

The Accelerated Environmental Restoration Initiative has three objectives. They are: 1) completion of cleanup actions in the Los Alamos/Pueblo Watershed, the highest priority watershed by 2008; 2) completion of remedy implementation on the high priority material disposal areas by 2008; and 3) completion of all other activities at the Los Alamos National Laboratory by 2015. The accelerated groundwater protection initiative will: 1) complete the characterization of the regional and shallow aquifers by 2005; 2) complete monitoring well construction by 2007; and 3) establish contaminant control at high priority shallow groundwater sites by 2005.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

The end-states for the Los Alamos National Laboratory environmental restoration program is: the cleanup, protection, and monitoring of the regional aquifer; cleanup of sites within the Los Alamos site and surrounding areas to allow commercial/industrial/residential, or other land use; and the return of sites on DOE property to the landlord for future use and surveillance and monitoring as needed.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Los Alamos National Laboratory by 2015.

- Cleanups: Initiate Voluntary Corrective Actions at Technical Areas 0, 1, and 10, Airport ash pile, and Technical area 16 Ponds. Complete Voluntary Corrective Actions for Building 16-340 sumps and Airport Landfill.
- Field Work: Perform sampling for the installation of reactive barriers; Canada del Buey Sediment Investigation; Technical area 21 Investigations (7 Sites); Material Disposal Area A, U, and B; Sediment Investigation for Bayo, Guaje, Rendija, Pajarito, and Canada del Buey Canyons; surface and alluvial groundwater investigations at Water Canyon and Canyon de Valle, Sandia and Pajarito Canyons, and groundwater investigation at Potential Release Site 3-010(a) Technical Area 16-260 Outfall.
- Corrective Measures Implementation Plan: Complete Corrective Measures Study Plans for Material Disposal Area G and L; Corrective Measures Implemental Work Plan for Material Disposal Area C and H; Corrective Measures Implementation Work Plan for Technical Area 16-260 outfall surface and alluvial water; Investigation Work Plans for Material Disposal Area U and A, Bayo Canyon aggregate, Pueblo Canyon aggregate, Ancho, Chaquehui, Indio Canyons. Complete work plans for Water Canyon/Canyon de Valle, Portrillo/Fence Canyons.
- Complete Investigation Reports for Material Disposition Area G and L and Material Disposition Area B and T, Middle Mortandad/Ten-site, and Technical area 3-010(a) Groundwater Investigation.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Low-Level and Mixed Low-Level Waste Disposed (m^3)	0	0	0	5,426	5,426	100%
Remediation Complete (Number of Release Sites)	13	4	49	1,378	2,124	65%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Started Voluntary Corrective Measures plan for Outfall at Technical Area-21 Potential Release Site linked to plutonium processing (FY 2003).
- Installed permeable reactive barrier in Mortandad Canyon to protect groundwater resources (FY 2003).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Removed approximately 1,500 cubic yards of contaminated soil at Outfall 260; completed fieldwork on DP Road Site to support land transfer to the Los Alamos County; and completed Interim Action for tank removal (tritium) (FY 2003).
- Completed four deep groundwater wells (FY 2003).
- Complete the fieldwork for cleanup of Material Disposal Area T in Technical Area 21 (March 2004).
- Complete Voluntary Corrective Action at eleven sites in Technical Area 21 including removal of structures and remediation of contaminated materials at outfalls, seepage pits, septic systems, and drainage systems (September 2004).
- Complete two deep groundwater wells (September 2004).
- Complete four monitoring wells (September 2004).
- Complete alternative corrective measures analysis of all high-risk Material Disposal Area's to accelerate support of closure decisions (August 2005).
- Install one passive/reactive barrier to protect groundwater (August 2005).
- Install three deep wells (September 2005).

VL-NV-0030 / Soil and Water Remediation-Nevada Test Site and Offsites (life-cycle estimate $1,990,663K) …….. 74,410 69,071 80,940

Historic atmospheric and underground nuclear tests on the Nevada Test Site, Tonopah Test Range, the U.S. Air Force's Nevada Test and Training Range, and 8 sites in 5 states resulted in contaminated support facilities, soils and groundwater. Cleanup is complex due to the number of sites, nature/extent of contamination, site size/location and numerous state regulators. Risk associated with contaminated sites off of the Nevada Test Site is due to institutional control being outside of DOE control. Until off-Nevada Test Site contaminated sites are remediated, there is risk to public (inadvertent intruder), Air Force personnel, and the environment. The Nevada Test Site surface contamination includes 1,047 industrial sites and 27,000 acres of contaminated soil in excess of 40 pCi/g. The Nevada Test Site underground nuclear test activities (908 detonations) resulted in 132M curies of radioactivity. Approximately 1/3 of subsurface contamination is near or below the water table. Risk associated with the Nevada Test Site contaminated areas is principally limited to on-site workers due to strict administrative control.

Overall solution to remediate the Nevada Test Site and off-site soil and water includes:

- Complete remediation to support regulator closure of industrial release sites (mostly sites that were left after development of boreholes for underground tests)--eliminate access to contamination by removal and clean closure or closure in place, and capping and establishing appropriate use restrictions. Under strategic initiative number one in the Nevada Performance Management Plan, all Industrial Sites will be accelerated to completion by 9 years to FY 2008 from FY 2017 and will be turned back to the site landlord (National Nuclear Security Administration). Most sites will be open for free, unrestricted use;
- Establish 1,000 pCi/g corrective action level for contaminated soil and mitigate associated risk to human health and environment—focus on areas of the Tonopah Test Range, the Nevada Test and Training Range, and the Nevada Test Site where soil contamination is above 1,000 pCi/g. Contamination will be isolated and contained and/or removed. The Department will establish appropriate engineered barriers and use restrictions where contamination is not removed (primary method for the Nevada Test Site). Under strategic initiative number two in the Nevada Performance Management Plan, the soils project is accelerated to completion by 16 years, to 2010 from FY 2026. Sites on Air Force land will be returned to the Air Force, and sites on the Nevada Test Site will be returned to the National Nuclear Security Administration;
- Complete characterization of the Nevada Test Site subsurface–the Underground Test Area Project will complete predictive flow models and establish monitoring networks to ensure contaminated groundwater from underground nuclear tests remains within expected boundaries. Use restrictions and institutional controls will be put in place within predicted contaminant boundaries to preclude inadvertent contact with subsurface contaminants. Under strategic initiative number three in the Nevada Performance Management Plan, the Underground Test Area project is accelerated by 5 years to completion in FY 2027 from FY 2032; and
- Complete remediation activities to support regulatory closures of the surface and subsurface at eight former nuclear testing sites in Alaska, Colorado, Mississippi, Nevada, and New Mexico. Off-site surface closure eliminates potential access to contamination by removal and clean closure or closure in place, capping and establishing appropriate use restrictions--primary focus for most surface off-sites will be clean closure to allow unrestricted use by site landlords. Subsurface closure includes completing predictive flow models and establishing monitoring networks where necessary to ensure that contaminated groundwater remains within expected boundaries—associated use restrictions and institutional controls will be in place within the predicted contaminant boundaries to preclude inadvertent contact with subsurface contaminants. Under strategic initiative number four in the Nevada Performance Management Plan, the Offsites Project is accelerated by one year to FY 2014 from FY 2015.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Nevada Test Site.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- For subsurface activities on the Nevada Test Site, the Nevada Site Office plans to complete Phase 2 data analysis of hydrology, transport parameters, and the contaminant source term at Frenchman Flat; submit corrective action investigation plans on Rainier Mesa to the State of Nevada; and complete Phase 1 drilling at Rainer Mesa (estimated to require 3 wells). For subsurface activities off of the Nevada Test Site, Nevada plans to receive approval of the subsurface closure of Amchitka Island; complete the initial subsurface modeling at the Rio Blanco Site (Colorado); complete the initial field and lab data acquisition related to the Rulison Site (Colorado); and complete the Closure Report Resource Management Model for the Central Nevada Test Area subsurface.
- For surface activities on the Nevada Test Site, the Nevada Site Office plans to complete the field investigation and characterization of 5 tunnel portal areas, 2 radiation contamination areas, and 9 septic systems and discharge points; complete the remediation and closure of 10 contaminated waste areas, 12 waste disposal areas, 3 waste storage areas, 12 spill sites, and 1 explosive ordnance site. For surface activities off of the Nevada Test Site, Nevada plans to complete surface remediation at the Gasbuggy Site and submit the site closure report to the State of New Mexico.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Remediation Complete (Number of Release Sites)	41	46	48	810	2,082	39%

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY2005)

- Subsurface activities on the Nevada Test Site:
  - Completed Phase 2 well development, testing, and sampling at Frenchman Flat (FY 2003).
  - Completed Phase 1 drilling operations (installation of five wells) at Yucca Flat (FY 2003).
  - Initiated Phase 1 well development, testing, and sampling at Yucca Flat (FY 2003).
- Surface activities on the Nevada Test Site:
  - Completed field investigation and characterization of 12 storage tanks, 15 waste disposal sites, 8 landfills, 2 contaminated waste sites, 6 septic systems and discharge points, and 15 storage bunkers (FY 2003).
  - Completed closure by close-in-place or clean closure of 1 facility (decontamination and decommissioning), 12 housekeeping waste sites, 9 septic systems, 13 spill sites, 1 waste disposal area, and 4 contaminated waste sites (FY 2003).
- Complete remediation of approximately 50 out of 1,047 industrial release sites (September 2004).
- Complete Yucca Flat Phase I Laboratory Studies (October 2004).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Complete the closure of waste storage areas, spill sites, waste disposal sites, and contaminated waste sites (August 2005).
- Complete Rainier Mesa Phase 1 Drilling (September 2005).
- Complete the closure of the Amchitka Island subsurface (September 2005).

VL-NV-0080 / Operate Waste Disposal Facility-Nevada (life-cycle estimate $159,821K) ……. 7,259 5,287 5,014

Under strategic initiative number six of the Nevada Performance Management Plan, acceptance of low-level waste and mixed low-level waste will continue under EM management in support of the DOE complex until FY 2021, when activities will transition to the landlord. Individual disposal cells will be closed as they reach capacity prior to 2021. The end-state will be the closure, and capping of the disposal areas by the EM program, with subsequent monitoring and institutional control maintained by the Nevada Test Site landlord, the National Nuclear Security Administration. Closure and long-term monitoring obligations will be implemented in accordance with regulatory requirements to ensure there is no risk to workers, the public, and the environment as the result of disposed waste.

Nevada maintains the capability to dispose low-level waste from approved on- and off-site generators throughout the DOE complex and mixed low-level waste from specific generators as allowed under permit conditions as administered by the State of Nevada. Projected total Nevada Test Site low-level waste and mixed low-level waste life-cycle disposal volume from complex-wide generators is approximately 1.2M m^3. Activities include Performance Assessment/Composite Analysis maintenance in support of the Disposal Authorization Statement, safety authorization document maintenance, the Nevada Test Site waste acceptance program maintenance, required environmental monitoring/closure planning, and update/maintenance of the Nevada Test Site Resource Conservation and Recovery Act Part B Permit. Mixed low-level waste is managed according to the Resource Conservation and Recovery Act, Federal Facility Compliance Act Consent Order and Mutual Consent Agreement to reduce potential risks to human health and the environment. Mixed low-level waste management includes identifying treatment options, selecting preferred and alternative treatment methods, verifying that the waste meets acceptance criteria required by treatment and disposal sites, shipping and tracking waste through disposal. Mixed low-level waste generated by EM at the Nevada Test Site is temporarily stored pending treatment and/or disposal in accordance with the Mutual Consent Agreement. Long-term surveillance, maintenance, and monitoring of Nevada Test Site disposal areas will continue for 100 years post closure by the landlord.

Waste management disposal operations are maintained and operated in accordance with all requirements, including safety authorization bases. Nevada ensures that waste acceptance criteria are efficient, effective, and regulatory-based to protect human health and environmental safety. Performance Assessment/Composite Analysis data is maintained to ensure the site remains compliant with its Disposal Authorization Statement. State comments on the Resource Conservation and Recovery Act Part B Permit application are proactively being addressed to allow receipt of off-site generated mixed low-level waste.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

In FY 2005, the following activities are planned to support the accelerated cleanup of Nevada Test Site and the other EM sites.

- Dispose of an estimated cumulative total of 985,000 m^3 of low-level waste and mixed low-level waste at the Nevada Test Site through FY 2005.
- Continue preparations for receipt of off-site generated mixed low-level waste.
- Plan to add disposal of low-level waste from four new off-site generators.
- Accept and dispose of mixed low-level waste from other DOE sites pending approval of the Resource Conservation and Recovery Act Part B Permit by the State of Nevada.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
No metrics associated with this PBS						

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Submitted the draft Resource Conservation and Recovery Act Part B Permit application to the State of Nevada to cover receipt of mixed low-level waste from off-site generators (FY 2003).
- Continue to dispose low-level waste from complex-wide generators in support of closure of other EM sites estimated at 99,100 m^3 (September 2004).
- Continue to dispose of low-level waste from complex-wide generators in support of closure of other EM sites estimated at 83,000 m^3 (September 2005).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

VL-SPRU-0040 / Nuclear Facility D&D-Separations Process Research Unit (life-cycle estimate $245,815K)…….. 716 5,411 5,708

The Separations Process Research Unit is an inactive Atomic Energy Commission facility that supported the Manhattan Project in the early 1950s. This Unit was a chemical processing pilot plant used to test and prove the process of separating plutonium for irradiated fuel. The operation of the facilities contaminated the nuclear facilities, auxiliary structures used to manage waste, surrounding land, and groundwater in the immediate vicinity of the nuclear facilities. The cleanup project objectives as defined in the Performance Management Plan (August 2002) are to: characterize and remove the chemical and radiological contamination in the land surrounding the sites where waste was stored and address groundwater contamination, thereby cleaning up ninety percent of the facility footprint by 2006; characterize and remove the transuranic waste contained in the Separations Process Research Unit waste tanks and tank enclosures, and ship the waste to the Waste Isolation Pilot Plant facility by 2011; and characterize, decontaminate, dismantle, and demolish the nuclear facilities by 2012. After demolition, the incidental remaining land will be chemically and radiologically cleaned, restored, and returned to the Knolls Atomic Power Laboratory for continued mission use.

The end-state of the Separations Process Research Unit will be to return the land to Schenectady Naval Reactors, Knolls Atomic Power Laboratory, for unrestricted mission use. No long-term stewardship of the cleaned land areas after building demolition is anticipated.

Focus of the strategic initiatives to accelerate completion of the Separations Process Research Unit include the initiation of the radiological characterization of land and the second phase of chemical characterization of the land including groundwater characterization.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Separations Process Research Unit.

- The cleanup contractor will mobilize and demolish two release sites, including two 15,000 gallon contaminated basins (structure K5), and a contaminated concrete storage enclosure (structure K6).
- Plan to remove 75,000 m^3 of remediation waste.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Transuranic Waste Shipped for Disposal at WIPP (m^3)	0	0	0	0	50	0%
Nuclear Facility Completions (Number of Facilities)	0	0	0	0	4	0%
Remediation complete (Number of Release Sites)	0	0	0	0	6	0%

	(dollars in thousands)		
	FY 2003	FY 2004	FY 2005
Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005) ▪ Complete sampling of land area surrounding three nuclear facilities (Building 62, H2, and the tank enclosures) to identify soil and groundwater contamination (September 2004). ▪ Complete sampling of land at six release sites where waste was formerly managed (September 2004). ▪ Demolish structure K5 (September 2005). ▪ Demolish contaminated structure K6 (September 2005). ▪ Remove 75,000 m^3 of remediation waste (September 2005).			
Total, 2035 Accelerated Completions……	**1,811,563**	**1,918,375**	**1,893,339**

Explanation of Funding Changes

	FY 2005 vs. FY 2004 ($000)
CB-0080 / Operate Waste Disposal Facility-WIPP	
▪ Increase due to acceleration of waste cleanup related activities across the EM complex, which necessitates additional waste characterization systems, waste handling staff, underground mining and panel closures, and related Waste Isolation Pilot Plant facility operations……..	24,390
CB-0090 / Transportation-WIPP	
▪ Decrease due to efficiencies gained through acceleration of shipments (i.e., more TRUPACTS per shipment) and better estimating of transportation costs based on historical operational data at the Waste Isolation Pilot Plant……..	-3,243
ID-0030C / Soil and Water Remediation-2035	
▪ Decrease reflects transfer of the Title V Air Permit payment to the Defense Environmental Services appropriation, Community and regulatory Support program where it was funded prior to FY 2004……	-439

	FY 2005 vs. FY 2004 ($000)
OR-0041 / Nuclear Facility D&D-Y-12	
▪ No significant change….	516
OR-0042 / Nuclear Facility D&D-Oak Ridge National Laboratory	
▪ Decrease due to reduction in funding requirements for the Molten Salt Reactor Experiment remedial action; and the ramping down of the Bethel Valley Groundwater Action Engineering Study..	-6,982
RL-0013 / Solid Waste Stabilization and Disposition-200 Area	
▪ Increase due to the acceleration of waste management activities required by Milestone 91 Tri-Party Agreement: 1) retrieval of suspect transuranic waste from the burial grounds; 2) treatment of the mixed low-level waste in storage; and 3) an increase in transuranic waste certification and shipments to the Waste Isolation Pilot Plant.	44,895
RL-0030 / Soil and Water Remediation-Groundwater/Vadose Zone	
▪ Increase due to additional decommissioning of wells; installation of new wells to achieve compliant monitoring system and additional water line and infrastructure repair to eliminate infiltration of water into the subsurface.	5,089
RL-0040 / Nuclear Facility D&D-Remainder of Hanford	
▪ Increase due to accelerated cleanup on waste sites and facilities; waste site characterization and design activities; U-Plant regional closure activities (canyon pre-demolition, waste sites, and ancillary facility activities).	15,632
RL-0080 / Operate Waste Disposal Facility	
▪ Decrease due to lower disposal for casks by off-site generators	-3,057
ORP-0014 / Radioactive Liquid Tank Waste Stabilization and Disposition	
▪ Reflects High-Level Waste Proposal for certain activities impacted by the court's decision on the Department's plan to reclassify some waste as incidental to reprocessing	-53,328
SR-0011C / NM Stabilization and Disposition-2035	
▪ Decrease reflects 235-F project scope that was transferred to PBS SR-0011B, NM Stabilization and Disposition-2012	-28,454
SR-0012 / SNF Stabilization and Disposition	
▪ Decrease reflects expected completion of shipment of Mk 16/22 spent nuclear fuel from L-Basin to H-Canyon in FY 2004 and the expected completion of work to consolidate all Savannah River Site's spent nuclear fuel inventories in L Basin.	-10,585
SR-0013 / Solid Waste Stabilization and Disposition	
▪ Increase due to accelerated shipments of transuranic waste to the Waste Isolation Pilot Plant.	5,752

	FY 2005 vs. FY 2004 ($000)
SR-0014C / Radioactive Liquid Tank Waste Stabilization and Disposition-2035	
▪ Reflects High-Level Waste Proposal for certain activities impacted by the court's decision on the Department's plan to reclassify some waste as incidental to reprocessing……	-83,674
SR-0030 / Soil and Water Remediation	
▪ Increase is primarily due to the start of full construction for the General Separations Area Consolidated Unit closure.…….	55,317
SR-0040 / Nuclear Facility D&D	
▪ Decrease is due completion of the Savannah River Site decommissioning in FY 2004. In addition to the demolition of facilities located in D and M Area, FY 2005 activities will also include those located in F Area.……..	-7,560
VL-LANL-0030 / Soil and Water Remediation-Los Alamos National Laboratory	
▪ Increase required to support the Performance Management Plan initiatives for the acceleration of the highest priority watershed (Los Alamos/pueblo), complex material disposal areas, and groundwater protection..……..	8,802
VL-NV-0030 / Soil and Water Remediation-Nevada Test Site and Offsites	
▪ Increase reflects resumption of intensive deep groundwater well drilling activities at the Nevada Test Site, acceleration of soils cleanup activities in FY 2005, and acceleration of Gasbuggy surface remediation.…….	11,869
VL-NV-0080 / Operate Waste Disposal Facility-Nevada	
▪ No significant change. ……	-273
VL-SPRU-0040 / Nuclear Facility D&D-Separations Process Research Unit	
▪ No significant change……..	297
**Total Funding Change, 2035 Accelerated Completions…….. **	**-25,036**

Capital Operating Expenses and Construction Summary

Capital Operating Expenses

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	$ Change	% Change
Capital Equipment……	26,126	31,750	12,555	(19,195)	-60.5%
General Plant Projects……	17,544	50,537	53,746	3,209	6.3%
Total, Capital Operating Expenses……	43,670	82,287	66,301	(15,986)	-19.4%

Construction Projects

(dollars in thousands)

	Total Estimated Cost (TEC)	Prior-Year Appro-priations	FY 2003	FY 2004	FY 2005	Unappro-priated Balance
Defense Site Acceleration Completion						
2006 Accelerated Completions						
02-D-420, Pu Packaging and Stabilization, SR, SR-0011A……	21,958	20,000	1,958	0	0	0
Defense Site Acceleration Completion						
2012 Accelerated Completions						
04-D-414, Project Engineering and Design, VL……..	N/A	0	0	23,361	3,000	N/A
04-D-423, 3013 Container Surveillance and Storage Capability, SR, SR-0011B….	71,380	0	0	1,127	20,640	49,613
02-D-402, INTEC Cathodic Protection System Expansion, ID, INEEL-0014B.	5,018	2,802	1,096	1,120	0	0
01-D-416, Waste Treatment and Immobilization Plant, RP, ORP-0060..	5,781,000	1,066,171	690,000	686,036	690,000	2,648,793
Total, 2012 Accelerated Completions…	N/A	1,101,880	691,096	711,644	713,640	N/A
2035 Accelerated Completions						
04-D-408, Glass Waste Storage Building #2, SR, SR-0014C…….	71,826	0	0	20,139	43,827	7,860
03-D-403, Immobilized High-Level Waste Interim Storage Facility, RP, ORP-0014……	61,150	0	1,229	13,872	0	46,049
03-D-414, Project Engineering and Design, VL……..	N/A	0	8,615	51,198	0	N/A
01-D-414, Project Engineering and Design, VL……..	N/A	12,907	5,018	0	0	N/A
Total, 2035 Accelerated Completions…	N/A	0	14,862	85,209	43,827	N/A

04-D-414, Environmental Management, Project Engineering and Design (PED), Various Locations

(Changes from FY 2004 Congressional Budget Request are denoted with a vertical line [|] in the left margin.)

Significant Changes

This data sheet funds only subproject 04-01 in FY 2005.

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost (TEC) ($000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete	
FY 2004 Budget Request (Preliminary and Final Design)	1Q 2004	4Q 2004	N/A	N/A	TBD
FY 2005 Budget Request	"	4Q 2005	"	"	"

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
2004	23,361	23,361	11,600
2005	3,000	3,000	3,000
2006	7,265	7,265	7,265

3. Project Description, Justification and Scope

This construction project data sheet summarizes the Environmental Management requirements for architect-engineering services, preliminary design, and final design for several projects. This data sheet provides funding in fiscal year (FY) 2005 to continue projects which will be proceeding from conceptual design into preliminary design and final design during FY 2004. The design effort will be sufficient to assure project feasibility, define the scope, provide detailed estimates of construction costs based on the approved design and working drawings and specifications, and provide construction schedules including procurements.

The FY 2001 Energy and Water Development Appropriations Act directed the Department to request "project engineering and design" funds for the purpose of achieving a 30-35 percent level of engineering design for new construction projects prior to requesting construction funding. Such an advanced design should provide a more mature technical and cost baseline, ensuring greater likelihood of achieving project cost and schedule adherence.

The project baseline will be the basis for the request to Congress for authorization and appropriation for physical construction and procurement. For certain projects, in order to meet project schedules, construction and/or procurement activities may be required in the same year as the preliminary design, Project Baseline and Acquisition Executive approval is completed. For those projects, a report will be provided to Congress with the results of preliminary design, project baseline, external independent reviews and acquisition executive approval. Long-lead procurement and/or construction start will not proceed until 30 days after the report has been submitted to Congress. Each project that proceeds to physical construction will be separated into an individual construction line-item, the total estimated cost of which will identify the costs of the engineering and design activities funded through the project engineering and design account.

FY 2004 Design Projects –

04-01, 3013 Container Surveillance Capability in 235-F, Savannah River Site, Aiken, South Carolina (SR-0011B)

Fiscal Quarter				Total Estimated Cost (Design Only) ($000)	Full Total Estimated Cost Projection ($000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
1Q 2004	4Q 2005	TBD	TBD	13,247	TBD

Fiscal Year	Appropriations	Obligations	Costs
2004	2,982	2,982	2,982
2005	3,000	3,000	3,000
2006	7,265	7,265	7,265

This project will provide long-term capability for surveillance of 3013 containers in accordance with the DOE-STD-3013, including the ability to re-stabilize and re-package any off-normal materials detected during surveillance. These capabilities are needed to safely continue the plutonium storage mission at the Savannah River Site. The 235-F modifications will include installation of glove-boxes, air supply, 3013 dual can cutter, stabilization furnaces, moisture analysis equipment, inner and outer 3013 can welders, leak test equipment, digital radiography systems and miscellaneous support equipment. A significant portion of the project includes safeguards and security engineered equipment to comply with requirements for a Category I SNM facility.

This project will also increase the vault storage capacity of the 235-F Facility by 1900 positions. The increased storage capacity will house SRS and Hanford 3013 containers (pending a decision to ship these materials to SRS), and support the transfer of containers from the KAMS facility for future surveillance, significantly reducing procurement requirements for 9975 containers and transportation costs.

Significant progress has been made in realizing the Departmental goals for plutonium consolidation and storage. Currently, SRS has received all Rocky Flats materials in its recently renovated KAMS facility,

completed the FB-Line Plutonium Packaging and Stabilization construction project (October 2003), and has begun the 3013 packaging of SRS material.

Preliminary design is expected to be completed by September 2004. The current estimated cost for the project is based on recent successful experience with similar work including: the FB Line Packaging and Stabilization line item project; the K Area Material Storage project; and conceptual design work accomplished in FY 2000 and FY 2001 for a project to install a form of surveillance capability in the same 235 F facility. This project has scope that is very similar to these predecessor projects. As a result, the estimate has a reasonably high confidence level associated with it.

This project is subject to Department Order 413.3, Program and Project Management for the Acquisition of Capital Assets. Accordingly baselines for Total Project Cost will be established at the completion of preliminary design (Critical Decision 2) and after the associated external independent reviews.

4. Details of Cost Estimate

(dollars in thousands)

	Current Estimates	Previous Estimate
Design Phase		
Preliminary and Final Design Costs……..	13,247	TBD
Design Management Costs…….	0	TBD
Project Management Costs…….	0	TBD
Total, Design Phase…….	13,247	TBD

5. Method of Performance

Design, construction, and procurement may be accomplished by the Management and Operating contractor. Specific scopes of work within this project may be accomplished by fixed-price contracts awarded on the basis of competitive bidding.

The project will be conducted in accordance with the project management requirements in Department Order 413.3, Program and Project Management for the Acquisition of Capital Assets.

6. Schedule of Project Funding

(dollars in thousands)

	Prior Year	FY 2004	FY 2005	Outyears	Total
Project Cost					
Design Phase					
Project, Engineering, and Design……	0	2,982	3,000	7,265	13,247
Other Project Costs					
R&D Necessary to Complete Project…..	0	0	0	0	0
Conceptual Design Costs……..	1,220	2,080		0	3,300
Other Project-Related Costs……..	0	0	0	0	0
Total Project Cost……..	1,220	5,062	3,000	7,265	16,547

04-D-423, 3013 Container Surveillance and Storage Capability, Savannah River Site, Aiken, South Carolina (SR-0011B)

(Changes from FY 2004 Congressional Budget Request are denoted with a vertical line [|] in the left margin.)

Significant Changes

- The project has incorporated both the scope for 235-F expanded storage capability and 3013 container surveillance capability. The current name of the line item is "3013 Container Surveillance Capability." This request changes the name to "3013 Container Surveillance and Storage Capability."

1. Construction Schedule History

	Fiscal Quarter					
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete	Total Estimated Cost ($000)	Total Project Cost ($000
(Preliminary Estimate) FY 2004 Budget Request	1Q 2004	4Q 2005	2Q 2004	4Q 2006	TBD	TBD
FY 2005 Budget Request	2Q 2004	"	1Q 2005	2Q 2007	45,750	73,620

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
2004	1,127	1,127	1,127
2005	20,640	20,640	20,640
Outyears	23,983	23,983	23,983

3. Project Description, Justification and Scope

This project will provide long-term capability for surveillance of 3013 containers in accordance with the DOE-STD-3013, including the ability to re-stabilize and re-package any off-normal materials detected during surveillance. These capabilities are needed to safely continue the plutonium storage mission at the Savannah River Site. The 235-F modifications will include installation of glove-boxes, air supply, 3013 dual can cutter, stabilization furnaces, moisture analysis equipment, inner and outer 3013 can welders, leak test equipment, digital radiography systems and miscellaneous support equipment. A significant portion of the project includes safeguards and security engineered equipment to comply with requirements for a Category I SNM facility, including the new criteria for explosive entry retreat/return times for new projects.

This project will also increase vault storage capacity of the 235-F Facility by 1900 positions. The increased storage capacity will house SRS and Hanford 3013 containers (pending a decision to ship

these materials to SRS), and support the transfer of containers from the KAMS facility for future surveillance, significantly reducing procurement requirements for 9975 containers and transportation costs. In addition to significant cost reductions related to acquisition of 9975 shipping containers (a reduction of approximately 800), the Department will realize other significant cost reduction benefits. Specifically, this project is essential to enabling acceleration by more than a year the closure of the FB Line and related F Area facilities at Savannah River. This acceleration will save an estimated $120,000,000 in surveillance/maintenance, operational, and safeguards/security cost over the life of the project (most to result in the near-term). Significant savings at the Hanford site will also be realized, assuming a decision to consolidate their materials at Savannah River. These savings relate to avoiding the need to construct interim storage facilities for Hanford's Pu bearing materials and provide on-going safeguards and security for protection of the materials. These additional savings, while not specifically quantified at this time, would recur annually and are estimated to be considerable.

Significant progress has been made in realizing the Departmental goals for plutonium consolidation and storage. Currently, SRS has received all Rocky Flats materials in its recently renovated KAMS facility, completed the FB Line Plutonium Packaging and Stabilization construction project (October 2003), and has begun the 3013 packaging of SRS material.

Preliminary design is expected to be completed by September 2004. The current estimated cost for the project is based on recent successful experience with similar work including: the FB Line Packaging and Stabilization line item project; the K Area Material Storage project; and conceptual design work accomplished in FY 2000/ FY 2001 for a project to install some surveillance capability in the same 235 F facility. This project has scope that is very similar to these predecessor projects. As a result, the estimate has a reasonably high confidence level associated with it.

The project is subject to DOE Order 413.3, Program and Project Management for the Acquisition of Capital Assets. Accordingly, baselines for Total Project Cost will be established at the completion of preliminary design (Critical Decision 2) and after the associated external independent reviews. Critical Decision-O (Approve Mission Need) was approved in the first quarter of FY 2004, with Critical Decision-1 (Approve Preliminary Baseline Range) expected in the second quarter of FY 2004.

4. Details of Cost Estimate

(dollars in thousands)

	Current Estimate	Previous Estimate
Facility Costs		
Preliminary and Final Design Costs	TBD	N/A
Design Management Costs		N/A
Project Management Costs		N/A
Subtotal, design costs	TBD	N/A
Construction Costs		
Advance Procurement	4,850	N/A
Construction	40,900	N/A
Subtotal construction costs	45,750	N/A
Total Estimated cost	45,750	N/A
Other Project Costs		
Other Project Costs	27,870	N/A
Total Project Cost	73,620	N/A

5. Method of Performance

Design, construction, and procurement may be accomplished by the Management and Operating contractor. Specific scopes of work within this project may be accomplished by fixed-price contracts awarded on the basis of competitive bidding.

The project will be conducted in accordance with the project management requirements in DOE Order 413.3, Program and Project Management for the Acquisition of Capital Assets.

6. Schedule of Project Funding

(dollars in thousands)

	Prior Years	FY 2004	FY 2005	Outyears	Total
Project cost					
Facility cost					
Design	0	0	0	0	0
Construction	0	1,127	20,640	23,983	45,750
Total, Facility Costs	0	1,127	20,640	23,983	45,750
Other Project Costs					
R&D necessary to complete project	0		0	0	0
Conceptual Design Costs	0		0	0	0
Other Project-Related Costs	0	14,020	4,250	9,600	27,870
Total, Other Project Costs	0		0	0	0

(dollars in thousands)

	Prior Years	FY 2004	FY 2005	Outyears	Total
Total, Project Costs (TPC)	0	15,147	24,890	33,583	73,620

7. Related Annual Funding Requirements

(dollars in thousands)

	Current Estimate	Previous Estimate
Annual Facility Operating Costs	11,000	TBD
Annual Facility Maintenance and Repair Costs	2,000	TBD
Annual Utility Costs	2,000	TBD
Total, related annual funding *(operating from FY 2004 through FY 2007)*	15,000	TBD

01-D-416, Waste Treatment and Immobilization Plant
Hanford Site, Washington (TW-06LT)

(Changes from FY 2004 Congressional Budget Request are denoted with a vertical line [|] in the left margin.)

Significant Changes

- The Total Estimated Cost for the Waste Treatment and Immobilization Plant has increased from $4,350,000,000 to $5,781,000,000 (33 percent increase, $1,431,000,000).
- The increased total estimated cost of the plant reflects the evolution of design from 10 percent to 40 percent, enhancements in plant capability to accelerate the cleanup mission, project performance issues, and schedule adjustments due to the above plus overly aggressive targets. In addition, project contingency has been increased to provide high confidence that the project can be accomplished on schedule and within cost, using a risk-mitigation strategy per DOE Order 413.3, *Program and Project Management for the Acquisition of Capital Assets.*
- The contractor has experienced unfavorable cost and schedule performance in the areas of engineering, construction productivity, and work quality. The project control system identified schedule deterioration, but did not accurately predict the cumulative impact on cost and schedule until late CY 2002.
- To support Strategic Initiative 2 in the Hanford Performance Management Plan, the Waste and Immobilization Treatment Plant configuration has been changed from one (1) high-level waste melter and three (3) low-activity waste melters to two (2) high-level waste melters and two (2) low-activity waste melters.
- The enhanced plant will have the capability to separate all the Hanford tank waste into high-level and low-activity fractions, vitrify the entire high-level fraction, and vitrify a substantial portion of the low-activity fraction.
- The limitation in low-activity waste treatment capability is being offset by the development and deployment (under a separate contract) of supplemental low-activity waste treatment technologies including containerized grout, bulk vitrification, and steam reforming.
- The combination of the enhanced plant and the supplemental low-activity waste treatment eliminates the need to construct a second vitrification facility to complete the Hanford cleanup mission. This modified plan is a cost-effective way to accelerate completion of all tank waste treatment and immobilization from 2046 to 2028 with a life-cycle cost savings of up to $20,000,000,000.

The Waste Treatment and Immobilization Plant contract has been renegotiated to incorporate the enhanced plant features, and to require the contractor to deliver a plant that meets or exceeds specified performance standards, while meeting the schedule and cost in order to earn fee. The modified contract no longer guarantees a minimum fee for work performed.

The project schedule adjustments will result in delays to intermediate Tri-Party Agreement milestones for assembly of the low activity waste melters and start of hot commissioning (about 20 months and 24 months, respectively). These milestones are being renegotiated with the State of Washington and the Environmental Protection Agency. However, the plant completion date will remain the same (2011).

1. Construction Schedule History

	Fiscal Quarter					
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete	Total Estimated Cost ($000)	Total Project Cost ($000)
FY 2001 Budget Request (Title 1 Baseline)[a]	4Q 1998	2Q 2005	1Q 2001	1Q 2007	5,466,000	12,488,000
FY 2002 Budget Request[b]	"	"	3Q 2002	"	4,350,000	4,350,000
FY 2003 Budget Request	"	"	"	"	"	"
FY 2004 Budget Request	"	"	4Q 2002	"	"	"
FY 2003 Congressional Notification	"	"	"	3Q 2008[c]	5,781,000	5,781,000
FY 2005 Budget Request	"	"	"	"	"	"

[a] Total Project Cost/Total Estimated Cost based upon Privatization concept and included plant operations through FY 2018.

[b] The FY 2002 Total Project Cost/Total Estimated Cost based on traditional government construction contract.

[c] The change in construction completion date is due to schedule adjustments for overly aggressive targets that have resulted in engineering and quality problems. However, the project completion date will remain the same (2011).

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
Prior Year	393,673[a]	370,974	370,974
2001	401,171[b]	401,171	226,311
2002	665,000	665,000	488,469
2003	690,000[c]	690,000	713,000
2004	686,036[d]	686,036	843,000
2005	690,000	690,000	845,000
2006	690,000	690,000	700,000
2007	690,000	690,000	690,000
2008	488,292	488,292	494,610
2009	430,456	430,456	420,000
2010	350,045	350,045	360,610

3. Project Description, Justification and Scope

Radioactive waste has been stored in large underground storage tanks at the Hanford Site since 1944. Approximately 53 millions gallons of waste containing approximately 240,000 metric tons of processed chemicals and 172 mega-curies of radionuclides are currently stored in 177 tanks. These caustic wastes are in the form of liquids, slurries, saltcakes, and sludge. The Waste Treatment and Immobilization Plant will separate all of the highly radioactive tank waste into a high-level and low-activity fractions. The plant will stabilize (vitrify) all the high-level fraction and a substantial portion of the low-activity fraction. Supplemental technologies (under a separate contract) are planned for treatment of the remaining low-activity waste to allow completion of the Hanford tank waste cleanup program by 2028.

The River Protection Project is managed by the Office of River Protection at the Hanford site in Washington State. The River Protection Project also includes efforts to resolve a number of safety concerns and technical issues. Of particular interest is the need to address past leakage from some of the underground storage tanks. The leakage has resulted in contamination of the underlying soil column (vadose zone) and recent reports indicate that some of the leakage has reached the groundwater. Storage in the current tanks is very costly, and as the tanks age, the potential for radioactive and chemical release will increase, although short-term risks are low. The River Protection Project will substantially decrease the long-term costs and provide protection of

[a] Prior Years appropriated under EM Privatization account reflect $97,000,000 Congressional Rescission in the FY 2001 Appropriation. These appropriation, obligation, and cost estimates are not included in line-item 01-D-416 Total Estimated Cost or Total Project Cost.

[b] Reflects FY 2001 Rescission of $829,000 and FY 2001 Supplemental Appropriation of $25,000,000. The original appropriation was $377,000,000.

[c] Reflects approved reprogramming to increase the FY 2003 Appropriation from $606,018,433 to $690,000,000 to meet project requirements.

[d] Reflects Government-wide Rescission of $3,964,000.

public health and safety and the environment by removing the waste from the tanks and placing it in a waste form suitable for long-term disposal.

The River Protection Project is implementing cleanup under two contract vehicles.

- The Tank Farm Contractor provides for safe storage and retrieval of tank wastes, storage and disposal of immobilized waste, decontamination and decommissioning of tanks, and initiation of post closure monitoring of the tank farms.

- The Waste Treatment Contractor is to design, construct, and commission a Waste Treatment and Immobilization Plant and support transition of the plant into full operation. Operation of the Waste Treatment and Immobilization Plant is planned to be under a separate contract awarded after commissioning.

The River Protection Project pathway for cleanup is documented in the Hanford Federal Facility Agreement and Consent Order, commonly known as the Tri-Party Agreement. Under the Tri-Party Agreement, the Department of Energy, the U.S. Environmental Protection Agency, and the Washington State Department of Ecology have agreed to a timetable for cleanup of the Hanford Site. Major objectives are to complete hot commissioning of the Waste Treatment and Immobilization Plant by 2011, to immobilize approximately 10 percent of the tank waste by mass and 25 percent of the tank waste by radioactivity by 2018, and to complete immobilization of all tank waste by 2028. These milestones will be met with plant enhancements and with the adoption of supplemental technologies for treatment and immobilization of some of the waste. However, intermediate milestones for assembly of the low activity waste melters and start of hot commissioning will be delayed (about 20 months and 24 months, respectively). These milestones are being renegotiated with the State of Washington and the Environmental Protection Agency. However, the plant completion date will remain the same (2011).

Bechtel National, Inc., the Waste Treatment Contractor, will continue design work including development of all structural, mechanical, electrical, and process drawings to a degree of detail sufficient for construction of a plant that will meet the Department's functional specifications and achieve efficient and effective operability to successfully process the tank waste. The Waste Treatment Contractor will also commission the plant, demonstrating treatment of a small portion of the Hanford tank wastes.

Prior to or during commissioning, the Department will award a separate contract to operate the Waste Treatment and Immobilization Plant.

The Waste Treatment Contractor will: complete process and facility design; perform construction and procurement; conduct acceptance testing; select and integrate a subcontractor into the project team to provide the necessary operability and commissioning capability; and conduct all required environmental, safety, quality, and health actions. From contract award, the Waste Treatment Contractor is the design authority responsible for the design of the plant.

The Waste Treatment and Immobilization Plant Complex currently consists of five major facilities: Pretreatment facility, Low-Activity Waste facility, High-Level Waste facility, Analytical Laboratory, and the Balance of Facilities. The Pretreatment facility separates the tank waste feed waste into low-activity and high-level fractions. The high-level fraction will be sent to the High-Level Waste facility for immobilization (i.e., into glass), ready for disposal at a national geologic repository. A substantial portion of the low-activity fraction will be sent to the Low-Activity Waste facility for immobilization, ready for disposal at the Hanford Site. The Analytical Laboratory will provide real-time analytical support for plant operations. Office facilities, chemical storage, site utilities, and infrastructure (e.g. steam plant, power distribution center, etc.) are provided as part of the Balance of Facilities.

The Performance Management Plan for Accelerated Cleanup of the Hanford Site articulates key milestones and commitments to accelerate risk reduction and site cleanup. Strategic Initiative 2 of the plan includes enhancements to the Waste Treatment and Immobilization Plant and supplemental facilities to accelerate immobilization of high-level radioactive waste 18 years ahead of schedule, saving up to $20,000,000,000. The Department renegotiated the Waste Treatment and Immobilization Plant contract to require the Waste Treatment Contractor to incorporate the acceleration initiatives, to minimize non-essential scope elements to save costs but with assured plant reliability and operability, and to address performance issues. The renegotiated contract and the contractor's March 2003 Project Forecast are aligned to the Department's acceleration initiatives. The Department approved the renegotiated contract and the baseline. The estimated cost for design, construction and commissioning the Waste Treatment and Immobilization Plant is approximately $4,856,000,000. With $550,000,000 for jointly managed project contingency, $100,000,000 for technical and programmatic risk, $225,000,000 for estimated Waste Treatment Contractor fee, and $50,000,000 for transition costs, the revised Total Estimated Cost is $5,781,000,000. This does not include work on supplemental technologies that is assigned to the Tank Farm Contractor.

The increase in the Total Estimated Cost from $4,350,000,000 to $5,781,000,000 reflects the evolution of design from 10 to 40 percent, enhancements in plant capability to accelerate the cleanup mission, project performance issues, and schedule adjustments due to the above plus overly aggressive targets. In addition, project contingency has been increased to provide a high confidence that the project can be accomplished on schedule and within cost, using risk-mitigation strategies per Department of Energy Order 413.3 guidance, *Program and Project Management for the Acquisition of Capital Assets.*

Cost, schedule, and performance are key elements of the River Protection Project and this contract. The Waste Treatment and Immobilization Plant contract includes several key milestones, including completion of hot commissioning by January 2011. The Department included incentives in the contract to accelerate this schedule. The contract includes separate incentives for lowering project costs and for the performance elements of Waste Treatment and Immobilization Plant operations. The Office of River Protection and the contractor will jointly manage the project contingency of $550,000,000 to control project costs. This contingency, based on a risk assessment of design maturity, work complexity, and project uncertainties, provides confidence at the 80 percent level that the project can be completed on time and within the total estimated cost. An additional $100,000,000 allowance based on a Technical and Programmatic Risk Assessment analysis has also been included.

4. Details of Cost Estimate[a]

(dollars in thousands)

	Current Estimates	Previous Estimate
Design Phase		
Engineering, Research and Technology, and Environment, Safety, and Health……	1,144,000	638,644
Construction Phase		
Buildings……..	2,469,000	2,083,678
Commissioning Costs		
Pre, Cold, and Hot Commissioning……	661,000	396,603
Project Management and Support……..	582,000	346,000
Total, Design, Construction, Commissioning, and Project Management……	4,856,000	3,465,000
Contingency……	550,000	500,000
Contractor Fee……	225,000	335,000
Contract Subtotal……..	5,631,000	4,300,000
DOE Contingency and Technical and Programmatic Risk Assessment……	100,000	0
Interim Contract Operations During Transition from Privatization……..	50,000	50,000
Total……	5,781,000	4,350,000

5. Method of Performance

Schedule performance is an important requirement for the Waste Treatment and Immobilization Plant Contract. The Waste Treatment and Immobilization Plant Contract includes several key milestones, including completion of hot commissioning by January 2011. The Department seeks to improve the Waste Treatment and Immobilization Plant schedule by incentivizing the Contractor for schedule, cost reduction, and plant performance.

[a] The FY 2004 Congressional Request incorrectly reported the estimates for buildings and contingency. The "Previous Estimate" column is now accurate.

The project currently has met the intent of DOE Order 413.3 requirements for Critical Decisions 0, 1, 2, and 3. Critical Decisions 0 and 1, which established the need for waste treatment capability and the design approach, were completed under the former privatization approach. The requirement for Critical Decision 2, which establishes needed confidence in the design and cost estimate to permit final design and construction to move forward, was met during the process of selecting a contractor to complete design, construction, and commissioning of the Waste Treatment and Immobilization Plant. Critical Decisions 3a and 3b were approved in FY 2002, which authorized site preparation and initiated project construction. Critical Decision 3c, authorizing full construction of all plant facilities, was approved in April 2003.

The Department commissioned an External Independent Review of the project's readiness to continue construction of the project facilities (Critical Decision 3c). The External Independent Review Team determined technical requirements of the project would be evaluated by ongoing research and development activities to mitigate potential project risks. The Team recognized that costs appeared to be complete and reasonable and the schedule was achievable. Results indicated that the Department is proceeding down a prudent path for treating the tank wastes, and the Team recommended that the project should proceed. The modified contract contains numerous incentives to assure the Waste Treatment Contractor meets baseline cost, schedule, and performance requirements. A significant portion of the incentive fee is associated with the successful and timely hot commissioning of the facility.

The contract milestones and current baseline project milestones are included in Table 5.1.

Table 5.1
Treatment and Immobilization Milestones

Milestone Title	Date
Contract Milestones	
Start of Construction	July 10, 2002 **A**
Set Pretreatment Feed Receipt Tank	March 31, 2005
Move High-Level Waste Melter #1 into Facility	December 31, 2007
Completion of Hot Commissioning	January 31, 2011
Completion of Contract Requirements	July 31, 2011
Current Forecast Milestones	
Start Construction of the Pretreatment Facility	Nov. 26, 2002 **A**
Start Construction of the High-Level Waste Facility.....	July 10, 2002 **A**
Start Construction of the Low Activity Waste Facility ...	July 10, 2002 **A**
Complete Design of the Pretreatment Facility.....	February 22, 2007
Complete Design of the Low Activity Waste Facility.....	April 04, 2006
Complete Design of the High-Level Waste Facility	February 16, 2007
Complete Construction - Low Activity Waste.....	November 05, 2007
Complete Construction – Pretreatment	January 31, 2008
Complete Construction - High-Level Waste	November 28, 2007
Initiate Pretreatment Hot Start	December 01, 2009
Initiate Low Activity Waste Treatment Hot Start	March 01, 2010
Initiate High-Level Waste Treatment Hot Start	May 17, 2010
Complete Hot Commissioning (project end state)	January 31, 2011

A = Actual Date

6. Schedule of Project Funding

(dollars in thousands)

	Prior Year	FY 2003	FY 2004	FY 2005	Outyears	Total
Project Cost						
Facility Cost						
Design……..	482,228	338,000	256,900	178,500	470,472	1,726,100
Construction……	175,610	343,000	529,100	609,500	1,472,690	3,129,900
Total, Line-Item Total Estimated Cost…	657,838	681,000	786,000	788,000	1,943,162	4,856,000
Other Project Costs						
Conceptual Design Costs……	0	0	0	0	0	0
Other Project-Related Costs……	56,942	32,000	57,000	57,000	722,058	925,000
Total, Other Project Costs……..	56,942	32,000	57,000	57,000	722,058	925,000
Total Project Cost……..	714,780	713,000	843,000	845,000	2,665,220	5,781,000

7. Related Annual Funding Requirements

(dollars in thousands)

	Current Estimate	Previous Estimate
Annual facility operating costs (staff, utilities, etc.)[a]……	385,000	114,000
Total related annual funding (from completion of commissioning in FY 2010) ……	385,000	114,000

[a] The total operating costs for all facilities that constitute the Waste Treatment and Immobilization Plant are included in this estimate. This estimate includes maintenance, repair, and other annual costs. The basis for the revised estimate comes from the Waste Treatment and Immobilization Plant May 2002 Forecast estimate, as well as parametrics taken from current operations costs at the Defense Waste Processing Facility (DOE Savannah River Site). Detailed staffing plans were developed for each of the facilities. Support services staffing was parametrically estimated. Other Direct Cost, such as glass frit, melter replacement, utility needs, and miscellaneous supplies, were estimated based on the hot commissioning estimate. Included also is an allowance for contingency and the operating contractor's fee. The previous estimate was based on a very preliminary conceptual concept, which did not have staffing plans developed, nor were other allowances accounted for.

04-D-408, Glass Waste Storage Building #2, Savannah River Site, Aiken South Carolina (SR-0014C)

(Changes from FY 2004 Congressional Budget Request are denoted with a vertical line [|] in the left margin.)

Significant Changes

- The acquisition strategy for the Glass Waste Storage Building #2 project has changed from a Design/Build to a separate design and build. Also, DOE-SR will procure the design and construction directly without the use of the site M&O contractor.
- The Total Project Cost for this project has decreased because of the significant scope changes.

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost	Total Project Cost
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
					($000)	($000)
FY 2003 Congressional Amendment *(Preliminary Baseline Estimate)*	3Q 2003	2Q 2004	1Q 2004	2Q 2006	86,000	90,800
FY 2004 Congressional Request.....	1Q 2003	3Q 2003	3Q 2003	"	"	"
FY 2005 Congressional Request *(Acquisition Performance Baseline)*	3Q 2003	1Q 2004	2Q 2004	"	71,826	78,000

2. Financial Schedule[a]

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
2004	20,139	20,139	20,139
2005	43,827	43,827	43,827
2006	7,860	7,860	7,860

3. Project Description, Justification and Scope

High Level Waste is stored in F and H area tank farms at the Savannah River Site. The Defense Waste Processing Facility vitrifies and seals this high level waste in stainless steel canisters and transports them to the Glass Waste Storage Building #1 for storage until they can be transferred to the Federal repository. The original Defense Waste Processing Facility design and regulatory documentation included provisions for a total of three identical Glass Waste Storage Buildings at the Savannah River Site. Only one was constructed as part of the original project with two more identical Buildings to follow at intervals determined from the resultant Defense Waste Processing Facility production rates and the expected opening date of a Federal repository. Many

[a] Excludes FY 2003 PED funds of $3,774,000 appropriated to Project 03-D-414.

alternatives to the Glass Waste Storage Building were studied and 18 different concepts were given serious consideration. The present Glass Waste Storage Building concept was selected because it integrated canister production, transportation and storage for ease of operation and safety. Considerations were given to safety, cost, radiation exposure risk, failure analysis, continuous shielding and confinement of radiation. Additional studies, performed since 1998, have determined that replication of the Glass Waste Storage Building #1 for the second storage building remains the most cost effective of all the options available today. It is important to note that the system works as planned, meets the Defense Waste Processing Facility's functional performance requirements and utilizes the same transportation system. The Glass Waste Storage Building is a below-grade structure with a footprint of approximately 210 X 210 feet. It consists of four underground vaults that each contain 585 canister stands that hold the high level waste canisters. The vault walls suspend the grade level floor. The floor supports the weight of the 235,000-pound shielded canister transport and large plugs that provide access and radiological shielding of the canisters. The shielded canister transport removes the plugs, inserts the canisters through the openings in the floor, and replaces the plugs. The most radioactive canisters are expected to radiate 5,000 rem and generate 1,000 watts of heat that must be removed by a ventilation system. A superstructure, that spans the entire width and length of the building with no supporting columns except around the perimeter, protects the vaults from adverse weather. The Glass Waste Storage Building vaults and canister supports are safety class and the vaults are also safety significant as defined by DOE nuclear design requirements. This is because they protect the public and facility workers in the event of a design basis earthquake or tornado, as well as during normal operation.

The existing Glass Waste Storage Building currently has 2,159 storage locations which will be filled in June of 2006 based on the accelerated Defense Waste Processing Facility production rates. If construction does not begin in FY 2004, the Defense Waste Processing Facility will need to be stopped in FY 2006 for lack of approved storage facilities for canisters. The additional cost to the high-level waste program to place the Defense Waste Processing Facility in hot standby is approximately $100,000,000 per year.

This project includes the procurement of a design engineer contractor to update the latest design configuration to current building code requirements and other approved changes which minimize project risk. The Acquisition Execution Plan calls for a small business construction contractor working with one or more partners to build the four-vault Glass Waste Storage Building # 2 to provide needed additional high level waste canister storage in FY 2006.

The project will be conducted in accordance with the project management requirements in DOE Order 413.3, and DOE Manual 413.3-1, Program and Project Management for the Acquisition of Capital Assets.

Compliance with Project Management Order

- Critical Decision - 0: Approve Mission Need – 3Q 2002 (Complete)
- Critical Decision - 1: Approve Preliminary Baseline Range – 2Q 2003 (Complete 6-11-03)
- Critical Decision - 2: Approve Performance Baseline – 2Q 2004
- Critical Decision – 3a: Approve Start of Construction (Site Preparation) – 1Q 2004
- Critical Decision - 3: Approve Start of Construction – 2Q 2004
- Critical Decision - 4: Approve Start of Operations – 3Q 2006

4. Details of Cost Estimate

	Current Estimates	Previous Estimate
Design Phase		
Preliminary and Final Design Costs (Design Drawings and Specifications)……	2,322	0
Design Management Costs (0.43 percent of Total Estimated Cost)……	318	0
Project Management Costs (1.5 percent of Total Estimated Cost)……	1,134	0
Subtotal, Design Phase……	3,774	0
Execution Phase		
Buildings……	53,297	0
Construction Management Cost (2.5 percent of Total Estimated Cost)……..	1,890	2,100
Project Management (3.2 percent of Total Estimated Cost)……	2,419	3,200
Subcontract……	0	71,300
Subtotal, Execution Phase……	57,606	76,600
Contingencies		
Execution Phase……	14,220	9,400
Subtotal, Contingenices (18.81 percent of Total Estimated Cost)……	14,220	9,400
Total, Line-Item Cost (Total Estimated Cost)……	71,826	86,000
Other Project Costs		
Other Project Costs……	2,400	4,800
Subtotal, Other Project Costs……..	2,400	4,800
Total, Project Cost……	78,000	90,800

5. Method of Performance

The acquisition strategy is to utilize two fixed price construction contracts. One will be for design-engineering procured through an interagency agreement with the U.S. Army Corp of Engineers. The second will be a fixed price contract with a small business construction contractor. The contractor will be incrementally funded by fiscal year consistent with the profile reflected in Section 2 “Financial Schedule.” The contractor, in accordance with the procurement specification, will provide all equipment, material, labor and testing necessary to turn an operational facility over to M&O contractor. All materials needed for this project are common and readily available. No long lead times are anticipated. DOE will be responsible for procurement and management of both contractors using construction quality assurance and design contract custodial services from the U.S. Army

Corp of Engineers. The project provides for 5 months to prepare and issue a construction bid package; 6 months for bid and award of the contract, and 27 months for construction, testing, and turnover.

6. Schedule of Project Funding[a]

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	Outyears	Total
Project Cost					
Design Phase					
Design……	245	3,529	0	0	3,774
Execution……	0	20,139	43,827	7,860	71,826
Total, Design Phase……	245	23,668	43,827	7,860	75,600
Other Project Costs					
R&D Necessary to Complete Project……	0	0	0	0	0
Conceptual Design Costs……	0	0	0	0	0
Other Project-Related Costs……..	642	754	619	385	2,400
Total, Other Project Costs……	642	754	619	385	2,400
Total Project Cost……..	887	24,422	44,446	8,245	78,000

7. Related Annual Funding Requirements

(dollars in thousands)

	Current Estimate	Previous Estimate
Annual facility operating costs	190	190
Annual facility maintenance and repair costs.....	140	140
Annual utility costs	170	170
Total related annual funding *(operating from FY 2006 through FY 2026)*[b]	500	500

[a] Design funding appropriated in line item 03-D-414, Project Engineering and Design.
[b] Annual costs in FY 2003 dollars.

Safeguards and Security

Funding Schedule by Activity

(dollars in thousands)

Safeguards and Security	FY 2003	FY 2004	FY 2005	$ Change	% Change
CB-0020 / Safeguards and Security.....	3,262	3,441	4,105	664	19.3%
OR-0020 / Safeguards and Security.....	17,975	20,668	22,026	1,358	6.6%
OH-FN-0020 / Safeguards and Security.....	3,368	3,922	1,166	-2,756	-70.3%
OH-MB-0020 / Safeguards and Security.....	1,448	3,870	528	-3,342	-86.4%
OH-WV-0020 / Safeguards and Security....	2,164	2,555	2,669	114	4.5%
PA-0020 / Safeguards and Security.....	6,706	6,952	7,822	870	12.5%
PO-0020 / Safeguards and Security.....	16,976	16,021	16,138	117	0.7%
RL-0020 / Safeguards and Security.....	48,365	61,954	56,729	-5,225	-8.4%
RF-0020 / Safeguards and Security.....	44,783	28,382	16,588	-11,794	-41.6%
SR-0020 / Safeguards and Security.....	109,700	143,359	137,288	-6,071	-4.2%
Subtotal, Safeguards and Security.....	254,747	291,124	265,059	-26,065	-9.0%
Security Charge for Reimbursable Work..	-122	-121	-143	-22	18.2%
Total, Safeguards and Security.....	254,625	291,003	264,916	-26,087	-9.0%

Description

The Defense Site Acceleration Completion appropriation, Safeguards and Security program ensures appropriate levels of protection against: unauthorized access, theft, diversion, loss of custody or destruction of DOE assets and hostile acts that may cause adverse impacts on fundamental national security or the health and safety of DOE and contractor employees, the public or the environment.

Benefits

This program provides funding to ensure appropriate levels of protection against unauthorized access, theft, diversion, loss of custody or destruction of DOE assets. The benefits include the prevention of hostile acts and activities that could impact fundamental national security, the health and safety of DOE and contractor employees, the public, and the environment.

Funding is provided for EM's landlord sites, specifically Savannah River (excludes the Tritium facilities), Richland, Carlsbad/Waste Isolation Pilot Plant, Rocky Flats, Miamisburg, Fernald, West Valley Demonstration Project, East Tennessee Technology Park, Paducah Gaseous Diffusion Plant, and the Portsmouth Gaseous Diffusion Plant.

These critical sites are secured by multiple layers of security measures. Each site has a specifically designed Safeguards and Security Plan or a facility Master Security Plan, as well as Cyber Security Plan addressing the protection planning for DOE interests to include: classified information, nuclear weapons components, and special nuclear materials. In addition, Personnel Security Programs ensure the continuing reliability of employees having access to classified matter at all EM sites.

Over the past two years, the Department has made considerable investments in Safeguards and Security improvements in response to the post-September 11 changing security environment. In further recognition of the escalated threat, in May 2003, the Secretary of Energy issued a revised Design Basis Threat, which elevated the level of response capability required for protection of the DOE complex from the Department's 1999 Design Basis Threat policy. As a result of this revision, the Department of Energy is conducting in-depth assessments of complex-wide physical and cyber vulnerabilities. Although results of these systemic reviews have not been finalized, a preliminary analysis has identified a number of Safeguards and Security enhancements needed to meet the new level of protection. This FY 2005 Request includes $26,000,000 at various sites to address these requirements.

The following is a brief description of the type of activities performed:

Protective Forces
Protective Forces are the Special Police Officers and other specialized personnel that directly provide security at EM sites. Funding is requested to provide an appropriately sized force with adequate materials, supplies, equipment, facilities, training, vehicles and other required equipment to meet site security objectives.

Transportation
All security for intra-site transfers of special nuclear materials (including safe havens), weapons, and other classified material.

Physical Security Systems
Security Systems provide intrusion detection and assessment as required by DOE Orders; physical barriers, secure storage, an armed Protective Force, alarms, and closed-circuit televisions are utilized to protect classified matter; ingress and egress controls, explosive detection, and other inspection resources are used to ensure proper access authorization; and performance testing of security posture according to the approved site performance testing plan is conducted to ensure the proper level of risk is being accepted.

Information Security
Information Security provides information protection, classification and declassification of classified and sensitive unclassified information, critical infrastructure which includes alarm systems and automated process control systems, technical security countermeasures and operations security.

Personnel Security
Personnel Security encompasses the processes for administrative determination that an individual is eligible for access to classified matter, or is eligible for access to, or control over, special nuclear material. Also includes maintaining security education and awareness programs for DOE and DOE contractor employees. Security investigation activities performed by the Federal Bureau of Investigation and the Office of Personnel Management associated with access authorizations is funded by the Office of Security.

Material Control and Accountability
Material Control and Accountability provides for implementation of systems and procedures needed to address proper material inventory integrity, maintaining effective material access, data and equipment access, and maintaining material accounting policy requirements and assuring inventories are properly located, identified and quantified and appropriately stored.

Program Management
Program Management provides policy oversight and administration, planning, training, and development for the site's overall security program.

Cyber Security
The EM Cyber Security provides adequate protection for the processing, storing, or transmission of classified computer/telecommunications information, processes, methods, and tools to support certification and accreditation of secure and sensitive enterprise networks, to ensure that all DOE unclassified information resources are identified and protected in a manner consistent with the site's mission and possible threats.

Funding by Site

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	$ Change	% Change
Carlsbad Field Office					
Carlsbad Field Office	3,262	3,441	4,105	664	19.3%
Oak Ridge					
Oak Ridge Reservation	17,975	20,668	22,026	1,358	6.6%
Ohio					
Fernald	3,368	3,922	1,166	-2,756	-70.3%
Miamisburg	1,448	3,870	528	-3,342	-86.4%
West Valley	2,164	2,555	2,669	114	4.5%
Total, Ohio	6,980	10,347	4,363	-5,984	-57.8%
Paducah	6,706	6,952	7,822	870	12.5%
Portsmouth	16,976	16,021	16,138	117	0.7%
Richland					
Hanford Site	46,725	55,057	54,740	-317	-0.6%
Richland Operations Office	1,640	6,897	1,989	-4,908	-71.2%
Total, Richland	48,365	61,954	56,729	-5,225	-8.4%
Rocky Flats Environmental Technology Site	44,783	28,382	16,588	-11,794	-41.6%
Savannah River Site	109,700	143,359	137,288	-6,071	-4.2%
Subtotal, Safeguards and Security	254,747	291,124	265,059	-26,065	-9.0%
Security Charge for Reimbursable Work	-122	-121	-143	-22	18.2%
Total, Safeguards and Security	254,625	291,003	264,916	-26,087	-9.0%

Detailed Justification

(dollars in thousands)

FY 2003	FY 2004	FY 2005

CB-0020 / Safeguards and Security-Waste Isolation Pilot Plant (life-cycle estimate $187,507K)…… 3,262 3,441 4,105

The Waste Isolation Pilot Plant in Carlsbad, New Mexico, is the nation's first deep geologic repository for the permanent disposal of defense-generated transuranic waste. The scope of the Security Program at the Waste Isolation Pilot Plant includes, but is not limited to planning, administering, and executing a program that protects government assets and provides support for emergency response activities. In addition to normal safeguards and security, physical protection of transuranic waste and enhancements to the information security systems have been installed to support the receipt of classified waste from the generator sites.

The end-state of this project occurs upon the completion of waste receipt in 2030, and a five-year period for decommissioning the surface facilities and permanent closure of the underground by 2035. All security systems necessary for receipt of classified transuranic waste were operational as of January 31, 2003.

In FY 2005, the following activities are planned to support the accelerated cleanup of legacy transuranic waste.

- Provide additional staffing to support increased waste receipt from the generator sites. In addition to physical protection of the waste, enhancements to the information security systems must also be implemented.

Key Accomplishments (FY 2003)/Planned Milestones (FY 2004/FY 2005)

- Designed and installed intrusion detection systems to enable the Waste Isolation Pilot Plant to receive classified waste from Rocky Flats, in support of accelerated closure of that facility (FY 2003).
- Enhance information and record systems to support receipt of classified transuranic waste from across the complex, including secure communications and classified records storage (FY 2005).

OR-0020 / Safeguards and Security – East Tennessee Technology Park (life-cycle estimate $169,040K)…….. 17,975 20,668 22,026

The objective of the Safeguards and Security Program at East Tennessee Technology Park, which is supported by Bechtel Jacobs Company LLC and Wackenhut Services Incorporated, is to maintain a safe environment for operations, incorporate changes when made necessary by global conditions and/or DOE Order requirements, and to focus management attention on the primary safeguards and security issues.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

This PBS provides: Visitor Control, Classification, Physical Security (locks/alarm access control), Nuclear Materials Control and Accountability, Foreign National Access Control, Security Management Control System, Unclassified Computer Security, Cyber Security, and Personnel Security for the Department of Energy and its contractors at the East Tennessee Technology Park.

Protective Force personnel are employed on various fixed and mobile posts to perform normal and emergency security tasks. Information Security reviews all documents released to the public including Freedom of Information Act and Privacy Act requests, litigation responses, and ongoing environmental health investigations, and classifies/declassifies documents.

Cyber Security develops and reviews security plans and design documents for systems and networks that store classified information, performs system tests to ensure the security configuration and operations are as described in security plans, and investigates security concerns to ensure the containment of the incident, identification of the source of any security breaches, protection of classified data or information, sanitation of media, and security of media and documents. Oversight and Management of Nuclear Material Control and Accountability activities are provided.

Personnel Security provides badging support for all employees, contractors, and visitors, and visitor control. Environmental Management will continue safeguards and security funding until the East Tennessee Technology Park is closed in FY 2008.

In FY 2005, the following activities are planned to support the accelerated cleanup of the East Tennessee Technology Park.

- The specific tasks performed will be visitor control, classification, physical security (locks/alarm access control), nuclear materials control and accountability, foreign national access control, security management control system, unclassified computer security, cyber security, and personnel security for the DOE and its contractors at the East Tennessee Technology Park.

Key Accomplishments (FY 2003)/Planned Milestones (FY 2004/FY 2005)

- Hired nine additional security police officers and one supervisor, equipped and trained for employment at the East Tennessee Technology Park. This was driven by the increased security requirements after September 11, 2001 (FY 2003).
- Hired 15 additional security police officer's in support of the accelerated cleanup of Building K-25, and will hire an additional employee to address badging/clearance termination process issues (FY 2003).
- Prepare an implementation plan for the Design Basis Threat (FY 2004).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

OH-FN-0020 / Safeguards and Security – Fernald (life-cycle estimate $20,375K)……. 3,368 3,922 1,166

The Safeguards and Security Program is comprised of three primary activities: Protective Forces, Material Control and Accountability, and Cyber Security. An unarmed protective force activated 24 hours/7 days a week provides protective force patrols, access controls, searches, badge verification, administrative controls, physical barriers, perimeter fence maintenance, employee awareness, tamper protection monitoring, and performance testing of security systems. Material Control and Accountability programs provide inventory control and surveillance of uranium materials (product as well as waste) awaiting off-site disposition. Cyber Security includes development and implementation of computer security policies and procedures, random/specific sampling of user files and Internet access, and computer security protection measures in the configuration of hardware and software.

In FY 2005, the following activities are planned to support the accelerated cleanup of Fernald.

- Maintain an unarmed protective force activated 24 hours/7 days a week.
- Maintain cyber security.

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Maintained Heightened Security Posture (SECON 3 Modified) (FY 2003).

OH-MB-0020 / Safeguards and Security – Miamisburg (life-cycle estimate $33,654K)…… 1,448 3,870 528

At the end of FY 2003, only mission-required DOE security interests remain on-site. All classified matter is projected to be shipped off-site or destroyed by March 2004. The safeguards and security project has been effective in maintaining access controls and perimeter security of the site, as well as ensuring general site security for personnel and information technology systems.

In FY 2005, the following activities are planned to support the accelerated cleanup of Miamisburg.

- Due to the extensive reduction in the security footprint at the site, FY 2005 Safeguards and Security general workload activities are limited to Cyber Security, Visitor Control, Personnel Security, and Program Management.

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Continued to maintain only the required level of Nuclear Material Control, Cyber Security, Protective Force, Clearance Programs and Visitor Control, and Classification Office (FY 2003).
- Initiated an aggressive schedule to reduce Security operations and requirements at the site to enable accelerated remediation and transition of facilities and release site remediations (FY 2003).

(dollars in thousands)

	FY 2003	FY 2004	FY 2005
▪ Completed a Classified Document Consolidation Project that converted approximately 2 million pages of classified records to a searchable electronic media capable of supporting project work/remediation in current and former classified areas (FY 2003). ▪ Conducted numerous classification reviews, including decontamination and decommissioning work packages, litigation documents, photographs and documents for potential public release (FY 2003). ▪ Reduced security staffing to reflect reductions in all phases of work, including reduced numbers of security clearances, reduction of nuclear materials on-site and elimination of several Limited Security Areas (FY 2003). ▪ Developed innovative methods to support various projects by adjusting gate access controls and reconfiguring traffic patterns (FY 2003). ▪ Responded in cost effective manner to heightened SECON conditions (FY 2003). ▪ Effectively integrated with Emergency Management in support of Hazardous Transportation to various off-site locations (FY 2003).			

OH-WV-0020 / Safeguards and Security – West Valley (life-cycle estimate $53,600K)……. 2,164 2,555 2,669

The Safeguards and Security Program at the West Valley Demonstration Project includes those activities required to provide General Security, Physical Security, and Cyber Security for all project activities in accordance with applicable DOE standards and regulations. The West Valley Demonstration Project safeguards and security program provides for a secure working environment during execution of the Project.

This scope will be considered complete once DOE's mission at the West Valley Demonstration Project is complete, currently estimated at 2035.

The safeguards and security program has successfully maintained access controls and perimeter security of the site, as well as ensured general site security for personnel and information technology systems.

In FY 2005, the following activities are planned to support the accelerated cleanup of /West Valley.

- Provide general security, physical security, and cyber-security for the West Valley Demonstration Project in accordance with all applicable DOE standards, rules, and regulations.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Provided general security, physical security, and cyber-security for the West Valley Demonstration Project in accordance with all applicable DOE standards, rules, and regulations (FY 2003).
- Continue to support the accelerated site closure by focusing on the reduction of limited areas, classified holdings, nuclear materials inventories, and clearances (FY 2004).
- Continue to support the accelerated site closure by conducting general workload activities, such as cyber security, visitor control, personnel security, and program management (FY 2005).

PA-0020 / Safeguards and Security – Paducah (life-cycle estimate $146,556K)……. 6,706 6,952 7,822

This project provides: Visitor Control, Classification, Personnel Security, Physical Security (locks/alarms, access control), Information Security, COMSEC, Nuclear Materials Control and Accountability, Operations Security, Technical Surveillance Countermeasures, Safeguards and Security Awareness Program, Foreign National Visits/Assignments Management, a Security Management Control System, Classified Computer Security; Personnel Security and review of incidents and infractions (many of which involve legacy issues with decontamination, decommissioning, and demolition and DOE Material Storage Areas projects) for the DOE and its contractors at the Paducah Gaseous Diffusion Plant.

Protective Force personnel are employed on various fixed and mobile posts to perform normal and emergency security tasks. Classification and operations security review all documents released to the public including Freedom of Information Act and Privacy Act requests, litigation responses, and ongoing environmental health investigations, and classify/declassify documents. Oversight and management of nuclear materials control and accountability activities is provided. Personnel security provides badging support for all employees, contractors, and visitors and visitor control. This project is expected to continue as long as DOE and the United States Enrichment Corporation have a site presence.

In FY 2005, the following activities are planned to support the accelerated cleanup at Paducah Gaseous Diffusion Plant.

- Provide security services for personnel, equipment, information, matter, and special nuclear materials relating to DOE missions, to include decommissioning, decontamination, and demolition activities.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Provided enhanced security services for personnel, equipment, information, matter and special nuclear materials relating to DOE missions, to include decommission and decontamination activities at the Paducah Gaseous Diffusion Plant (FY 2003).
- Prepare an implementation plan for the Design Basis Threat (FY 2004).

PO-0020 / Safeguards and security – Portsmouth (life-cycle estimate $112,795K)…… 16,976 16,021 16,138

This PBS provides an integrated Safeguards and Security Program which includes the following program elements: Protective Forces; Physical Security Systems to include sub-elements barrier/secure storage/locks and entry control/access controls; Information Security to include sub-elements information protection, classification/declassification, technical surveillance countermeasures, and operations security; Personnel security including subtopics clearance program, security awareness, and visit control; Material Control and Accountability; Program Management which includes planning, professional training and development, and policy oversight and administration; Cyber Security which includes classified computer security and communications security.

Protective Force personnel are employed on various fixed and mobile posts to perform normal and emergency security tasks. Information security includes protection of classified and unclassified sensitive information and classification, declassification and review of documents for release to the public including Freedom of Information Act and Privacy Act requests, litigation responses (limited number). Cyber Security includes the maintenance of one stand-alone desktop computer approved for classified processing. Oversight and management of Nuclear Material Control and Accountability activities is provided. Personnel Security provides processing access authorizations, security education and awareness and badging support. This project is expected to continue as long as DOE and the United States Enrichment Corporation have a site presence.

In FY 2005, the following activities are planned to support the accelerated cleanup at Portsmouth.

- Provide protective force services through a work authorization with the United States Enrichment Corporation.
- Provide Protective Force and Classification Office Support for Bechtel Jacobs Company activities during Gaseous Centrifuge Enrichment Plant Cleanout.
- Maintain Security Conditions (SECON) appropriate to the threat.
- Continue Large Scale Classification Review.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY2005)

- Supported cleanup activities at Portsmouth (FY 2003).
- Provided protective force services through a work authorization with the United States Enrichment Corporation (FY 2003).
- Maintained security conditions appropriate to the threat (FY 2003).
- Prepare an implementation plan for the Design Basis Threat (FY 2004).
- Maintain security conditions (SECON) appropriate to the threat (September 2005).
- Continue large scale classification (September 2005).
- Support cleanup activities at Portsmouth (September 2005).
- Provide protective force services through a work authorization with the United States Enrichment Corporation (September 2005).

RL-0020 / Safeguards and Security – Richland (life-cycle estimate $1,700,294K)……. 48,365 61,954 56,729

The Safeguards and Security Program includes the following key activities: enhancements to the Cyber Security Program; assistance in the Alternative Storage Process; support to the Fast Flux Test Facility de-fueling efforts; development of detailed plans to eliminate the Plutonium Finishing Plant Protected Area upon removal of all Category I & II special nuclear material.

The end-state of this project occurs upon closure of the Hanford EM mission in 2035. Requirements will be markedly reduced in FY 2006 due to acceleration of de-inventory of the Plutonium Finishing Plant and de-fueling of the Fast Flux Test Facility.

In FY 2005, the following activities are planned to support the accelerated cleanup at Richland.

- Support shipment of spent nuclear material from the Plutonium Finishing Plant to the Savannah River Site and elimination of one Material access Area within the Plutonium Finishing Plant.
- Enhancement of cyber security through integration of leading edge technologies.
- Support Hanford Site security clearances and other security activities.
- Implement the Design Basis Threat.

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Operated in a heightened security condition per Headquarters direction (FY 2003).
- Began Cyber enhancements to: include/provide secure encrypted communications between host and client; employ the use of terminal server technology; and place network sniffers in key, high traffic points on the network (FY 2003).

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Performed risk assessments for requests for termination of safeguards on attractiveness level C material and for classified material and burial trenches (FY 2003).
- Developed a Security Conditions (SECON) Implementation Process for SECON One, Continuity of Operations Planning, and Headquarters EM Standing Orders (FY 2003).
- Prepare an implementation plan for the Design Basis Threat (FY 2004).

RF-0020 / Safeguards and Security – Rocky Flats (life-cycle estimate $350,123K)…… 44,783 28,382 16,588

The goal of this PBS is to keep plutonium and classified matter safe, secure, and out of the hands of unauthorized groups or individuals and to protect government property at Rocky Flats. This PBS funds activities for the purpose of protecting DOE security interests. Activities fall into the following areas: Protection Program Operations, Nuclear Material Control and Accountability, Information Security, Personnel Security, and Cyber Security.

Completion of key milestones will reduce safeguards and security costs as the number of Material Access Areas are eliminated in early FY 2004, enabling the site to transition to an industrial security posture consistent with a Property Protection Area, which will continue through the completion of the project. The following are the key milestones, as identified in PBS RF-0011, NM Stabilization and Disposition, for reducing the effort associated with this PBS: complete off-site shipment of Category I and II quantities of special nuclear material, Building 371 Material Access Area Closure, Protected Area Closure, classified material shipped off-site; complete off-site transuranic waste shipments; and complete Building 371 closure.

In FY 2005, the following activities are planned to support the accelerated cleanup at the Rocky Flats Environmental Technology Site.

- Continue to fund protection program operations, personnel security, information security, computer security, access control, and nuclear material control and accountability activities. These activities are necessary to ensure the security of people working on site, the security of remaining classified material, the accountability of nuclear matter being disposed of as transuranic and low-level waste, and being able to respond appropriately if a category I or II quantity of Special Nuclear Material is found during decontamination and decommissioning of the plutonium buildings.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Reductions in security requirements were not achieved as quickly as planned due to delays in shipping special nuclear materials to South Carolina, and the increased security posture of the site after the terrorist attacks of September 11, 2001. The site has achieved some cost efficiencies in its response to the terrorist attacks, and continued to seek further cost efficiencies in FY 2003 (FY 2003).

SR-0020 / Safeguards and Security – Savannah River (life-cycle estimate $1,791,884K)…… 109,700 143,359 137,288

The mission of Wackenhut Services, Inc. is to provide protective force security of our nation's nuclear weapons stockpile and nuclear material, and to protect people and the environment. Protection Program Operations encompasses those activities that protect the entire site to include: the Protective Force (Security Police Officers), Access Control, Alarm Response, Aviation Operations, and the Special Response Team. The Westinghouse Savannah River Company provides safeguards and security support for the strategic plan elements of national security and non-proliferation by providing policy direction, documentation, technical support and oversight of an integrated system of activities, programs, and facilities including Material Control and Accountability. Reimbursable work is included in the estimates above; the amount for FY 2005 is estimated at $143,000.

In FY 2005, the following activities are planned to support the accelerated cleanup at the Savannah River Site.

- Maintain appropriate uniformed protective force personnel, physical security protection systems including a canine team and an explosive detection capability, Information Security and Operational Security for the protection of classified and sensitive information, Cyber Security for the protection of classified and unclassified computer security, Personnel Security for initial and re-investigations, and security education, and Program Management for overall assessment and performance testing and indirect functions such as accounting, contracts, compensation, and benefits, etc.

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

- Completed conceptual design work for perimeter barricade upgrades at the Jackson entrance (FY 2003).
- Completed Entry Control upgrades at north gates in F and h areas (FY 2003).
- Completed revision of Material Control and Accountability requirements at the 247 F facility enabling turnover to the decontamination and decommissioning program (FY 2003).
- Prepare an implementation plan for the Design Basis Threat (FY 2004).

	(dollars in thousands)		
	FY 2003	FY 2004	FY 2005
Total, Safeguards and Security……	**254,747**	**291,124**	**265,059**

Detailed Funding Schedule

	(dollars in thousands)				
	FY 2003	FY 2004	FY 2005	$ Change	% Change
Carlsbad Field Office/Waste Isolation Pilot Plant					
Protective Forces……	2,990	3,133	3,569	436	13.9%
Physical Security Systems……..	31	0	143	143	100.0%
Information Security……	57	129	186	57	44.2%
Personnel Security……..	0	21	22	1	4.8%
Program Management……	148	120	145	25	20.8%
Subtotal, Physical Security……	3,226	3,403	4,065	662	19.5%
Cyber Security……..	36	38	40	2	5.3%
Total, Carlsbad Area Office……	3,262	3,441	4,105	664	19.3%
Oak Ridge/East Tennessee Technology Park					
Protective Forces……	12,465	14,307	14,368	61	0.4%
Physical Security Systems……	1,727	1,975	1,889	-86	-4.4%
Information Security……	1,065	1,261	1,259	-2	-0.2%
Personnel Security……..	437	557	534	-23	-4.1%
Material Control and Accountability……..	852	1,082	1,068	-14	-1.3%
Program Management……	489	516	1,681	1,165	225.8%
Subtotal, Physical Security……	17,035	19,698	20,799	1,101	5.6%
Cyber Security……..	940	970	1,227	257	26.5%
Total, Oak Ridge/East Tennessee Technology Park……	17,975	20,668	22,026	1,358	6.6%

	(dollars in thousands)				
	FY 2003	FY 2004	FY 2005	$ Change	% Change
Ohio/Fernald					
Protective Forces	2,803	3,685	1,119	-2,566	-69.6%
Material Control and Accountability	418	197	35	-162	-82.2%
Subtotal, Physical Security	3,221	3,882	1,154	-2,728	-70.3%
Cyber Security	147	40	12	-28	-70.0%
Total, Ohio/Fernald	3,368	3,922	1,166	-2,756	-70.3%
Ohio/Miamisburg					
Protective Forces	875	2,381	281	-2,100	-88.2%
Physical Security Systems	53	226	58	-168	-74.3%
Information Security	60	266	0	-266	-100.0%
Personnel Security	0	181	20	-161	-89.0%
Material Control and Accountability	107	52	0	-52	-100.0%
Program Management	273	390	81	-309	-79.2%
Subtotal, Physical Security	1,368	3,496	440	-3,056	-87.5%
Cyber Security	80	374	88	-286	-76.5%
Total, Ohio/Miamisburg	1,448	3,870	528	-3,342	-86.4%
Ohio/West Valley					
Protective Forces	1,317	1,295	1,480	185	14.3%
Program Management	405	600	470	-130	-21.7%
Subtotal, Physical Security	1,722	1,895	1,950	55	2.9%
Cyber Security	442	660	719	59	8.9%
Total, Ohio/West Valley	2,164	2,555	2,669	114	4.5%
Paducah					
Protective Forces	4,333	4,658	4,541	-117	-2.5%
Physical Security Systems	804	266	279	13	4.9%
Information Security	798	1,072	1,098	26	2.4%
Personnel Security	150	373	260	-113	-30.3%
Material Control and Accountability	277	286	293	7	2.4%
Program Management	344	297	1,351	1,054	354.9%
Subtotal, Physical Security	6,706	6,952	7,822	870	12.5%
Total, Paducah	6,706	6,952	7,822	870	12.5%

	(dollars in thousands)				
	FY 2003	FY 2004	FY 2005	$ Change	% Change
Portsmouth					
Protective Forces	14,046	13,109	12,882	-227	-1.7%
Physical Security Systems	606	183	179	-4	-2.2%
Information Security	764	1,097	960	-137	-12.5%
Personnel Security	167	172	168	-4	-2.3%
Material Control and Accountability	763	743	725	-18	-2.4%
Program Management	620	693	1,200	507	73.2%
Subtotal, Physical Security	16,966	15,997	16,114	117	0.7%
Cyber Security	10	24	24	0	0.0%
Total, Portsmouth	16,976	16,021	16,138	117	0.7%
Richland Operations Office					
Protective Forces	26,086	28,896	29,179	283	1.0%
Physical Security Systems	5,697	9,645	9,418	-227	-2.4%
Information Security	509	549	559	10	1.8%
Personnel Security	2,020	1,737	1,920	183	10.5%
Material Control and Accountability	2,250	2,619	2,648	29	1.1%
Program Management	9,703	16,831	10,868	-5,963	-35.4%
Subtotal, Physical Security	46,265	60,277	54,592	-5,685	-9.4%
Cyber Security	2,100	1,677	2,137	460	27.4%
Total, Richland Operations Office	48,365	61,954	56,729	-5,225	-8.4%
Rocky Flats Field Office					
Protective Forces	27,065	11,211	10,589	-622	-5.5%
Physical Security Systems	588	741	421	-320	-43.2%
Information Security	1,637	2,719	1,291	-1,428	-52.5%
Personnel Security	2,029	2,659	1,146	-1,513	-56.9%
Material Control and Accountability	4,706	7,619	1,167	-6,452	-84.7%
Program Management	7,051	1,969	1,416	-553	-33.7%
Subtotal, Physical Security	43,076	26,918	16,030	-10,888	-40.4%
Cyber Security	1,707	1,464	558	-906	-61.9%
Total, Rocky Flats Field Office	44,783	28,382	16,588	-11,794	-41.6%

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	$ Change	% Change
Savannah River Operations Office					
Protective Forces	62,506	68,409	66,429	-1,980	-2.9%
Physical Security Systems	10,978	31,893	30,773	-1,120	-3.5%
Transportation	346	369	324	-45	-12.2%
Information Security	2,137	2,247	2,407	160	7.1%
Personnel Security	3,797	4,366	4,484	118	2.7%
Material Control and Accountability	4,918	9,259	6,053	-3,206	-34.6%
Program Management	22,673	22,433	24,217	1,784	8.0%
Subtotal, Physical Security	107,355	138,976	134,687	-4,289	-3.1%
Cyber Security	2,345	4,383	2,601	-1,782	-40.7%
Total, Savannah River Operations Office	109,700	143,359	137,288	-6,071	-4.2%
Subtotal, Safeguards and Security	254,747	291,124	265,059	-26,065	-9.0%
Less: Security Charge for Reimbursable Work	-122	-121	-143	-22	18.2%
Total, Safeguards and Security	254,625	291,003	264,916	-26,087	-9.0%

Funding Schedule by Activity

(dollars in thousands)

	FY 2003 Comparable Appropriation	FY 2004 Comparable Request	FY 2005 Request	$ Change	% Change
Protective Forces	154,486	151,084	144,437	-6,647	-4.4%
Physical Security Systems	20,484	44,929	43,160	-1,769	-3.9%
Transportation	346	369	324	-45	-12.2%
Information Security	7,027	9,340	7,760	-1,580	-16.9%
Personnel Security	8,600	10,066	8,554	-1,512	-15.0%
Material Control and Accountability	14,291	21,857	11,989	-9,868	-45.1%
Program Management	41,706	43,849	41,429	-2,420	-5.5%
Subtotal, Physical Security	246,940	281,494	257,653	-23,841	-8.5%
Cyber Security	7,807	9,630	7,406	-2,224	-23.1%
Subtotal, Safeguards and Security	254,747	291,124	265,059	-26,065	-9.0%
Security Charge for Reimbursable Work	-122	-121	-143	-22	18.2%
Total, Safeguards and Security	254,625	291,003	264,916	-26,087	-9.0%

Explanation of Funding Changes

	FY 2005 vs. FY 2004 ($000)
CB-0020 / Safeguards and Security – Waste Isolation Pilot Plant	
▪ Increase in funding due to increase in protective forces staff from 35 to 37 and establishment of a secure information station..……	664
OR-0020 / Safeguards and Security – East Tennessee Technology Park	
▪ Increase in funding is for the Environmental Management Waste Management Facility, the K-25 Building security, and additional Design Basis Threat security enhancements…….	1,358
OH-FN-0020 / Safeguards and Security – Fernald	
▪ Decrease in funding is attributed to significant reduction in material control and accountability programs for uranium bearing waste and the significant reduction in Protective Forces required..…….	-2,756
OH-MB-0020 / Safeguards and Security – Miamisburg	
▪ Decrease in funding is due to reduction of the security footprint and general workload of the site resulting from the demolition or transfer of site buildings and relocation of non-essential personnel to off-site facilities……	-3,342
OH-WV-0020 / Safeguards and Security – West Valley	
▪ No significant change……..	114
PA-0020 / Safeguards and Security – Paducah	
▪ Increase in funding attributed to the performance of hazard assessment as required by the Design Basis Threat……..	870
PO-0020 / Safeguards and Security – Portsmouth	
▪ Increase in funding attributed to the performance of hazard assessment as required by the Design Basis Threat……..	117
RL-0020 / Safeguards and Security – Richland	
▪ Net decrease in funding is due to a significant reduction in program management activities; however, funding is included to address enhanced security requirements associated with the Design Basis Threat ……	-5,225
RF-0020 / Safeguards and Security – Rocky Flats	
▪ Decrease in funding reflects the completion of the stabilization and disposition of special nuclear material (PBS RF-0011, NM Stabilization and Disposition) in FY 2004. As the site progresses toward the planned December 2006 closure, safeguards and security activities will continue to downsize……..	-11,794

	FY 2005 vs. FY 2004 ($000)
SR-0020 / Safeguards and Security – Savannah River	
▪ Net decrease in funding is due to the completion of safeguards and security infrastructure projects funded in FY 2004 to support the protection of the various site needs; however, funding is included to address enhanced security requirements associated with the Design Basis Threat……	-6,071
Total Funding Change, Safeguards and Security…….	**-26,065**

Capital Operating Expenses

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	$ Change	% Change
General Plant Projects.....	0	14,800	150	-14,650	-99.0%
Capital Equipment.....	111	12,918	0	-12,918	-100.0%
Total, Capital Operating Expenses.....	111	27,718	150	-27,568	-99.5%

In FY 2004 two sites, Richland and Savannah River, will complete major upgrades to their Physical Security systems. Enhancements will be made to such areas as intrusion detection, access controls, and explosive detection devices.

Technology Development and Deployment

Funding Schedule by Activity

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	$ Change	% Change
Technology Development and Deployment					
Closure Projects	10,000	10,000	8,000	-2,000	-20.0%
Technical Solutions	5,000	5,000	5,000	0	0.0%
Alternatives Projects	98,679[a]	49,446[b]	45,593	-3,853	-7.8%
Small Business Innovative Research Program	0[c]	1,670	1,549	-121	-7.2%
Total, Technology Development and Deployment	113,679	66,116[d]	60,142[e]	-5,974	-9.0%

Description

The EM Technology Development and Deployment (HQ-TD-0100) program provides technical solutions and alternative technologies to assist with the accelerated cleanup of the DOE complex.

Benefits

This program provides funding to support technical solutions and alternative technologies to assist with the accelerated cleanup of the DOE complex. The program is focused on a limited number of critical, high-payback activities where step improvements can be gained and on high-risk activities at closure sites to be completed by 2006. By concentrating the technology and deployment program in this manner, the Department is ensuring that the activities funded under this account are focused on supporting EM's primary goal of accelerating risk reduction and environmental cleanup.

The program is focused on a limited number of critical, high-payback activities where step improvements can be gained, and on activities at closure sites that will identify timely solutions to resolve high-risk issues within the closure baselines. The functional areas are as follows:

- Closure Site Projects - Considering the urgency to achieve cleanup at the closure sites (Rocky Flats, Colorado, Fernald and Miamisburg, Ohio, and other small sites) by the end of year 2006 as well as at

[a] Includes $34,500,000 in Congressional requirements for projects in addition to the Alternative Projects described. Also includes $15,000,000 held in reserve for EM's portion of the Ohio Valley Electric Company (OVEC) reprogramming.

[b] Includes $40,709,000 in Congressional requirements for projects in addition to the Alternative Projects described.

[c] Excludes $2,018,000 ($1,904,000 for Small Business Innovation Research and $114,000 for Small Business Technology Transfer Program) transferred to the Office of Science for award and administration of grants to small businesses.

[d] Final distribution of funds by program area will change based upon final receipt, review, selection, and award of technical proposals.

[e] Final distribution of funds by program area will change based upon final appropriation, final receipt, review, selection, and award of technical proposals.

other sites with accelerated cleanup schedules, there are specific technical challenges which need immediate solutions. Closure projects will be jointly initiated by the Technology Development and Deployment program and the site to find timely solutions to resolve high-risk issues within the closure baselines. Activities may include applied engineering and development, technology demonstrations, and cost sharing for technology deployment.

- Technical Solutions - On a case by case basis, a multidisciplinary technical team, with expertise for the specific site problem, will be organized to benchmark or independently review cleanup approaches and provide recommendations or technical analysis to quickly resolve technical issues.
- Alternatives Projects - Alternative approaches to current high-risk/high-cost baselines will be developed to enable cleanup to be accomplished at reduced costs and accelerated schedules.

Closure Site Projects are targeted projects to reduce the risk for the near-term implementation of an innovative technology or approach. Typical closure site projects are of a short-duration (3- to 18-months) and less expensive than alternative projects (approximately $300,000-$1,000,000 per project) and will be provided only where there is clear benefit to the government to help reduce the risk of an alternative approach. They must result in significant positive impact to the site, demonstrate measurable savings to the government, and reduce technical risk for the site closure project.

Technical Solutions are activities to provide immediate, short-term advice and support to reduce technical problems impeding site cleanup. Activities are typically 1-6 months in duration and cost $50,000 to $300,000 per project. Technical Solutions activities provide the sites with technology and technical support to meet closure schedules or to accelerate closure. Funding will not be used to support ongoing operation and maintenance, supplement baselines to accelerate schedules, coordinate groups developing databases, or to purchase information technology equipment. Support is generally in the form of technical teams requested by the site that will:

- Benchmark site technical baselines in order to identify the technical risks associated with site closure;
- Provide independent multidisciplinary expertise to resolve technical issues associated with accelerated closure; and
- Provide technologies or technical alternatives for consideration by the site to reduce closure project risk.

Alternatives Projects provide alternatives and step improvements to highly targeted, high risk/high cost baselines at non-closure sites. Typical projects range from $2,000,000 to $25,000,000 total over 1.5 to 3 years. A corporate approach is utilized to identify potential projects. Project viability, requirements, and potential benefits are weighed before investment decisions are made. These projects are to address (one or more): reducing cleanup costs, shortening cleanup schedules, decreasing worker exposure, or reducing overall risk.

Funding by Site

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	$ Change	% Change
Carlsbad Field Office					
Carlsbad Field Office (NM)	1,767	0	0	0	0.0%
Chicago Operations Office					
Argonne National Laboratory-West (IL)	96	0	0	0	0.0%
Chicago Operations Office (IL)	517	0	0	0	0.0%
Total, Chicago Operations Office	613	0	0	0	0.0%
Idaho Operations Office					
Idaho National Laboratory (ID)	212	0	0	0	0.0%
Idaho Operations Office (ID)	12,000	0	0	0	0.0%
Total, Idaho Operations Office	12,212	0	0	0	0.0%
Los Alamos Site Office					
Los Alamos National Laboratory (NM)	582	0	0	0	0.0%
Nevada Site Office (NV)	2,500	497	0	-497	-100.0%
NNSA Service Center					
NNSA Service Center (NM)	2,175	0	0	0	0.0%
Sandia National Laboratories (NM)	123	0	0	0	0.0%
Total, NNSA Service Center	2,298	0	0	0	0.0%
Oak Ridge Operations Office					
Oak Ridge Operations Office (TN)	7,154	0	3,500	3,500	100.0%
Ohio Field Office					
Fernald (OH)	4,100	3,200	1,500	-1,700	-53.1%
Miamisburg (OH)	0	1,800	1,500	-300	-16.7%
Ohio Field Office (OH)	5,900	0	0	0	0.0%
Total, Ohio Field Office	10,000	5,000	3,000	-2,000	-40.0%
Richland Operations Office					
Pacific Northwest Laboratory (WA)	1,500	0	0	0	0.0%
Richland Operations Office (WA)	397	0	0	0	0.0%
Total, Richland Operations Office	1,897	0	0	0	0.0%
Office of River Protection					
River Protection (WA)	2,000	0	0	0	0.0%
Rocky Flats Field Office					
Rocky Flats Environmental Technology Site (CO)	10,000	5,000	1,500	-3,500	-70.0%
Savannah River Operations Office					
Savannah River Site (SC)	8,546	0	0	0	0.0%

	(dollars in thousands)				
	FY 2003	FY 2004	FY 2005	$ Change	% Change
Savannah River Operations Office (SC)	15,330	15,555	5,413	-10,142	-65.2%
Total, Savannah River Operations Office	23,876	15,555	5,413	-10,142	-65.2%
Washington Headquarters					
Washington, D.C.	38,007	34,748	46,729	11,981	34.5%
Various Locations					
National Energy Technology Laboratory (WV)	773	345	0	-345	-100.0%
Mountain States Energy (MT)	0	4,971	0	-4,971	-100.0%
Total, Various Locations	773	5,316	0	-5,316	-100.0%
Total, Technology Development and Deployment	113,679	66,116[a]	60,142[b]	-5,974	-9.0%

Detailed Justification

	(dollars in thousands)		
	FY 2003	FY 2004	FY 2005
Closure Projects	**10,000**	**10,000**	**8,000**

In support of the closure schedules at the Rocky Flats, Ohio, and Oak Ridge sites, technology and technical assistance will be provided to mitigate technical issues which could impede or delay site closure. The major emphasis of activities will be performed in FY 2004 through FY 2005.

At the Ohio site, technology development and deployment activities will primarily be focused on the Fernald and Mound sites. At Fernald, the principal activities will center on the disposition of the silos, finding disposition paths for unique and orphan wastes, and treatment of contaminated soils. At Mound, the principal activities include decommissioning and demolition of the radiologically-contaminated facilities and the characterization and treatment of contaminated soils.

At Rocky Flats, technology development and deployment activities will primarily focus on: treatment and disposal of small volume radioactive and hazardous wastes where no treatment and disposition pathway currently exist; characterization and decontamination of highly-contaminated facilities such as building 776; and supporting critical environmental restoration activities such as long-term landfill cap and cover designs which support the proposed end state.

At Oak Ridge, activities will primarily focus on the decontamination and demolition of the facilities associated with K-25. This will include improved technology, reduction of offsite disposal, building and subsurface characterization and worker safety.

FY 2005 activities for technical assistance and technology development for closure activities include:

[a] Final distribution of funds by program area in FY 2004 will change based upon final receipt, review, selection, and award of technical proposals, which may be sources other than the above locations.

[b] Final distribution of funds by program area in FY 2005 will change based upon final appropriation, final receipt, review, selection, and award of technical proposals, which may be sources other than the above locations.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- Identify pathways or technology needed to treat and dispose orphan wastes streams at Rocky Flats.
- Delineation of dense non-aqueous phase liquid contamination and definition of treatment feasibility for subsurface contamination in difficult geology at Oak Ridge.
- Complete demonstration of improved methods for beryllium decontamination at Rocky Flats.
- Complete the technical support activities associated with the Silos 1, 2 and 3 waste removal and disposition projects at Fernald.
- Complete field-scale demonstration of passive absorption for long-term removal of uranium leachate from the Fernald On-Site Disposal Facility.
- Provide technology for the decontamination of the Silos and the Waste Stabilization Plant at Fernald.

Technical Solutions 5,000 5,000 5,000

On a case-by-case basis, a multidisciplinary technical team, with expertise for the specific site problem, will be organized to benchmark or independently review clean up problems and provide recommendations or technical advice to quickly resolve technical issues. In FY 2005, it is expected that approximately 30-35 problems will be addressed, primarily at Rocky Flats, Ohio, Oak Ridge and Richland.

Alternatives Projects ..... 98,679[a] 49,446[b] 45,593

Activities will be implemented through a small set of high-impact projects focused on specific site baselines with high technical or programmatic risk and/or high cost. Potential FY 2005 projects include:

- **Alternatives for Innovative Remediation of Chlorinated Ethenes using Monitored Natural Attenuation at Savannah River, SC:** This project pursues regulatory concurrence for specific application at Savannah River Site of "next-generation" monitored natural attenuation/enhanced passive remediation. This technique is projected to provide high levels of performance for reduced costs. Success could enable a $250,000,000+ cost and 15-20+ year schedule improvements at various Savannah River sites. Overall in DOE, there are 221 identified groundwater plumes that need to be remediated. Some 24 of these contaminated groundwater plumes are located at Savannah River Site. In FY 2005, this project will initiate field studies in support of an improved, regulator-accepted methodology for long-term monitored natural attenuation for a specific remediation site at Savannah River. Completion is planned in FY 2006.
- **Alternatives for Disposition of High Level Waste Salt at Savannah River, SC**: This project is designed to provide a spectrum of technology alternatives to accelerate and reduce the risks of salt processing by demonstrating approaches that can be deployed near term, at low cost, using existing facilities when possible. Success will provide new tools for waste processing with potential $2,000,000,000 and 7 year savings, worker safety improvements, and risk reduction for achieving planned cleanup accelerations. In FY 2005, this project will complete demonstrations and deliver results to Savannah River for implementation decisions to accelerate its baseline.

[a] Includes $34,500,000 in Congressional requirements for projects in addition to the Alternative Projects scope.
[b] Includes $40,709,000 in Congressional requirements for projects in addition to the Alternative Projects scope.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- **Alternatives for Carbon Tetrachloride Source Term Location at Hanford, WA**: This project is to deliver a validated conceptual site model to confirm whether the primary source of Carbon Tetrachloride contamination is in large subsurface pools or multiple isolated concentration areas created in porous regions or absorbed on soils with high affinity for Carbon Tetrachloride. The project is to deliver detailed understanding of the source term for high-risk site remediation decisions. Success should provide a potential $30,000,000-$40,000,000+ and 8 year savings as well as improved worker safety. In FY 2005, this project will begin to verify that it has developed a much more detailed understanding of the contaminant sources. Completion is planned in FY 2006.
- **Alternatives for Characterization and Removal of Deposits at the Portsmouth, OH, Gaseous Diffusion Plant**: This project is intended to deliver effective deposit characterization and removal technologies for highly enriched uranium and Technetium-99 for the Portsmouth Gaseous Diffusion Plant. The baseline characterization approach is only $\pm$50% reliable even for indicating the presence of contamination, not the quantity, and the baseline for decontamination requires dismantlement, which is labor-intensive, time-consuming, and creates significant health and safety risks. Success could mean a potential $200,000,000 and 2-4 year savings as well as major improvement in worker safety. In FY 2005, this project will conduct bench scale testing and initiate planning for pilot-scale tests for the best alternative for characterization and removal of deposits. Completion is planned in FY 2006.
- **Alternatives for In-situ Transuranic (TRU) Waste Delineation and Removal at Burial Grounds 618-10 & 11 at Hanford, WA:** This project is to provide non-baseline alternatives for waste characterization and retrieval for use in remediation of the highly-contaminated Hanford Burial Grounds 618-10 and 618-11. Success may provide a potential $300,000,000+ and 2-4 year savings and high worker safety improvements. In FY 2005, this project will complete preparatory demonstrations of improved capabilities and select the most promising concepts for hot demonstration on radioactive waste at the site. The project will be completed with a field-scale demonstration at the 618-10 and/or 618-11 Burial Grounds in FY 2006.
- **Alternatives for non-destructive characterization of large Transuranic waste containers to allow shipping in TRUPACT-III without resizing and/or Repackaging at Savannah River, SC and Carlsbad, NM:** Provides new non-destructive assay and non-destructive examination technologies to enable effective shipping of large containers to the Waste Isolation Pilot Plant without exposing workers who would otherwise have to open the boxes and repackage the contents. The Savannah River Site has 4,500 cubic meters of transuranic waste that this project will directly supports when it is ultimately deployed at the Savannah River Site. In addition, DOE is committed to provide a Waste Isolation Pilot Plant-certified non-destructive assay and non-destructive examination system to characterize large containers to avoid potential cost increases of $1,500,000,000 and 5-10 year and to achieve major improvements in worker safety. In FY 2005, this project will demonstrate the most promising characterization alternatives and deliver results for implementation decisions and regulatory certification.

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- **Alternatives for Pretreatment and Treatment Improvements for Low Activity Waste at Hanford, WA:** This project investigates cost effective approaches for reducing the number of containers of low-activity waste that must be produced, without requiring major new facilities at the Hanford Tank Farms. Strategies such as reducing the radionuclide, sulfate, and hazardous waste constituents of Hanford tank wastes destined for supplemental treatment, optimizing the existing melter design, and other opportunities for enhancing waste loading and facility performance are to be considered. There are potential savings of several billion dollars and schedule improvements of several years, as well as important worker safety improvements, if this project is successful.
- **Alternatives for Risk Prioritization Modeling at Savannah River Site, SC:** This project is to provide non-baseline alternatives for the Savannah River facility and site closures to streamline schedules. It will provide a model which allows the contaminants, risks, alternative cleanup levels, multiple technical approaches, costs/schedules, and worker and public exposures to be evaluated holistically. Success could mean $250,000,000 and ten years savings and medium/high worker safety improvements beyond current plans. This project in FY 2005 will deliver a model for site implementation decisions.
- **Other Alternatives Projects:** As needed and feasible, additional alternatives projects, designed to address key high-risk, high-cost areas of the site cleanup projects, will be initiated.

Small Business Innovative Research Program..... 0[a] 1,670 1,549

Funding for the Small Business Innovative Research assessment is in accordance with Public Law 102-564, which mandates a percentage of all research and development dollars be set aside for grants to small businesses. Once funding is appropriated, it is transferred to the DOE Office of Science for award and administration of grants to small businesses.

Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)

Closure Projects

- Supported the development and implementation of an advanced thermal treatment system to allow the removal of all mixed waste from Fernald by the end of FY 2003 (FY 2003).
- Supported the development of a soil vacuum process to remove Plutonium from the 903 pad at Rocky Flats (FY 2003).
- Deployment of Improved Reliability Heel Removal Technologies to Accelerate Closure Schedule at Fernald (FY 2004).
- New Shielding/Transport System to Enable Risk-Free Disposal of Silos 1 and 2 Off-Spec Waste Product Containers at Fernald (FY 2004).
- Faster Demolition and Waste Disposal by Deploying Improved Process for Placement of Oversized Waste at Fernald (FY 2004).
- Mound Operable Unit 1 Landfill Area and Disposition of Thorium Drum Removal – Potential Release Site 11 (FY 2004).

[a] $2,018,000 ($1,904,000 for Small Business Innovation Research and $114,000 for Small Business Technology Transfer Program) was transferred to the Office of Science for award and administration of grants to small businesses.

- Mound Site Wide Groundwater Modeling including Bedrock Issues on Main Hill, 38, and Volatile Organic Compounds (FY 2004).
- Complete Demonstration of Bypass Sludge Blending to Comply with Treatment, Storage, and Disposal Facility Waste Acceptance Criteria at Rocky Flats (FY 2004).
- Complete treatability study for Resource Conservation and Recovery Act/Toxic Substances Control Act regulated depleted uranium chips/solids and similar waste at Rocky Flats (FY 2004).
- Complete demonstration of Tank D-812 Sludge Blending to comply with Treatment, Storage, and Disposal Facility Waste Acceptance Criteria at Rocky Flats (FY 2004).
- Complete treatment demonstration of polychlorinated biphenyl solid and polychlorinated biphenyl liquid wastes at Rocky Flats (FY 2004).
- Complete demonstration of beryllium equipment/structure decontamination at Rocky Flats (FY 2004).
- Complete demonstration of Debris Waste Treatment Alternatives at Rocky Flats (FY 2004).
- Deploy Field Measurement Technologies at Oak Ridge to reduce excavation costs (FY 2004).
- Complete testing and analysis for optimization of organic destruction system at Oak Ridge to destroy Radioactive Contaminated Ion Exchange Resins (FY 2004).
- Provide volatile organic compound screening equipment (Membrane Interface Probe) and personnel to assist in characterization activities in order to make recommendations to regulatory staff to enable site closure. Cost savings are evident with closure schedule acceleration now being 2005 instead of 2012 (FY 2004).

Technical Assistance

- Provided assistance to redesign the excavation equipment for Fernald Silo 3 allowing the acceleration of the project and increased worker safety (FY 2003).
- Provided assistance to Fernald waste treatment plant to improve material handling, improve worker safety and waste loading to minimize the number of waste containers (FY 2003).
- Provided technical assistance to Mound to minimize the amount of contaminated soil shipped off site for disposal (FY 2003).
- Provided Technical Assistance at Rocky Flat to identify pathways for the treatment and disposal of orphan wastes (FY 2003).
- Provided technical assistance to develop the data required by the Defense Nuclear Facilities Safety Board to allow a lower stabilization temperature for problem plutonium oxides at Rocky Flats (FY 2003).
- Provided assistance to resolve the origin of recent groundwater samples collected at Mound that were found to contain radium exceeding regulatory limits (FY 2003).
- Provided assistance to Kansas City Site to develop alternatives for treatment of polychlorinated biphenyl allowing EM to exit from the site (FY 2003).
- Develop competing designs for next generation caps for the Hanford tank farms, with far longer lifetimes and greatly reduced installation costs, and down-select to the most promising design(s) (FY 2004).
- Provide Technical Assistance to develop pathways for the remaining orphan wastes at Rocky Flats (FY 2004).
- Provide technical assistance to support the safe operation of the Fernald Silo waste treatment plant (FY 2004).
- Provide Technical assistance to Mound for the real time characterization of Plutonium contaminated soils (FY 2004).

Alternatives Projects

- In FY 2003, solicitations for the following Alternative Projects were issued:
  - Alternatives for Carbon Tetrachloride Source Term Location Project at Hanford, WA
  - Alternatives for In-situ Transuranic Waste Delineation and Waste Removal in Burial Grounds, Hanford, WA
  - Alternatives for Disposition of High-Level Salt Waste at Savannah River, SC
  - Alternatives for Deposit Removal at Gaseous Diffusion Plants at Portsmouth, OH
  - Alternatives for Non-destructive Characterization of Large Containers to Allow Shipping in TRUPACT-III without Resizing and/or Repackaging, Carlsbad, NM
- In FY 2003, the following Alternative Projects were awarded:
  - Accelerated Risk Reduction through Innovative Remediation of Chlorinated Ethenes using Monitored Natural Attenuation, Savannah River, SC
  - Alternatives for Disposition of High-Level Salt Waste at Savannah River, SC
  - Alternatives for Carbon Tetrachloride Source Term Location at Hanford, WA
  - Alternatives for In-situ Transuranic Waste Delineation and Waste Removal in Burial Grounds, Hanford, WA
  - Alternatives for Low Activity Waste vitrification optimization, Hanford, WA
  - Alternatives for Deposit Removal at Gaseous Diffusion Plants at Portsmouth, OH
- Completed tradeoff study on alternative High Level Waste melters for Hanford and deliver results to site for use in decision to determine whether further development could be of significant potential value (FY 2003).
- Initiated pilot-scale vitrification experiments to evaluate/validate improved waste loading, increased melt temperature, and improved glass formulations beyond what is now achievable in the baseline Low Activity Waste melter design at Hanford (FY 2003).
- In FY 2004, a down-select will be made from Phase I planning/concepts to Phase II research and development activities for the following Alternative Projects:
  - Alternatives for Carbon Tetrachloride Source Term Location at Hanford, WA
  - Alternatives for In-situ Transuranic Waste Delineation and Waste Removal from Burial Grounds 618-10 and 11, Hanford, WA
  - Alternatives for Disposition of High-Level Salt Waste at Savannah River, SC
  - Alternatives for Deposit Removal at Gaseous Diffusion Plants at Portsmouth, OH
  - Alternatives for risk reduction using monitored natural attenution, Savannah River, SR
  - Alternatives for Non-Destruction Characterization of Large Containers to allow shipping in TRUPACT-III without resizing and/or repackaging, Savannah River, SC and Carlsbad, NM
- Complete a full-scale test in a TRUPACT-II for the alternative payload container (Arrow-Pak) and of two types of hydrogen gas getter material, testing and evaluation. Support for regulatory packages submission for the alternative payload container and hydrogen gas getter approval. Initiate construction of demonstration systems for non-destructive assay and non-destructive examination characterization of transuranic waste in large boxes (FY 2004).
- Complete pilot-scale development and deliver detailed specifications describing viable potential improvements for the Hanford Low Activity Waste melter (FY 2004).
- Competitively select and fund field studies from targeted technical areas to advance the scientific understanding of monitored natural attenuation and to identify components of a high performance and cost-effective long-term monitoring methodology and conduct field studies in test beds on Savannah River Site (FY 2004).
- Initiate design of alternatives for non-destructive characterization of large containers to allow shipping in TRUPACT-III without resizing and/or repackaging. Down-select to the most promising and begin assembly of the components (FY 2004).
- Initiate investigations for alternatives for pretreatment and treatment for low activity waste at Hanford, WA (FY 2005)

- Conduct bench scale testing and initiate planning for pilot-scale tests for the best alternative for characterization and removal of deposits at the Portsmouth Gaseous Diffusion Plant, OH (FY 2005).
- Complete preliminary and hot demonstrations and prepare for hot demonstration of retrieval technology at Hanford's 618-10 and 11 Burial Grounds, WA (FY 2005).
- Initiate field studies for alternatives for accelerated risk reduction through monitored natural attenuation, Savannah River, SC (FY 2005).
- Complete Alternatives Projects and deliver results to sites for implementation decisions: Alternatives for disposition of High-Level Waste Salt, Savannah River, South Carolina; Alternatives for non-destructive characterization of large containers to allow shipping in TRUPACT-III without resizing and/or repackaging, Savannah River, SC and Carlsbad, NM (FY 2005).

Total, Technology Development and Deployment	**113,679**	**66,116**	**60,142**

Explanation of Funding Changes

	FY 2005 vs. FY 2004 ($000)
Closure Projects	
▪ Decrease results from the fact that most technical problems associated with Closure are expected to have been resolved at Rocky Flats and the Ohio sites by 2005…….	-2,000
Alternatives Projects	
▪ Reduction results from a shift in program priorities……..	-3,853
Small Business Innovative Research Program	
▪ No significant change……..	-121
**Total Funding Change, Technology Development and Deployment ..... **	**-5,974**

High-Level Waste Proposal

Funding Schedule by Activity

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	$ Change	% Change
High-Level Waste Proposal…..	-	-	350,000	350,000	100.0%
Total, High-Level Waste Proposal.....	-	-	350,000	350,000	100.0%

Description

The Defense Site Acceleration Completion appropriation, High-Level Waste Proposal program includes $350,000,000 that will be requested only to the extent that legal uncertainty concerning certain reprocessing wastes is satisfactorily resolved through pending litigation or by new legislation. This funding was planned to be used for activities relating to accelerated cleanup and disposal of certain waste from reprocessing that would not require use of a repository for spent nuclear fuel. This limitation is made necessary by pending litigation that has called into question the legal authority of the Department to determine which waste streams generated by reprocessing of spent nuclear fuel should be disposed of in a geologic repository and which waste streams generated by reprocessing activities are not properly considered high-level waste requiring, as a scientific matter, disposal in a geologic repository. If the determination is made to classify these wastes as Waste Incidental to Reprocessing, the funds will be requested with the appropriate projects and programs in the 2012 or 2035 Accelerated Completions programs.

Benefits

The benefits of performing the activities described in this program are accelerated cleanup of the Idaho, Hanford, and Savannah River sites, and a significant reduction in cost to the taxpayer by disposing of low activity waste forms in approved facilities other than the Nation's Spent Nuclear Fuel and High-Level Waste Repository (Yucca Mountain).

Funding by Site

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	$ Change	% Change
Headquarters	-	-	350,000	350,000	100.0%
Total, High-Level Waste Proposal.....	-	-	350,000	350,000	100.0%

Detailed Justification

	(dollars in thousands)		
	FY 2003	FY 2004	FY 2005
High-Level Waste Proposal……	**0**	**0**	**350,000**

Below is a list of planned FY 2005 activities.

- Stabilize residues for High-Level Waste Tank closure.
- Design transuranic Sodium-Bearing Waste Treatment Facility.
- Package tank waste for disposal as transuranic waste.
- Pursue alternative low-activity waste technologies.
- Proceed with low-curie salt and actinide removal projects.
- Initiate Salt Waste Processing Facility design.
- Perform additional low-level waste saltstone operations.

Total, High-Level Waste Proposal ……...	**0**	**0**	**350,000**

Explanation of Funding Changes

	FY 2005 vs. FY 2004 ($000)
High-Level Waste Proposal	
▪ Increase due to establishment of this funding reserve pending resolution of the Waste Incidental to Reprocessing issue……	350,000
Total Funding Change, High-Level Waste Proposal ……..……	**350,000**